THE KEYSTONE.

IN THE INTEREST OF THE JEWELRY TRADE.

Volume 9. Philadelphia, January, 1888. Number 1.

Subscription

Only Twenty-five Cents a year in the United States and Canada.

The
Organ of the
Retail Jewelry Trade
of
America.

Reaching every Jeweler
in the
United States
and
Canada.

Circulation

Every month not less than Twenty-two Thousand Copies.

T. B. Hagstoz & Co.,

(Limited)

Importers, Manufacturers and Jobbers.

One of the few houses that protect the dealers' interests

916 Chestnut Street, - - - Philadelphia, Pa.

Keystone 14 K. and Swiss Cases.

Eagle Gold and Wheat Gold Cases.

Boss Filled and Star Filled Cases.

Special Features.

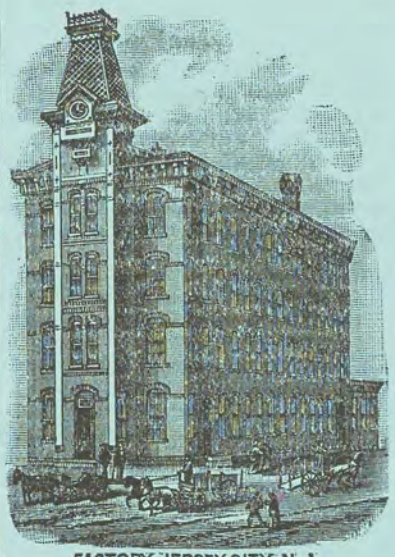
We do not sell at retail, and never have.
We do not sell your customers and endeavor to sell you also.
You will never meet your customers in our office.
We take as much care in filling small orders as we do in large ones.

Rolled Plate and Fire Gilt Chains.

Monarch Filled and Gem Filled Cases.

Keystone Silver, Leader Silver, and Silveroid Cases.

Elgin and Springfield Movements a specialty.


FACTORY, JERSEY CITY, N. J.
30 MINUTES FROM N.Y. OF E.I.C.R.

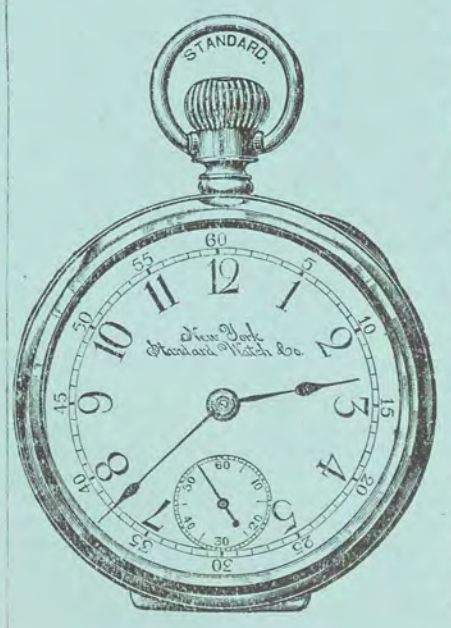
The New York Standard Watch Company,

Have placed on the market their new and remarkably excellent watch, in the construction of which are embodied entirely new and novel features, including

The most novel and Accurate Watch Escapement ever made.

As a time-keeper, the "STANDARD" Watch will be found equal to any on the market.

Office:
83 Nassau Street,
New York.



ALL movements are full plate, straight-lined, lever-worm escapement, jeweled, 18 size, quick train, stem-wind and set, second hand, and fit the Standard Cases of American Manufacture.

The Watch manufactured by this Company is a marvel of ingenuity and simplicity, and posesses a novelty of mechanism which makes it a BEAUTIFUL, ATTRACTIVE and PERFECT time piece. Nothing but the very finest and best material obtainable has been used in the construction of these watches, and we guarantee both workmanship and material to be equal to that of any other first-class Watch Company.

All movements manufactured by this Company are fully warranted and guaranteed in every respect, and if any defect is found in the material or workmanship, the movement will be exchanged or the money refunded, as the purchaser may elect.

To the legitimate jobbers and retail dealers will be extended every protection, and we will use our utmost endeavors to prevent our goods and prices from falling into the hands of the outside trade.

In case of a reduction in the price of our goods, we guarantee to rebate to dealers the full amount of such difference in prices on all of our goods which they may have in stock, and fully protect them from loss. Dealers will find this watch to be the most salable and profitable of any yet handled. For price list and full information, address the New York office as above.

THE KEYSTONE.

Volume 9. Philadelphia, January, 1888. Number 1.

A MODEL FACTORY.

CONFIDENTLY the Keystone Watch Case Company claim their factory at Nineteenth and Brown Streets, as the model Watch Case factory of the world. And it is very doubtful if there is in existence another organization of its size and importance where the relations of capital and labor are so harmonious. The management of this Company do not think their duties cease when wages are paid, but hold to the doctrine that employers should also furnish and afford other advantages. Men who are employed for ten hours each and every day have not the time or opportunity to purchase even domestic supplies to advantage, or invest savings judiciously.

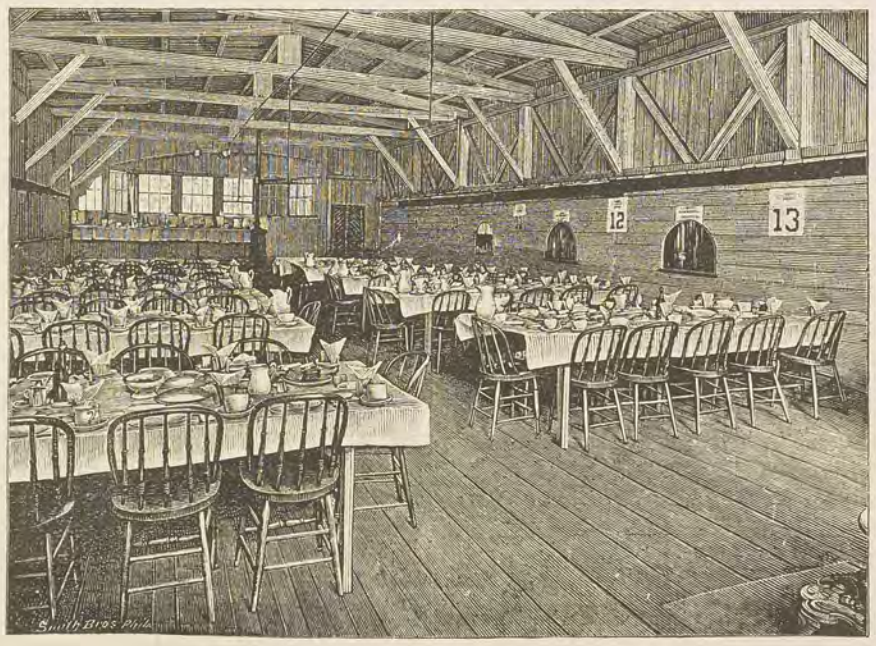
Acting on these convictions, the management of the Keystone Company has assisted in carrying into active operation several schemes tending toward the results mentioned. This spirit is no new development, but since the commencement of the business in 1876, step by step these ideas have been started and carried to succesful issue, with the earnest co-operation of the employees, who recognize and appreciate them. Among these efforts is a Co-operative Store, where groceries and provisions of all kinds are kept and sold at about the same prices as at other stores in the neighborhood, and the profits divided among the shareholders. The concern is known as the Keystone Co-operative Association, and chartered by the State. Its capital is fixed at $20,000, divided into 4,000 shares at $5.00 each, and no holder is permitted to own more than twenty-five shares. Nearly all the stock that has been sold is held by the employees of the Keystone Factory, and the whole management is in their hands.

The store is located about two squares away from the factory, at the S. E. Cor. of Nineteenth and Poplar Streets. It is a well established fact, that co-operative stores for the sale of staple goods are in every case winning enterprises, if not grossly mismanaged, while co-operative productive associations, that is manufactories, are seldom so fortunate. The Keystone Co-operative Store so far, has been an eminent success, which is amply proven by the managers recently declaring a dividend of 5 per cent. on the business of the first five months, after paying interest upon the capital at the rate of 6 per cent. per annum.

One of the first of these enterprises, devised by the Company for the welfare of their employees, was the Keystone Beneficial Society organized in January, 1884, with eighty members. The dues are twenty-five cents a month. No initiation is required, and members become beneficial as soon as their names are on the books. The weekly benefits are $5, there has been $1700 paid out, leaving a surplus of $300 in the treasury.

Keystone Co-operative Store, S. E. Cor. 19th and Poplar Streets.

Quite recently a Mutual Life Insurance Company has been organized with merely nominal dues, which form a surplus fund from which benefits are to be paid, $250 for death of a member, and $100 for members' wife, the benefits to be increased when the surplus warrants such a step.



Interior of Dining Room of Keystone Restaurant.

Another very popular scheme with the Keystone employees is a Restaurant, where a good enjoyable dinner is served for about absolute cost, as the intention of the management was only to get return for absolute expenses. The main dining-room, shown in the engraving, seats 300, and is intended for the male employees. A very pleasant dining-room is also provided elsewhere for the female employees. And for the benefit of those who do not care for a full meal, a lunch counter is provided, where soup, milk, tea, coffee, pie, and in summer, ice cream and fruit are served on the same favorable terms. The entire idea with the Keystone management was to provide a restaurant where nice clean meals could be served to their employees for as near what they cost as possible. Tickets are sold for one week, that is six dinner tickets for $1.20, which pays for meals fully equal to fifty cent meals at a hotel. Another very appetizing feature is a knowledge of perfect cleanliness, which is something where the ordinary restaurant seldom passes above a hope. The restaurant, with two dining halls, lunch counter and kitchen, is in a building located in the Company's grounds near the factory. Usually, there is given the following

Bill of Fare.

Soup.
Beef. Oyster. Vegetable.

Roast.
Beef. Mutton. Turkey.

Vegetables.
Potatoes. Turnips. Onions. Corn. Peas. Tomatoes.

Fish.
Boiled, Fried or Baked.

Boiled.
Chicken. Ham. Corned Beef and Cabbage.

Sauces.
Apple. Cranberry.

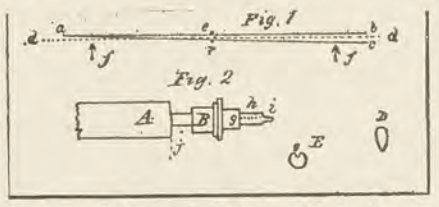
Dessert.
Pie. Pudding. Tea. Coffee. Milk.

The oldest and best financial scheme among the bees in this great hive, is the Artworkers Building and Loan Association. This enterprise was started in 1877. The stock is largely held by employees. The scheme became so popular that outsiders came in to enjoy the benefits of its prudent and wise management. The ninth annual report gives the concern the subjoined flattering showing. Total receipts of the year $33,297.44. Total disbursement, $30,891.53, leaving a balance in the treasury of $2,405,91. The assets are $63,445.71 of which $53,-900 is represented by real estate and bonded securities. The number of shares at the beginning of the present year was 1599½, on which the profits realized were $10,954.71. The first series has gained $43.62 on $108 paid in. And the same rate of profit has been held by the succeeding series. The number of members as shown by the report was 244, to this has been added ninety-three new share-holders, who subscribed for the new thirteenth series which was issued at the meeting on November 10th. At the same meeting $2500 was received in dues and fines, and a loan of $1200 was made on first mortgage security, and $400 loaned on stock. A loan of $4,000 was repaid, and the treasurer has now a balance of about $4,800. The Association has issued a very useful calendar for 1888, in which the progress of the society is outlined, and salient reasons presented why a connection with a Building Association is both profitable and desirable.

Repeatedly through the columns of this and other journals, aided by cuts, have the processes of manufacture from coin to cases been described and shown. But up to the present writing, little was known in the outer world of the social advance the Keystone Company was making for its hundreds of employees, in advance of other co-existing corporations in a moral and social sense. The Keystone Watch Case Company cordially invite the jewelers throughout the country to visit the factory, and take the writer's word for it, the visitor will exclaim as did the Queen of Sheba on visiting King Solomon, "half was not told me." They will find such a visit a pleasure, and if they are observing, take away many hints in the art of selling goods.

ON THE WING.

EVERYTHING in a business way has been at loose ends for the last three weeks. Nothing steady. Goods on memorandum and approval have been the rage. And I shall take advantage of the hurly-burly to explain some matters which have accumulated, as for instance, I promised to give a diagram explaining the dial error mentioned in the November number. The mere making of a drawing of the dial would aid but little, but I think if the diagram at Fig. 1 is studied, the question will be solved. It is assumed that *r* is the centre of a watch move-

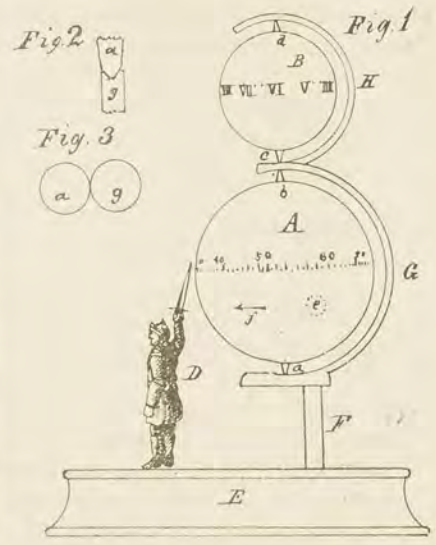


ment, and through this centre is drawn horizontally the dotted line *d, d*. It is next supposed the dial is moved upward in the direction of the arrows *f f*, only 1-64 of an inch. A line if now drawn on the watch dial from IX to III, would be represented by the line *a, b*, with the centre at *e*. The centre of the movement remains however at *r*. Suppose again, the minute hand is set at exactly a quarter of any given hour. At the expiration of thirty minutes the minute hand will not point to *b* but *c*, apparently in advance of the true position. With a 16 size dial the minute spaces are almost exactly 1-16 of an inch. Consequently an error of 1-64 doubled produces 1-32 equal to one half of a minute space. Bent dial feet with American watches are the usual cause of such errors. And the way to deal with such a matter is to notice where error is greatest as at *c*, which would tell us the dial should be moved in the reverse direction to the arrow *f, f*. To arrive at the error, set minute and second hand together at any hour, and watch the dial for an hour, noting the point of greatest variation, and make the corrections as described, by merely bending the feet, only perfectly straighten them will do it, if an American watch. But in case of cheap Swiss watches, the spacing is so irregular as to make corrections impossible.

The job Mr. Carson had for me was a duplex staff, one of those cheap affairs with no jewel on the staff, simply a steel staff with a slot cut in with a graver. Messrs. Carson and Adams had a very fair workman, but he had a mortal terror of a duplex. The KEYSTONE insists that when I do an unusual job, I shall tell how I do it, so here goes for making a cheap duplex staff. I selected a piece of Stubs steel wire about 1½ of an inch in diameter and put it in a split chuck. I am not carrying an American lathe, but a made up affair which I will subsequently describe. It weighs exactly thirty-five ounces, which includes foot-power and has grasping split chucks of peculiar construction. I cut from the Stubs wire a piece about an inch long, and turned while still soft to the shape shown *A B*, Fig. 2, the part at *h* (shown magnified), was turned to the exact size the roller was to be when done. After the staff was in the shape shown, it was taken from the lathe, and with a graver shaped as shown at *D*, the slot for the escape wheel tooth cut by resting the part at *h* in a notch in the filing block. At *E* is shown a section of the form of the slot. The direction of the slot is shown at the dotted line in Fig. 2, at *g*. After the slot was cut, the staff was broken off at the dotted line *j*. The staff was next covered with a composition of castile soap and *saltartar*, (carbonate of potash) made into a thick paste with water, about ¼ as much saltartar as soap. It was heated red hot on a coal and thrown into water. The composition paste kept it from oxidzying. It was next annealed by placing it in an old iron tea spoon, with a small piece of bees wax, and heated until the wax caught fire. It was next turned in a wax chuck, as will be described in detail. I should have said above that the part *h* was polished before and after the slot *g* was cut to remove burr. The composition paste almost perfectly preserves the polish in tempering. The graver in cutting the slot *g* is pushed toward *B*. The cut can not be made at one incision, but by cutting carefully until sufficient depth of slot is produced. The small part at *i*, which is ultimately to be the lower pivot, must be kept straight and nice. The end at *i* is placed after tempering in a wax chuck centering by the end broken off on the line *j*. The part where the balance goes is first turned to exact size, next the seat for the hair spring collet, finally the top pivot, then the staff is reversed and the lower pivot turned and finished. The centering in the wax is the particular part here. This is accomplished by holding the finger against *i*, until the wax commences to set, then a piece of sharpened pegwood is held so as to lightly touch *h*, until it runs perfectly true. A piece of pegwood for this purpose should be nicely pointed; and to destroy the extreme fibrous point held for an instant to the alcohol lamp, not enough to burn back any distance, but only to destroy the tiny fiber at the point.

If proper judgment and care are used, the pegwood will not catch in the slot *g*. The rule for setting the impulse finger is to remove the hairspring, then place the balance and staff in the watch and wind it a little. Then revolve the balance slowly until a scape tooth falls into the slot *g*. The revolution is continued until the tooth escapes. Precisely when this takes place the impulse finger should be in position, so the pin in the scape wheel will just catch hold of it. And the hairspring should be placed to have the balance in the same position when at rest. This is all there is of putting a duplex in beat—have the impulse finger so it stands opposite to the impulse pin on the scape wheel. I have seen more quack watch-butchering within the last month, than I ever saw before in my life. One young fellow at Bayborough came to me to pivot a cylinder for him. Oh! the self-conceit of that young scamp. He beat old Pate by a number of hundred per cents. He was one of those excessively ingenious young men who "*get there all the same.*" This expression he used, in connection with a transaction he related how he had duped a lady into confiding her watch to his hands. It seems that in some of his monkey business he broke the fork, and instead of paying some one to replace a fork who could do it, he stuck the parts together with soft solder and returned it to her rejoicing in his ingenuity in getting out of the scrape. In relating the incident to me, he made use of the expression quoted above, "he got there all the same." I was so incensed at the young villian that I told him the place he ought to go for such a piece of scoundrelism was a jail. The way for the legitimate trade to do is to send decoy jobs to such swindlers, and then prosecute them for ruining the watch as they would be sure to do. A fine, and in some cases no doubt imprisonment, could be added under the head of malicious mischief. At any rate those regularly in the trade could, by making an effort, have a law passed in their several states to the effect that no man except he had a license granted to him from the state or county Guild of Watchmakers, could charge or receive pay for repairing any watch or clock under a penalty of fine and imprisonment. Let those men who devote their lives to this business wake up and abate this nuisance where every unprincipled scamp, who can turn a screw driver and whittle peg-wood, can come between him and that which properly belongs to him. The country is full of this class of fellows; men who can clean a watch after a fashion and put in a mainspring. But when it comes to any repairs they are out; they can't put on a pivot; they can't put in a jewel; they can't put in a hairspring; they can't even fit a screw as it should be; all they can do is to clean and put in a mainspring. Now, every workman knows that cleaning and mainsprings are the snap jobs of the trade, and the only ones by which any money is to be made. And it is rank injustice to those who have spent time and money to acquire skill and purchase tools, to have all the profitable jobs go to unskilful and unprincipled men. We have a law which will shut up a fortune-teller as a humbug and swindler, and quack doctors get some of the same sauce. Why not bring the influence of the trade to bear on the subject and get a statute enacted, putting an effectual stop to these fellows? I suppose what exasperates me more than usual about this matter is, I have seen so much more of this kind of thing lately. But I am quite positive that nine-tenths of my readers will agree with me in desiring this nuisance abated. Let those interested come to the front and arrange to do something.

In a private way I have been asked to give an explanation of the new mysterious clock which has been attracting attention in Paris. I saw a photo of it some months since, and have also seen cuts which did not do the clock justice as shown by the photograph. It consists of two perfectly transparent glass globes, placed one above the other. These globes turn on two pivots attached to each globe. On each of the globes are painted figures and letters to correspond to the minutes and hours of the day. A statue with a sword standing on the pedestal, points to the figures on the globe, which indicate the time. The mystery seems to be in the globes which turn freely on their pivots if the finger is applied, and go on to show the hour and minute, if set again to the proper time. As for instance, the upper ball which is divided for hours, if setat 8 o'clock, proceeds to turn around in twelve hours, and so the lower one will indicate the minutes, revolving once in an hour. At Fig. 1 is given a side view of the clock. It must be kept in mind I have only attempted to describe a clock which will produce the same results, not a *fac-simile*, especially in outward appearance. In Fig. 1, *A B* represents two perfectly transparent glass globes. The lower one (*A*) turns on two pivots, *a, b*. The upper on *B*, also turns on two pivots *c, d*. The mailed figure pointing with his sword does not move, only stands and points. The movement which regulates the time is placed in the base *E*. Suppose the clock shows the hour, and one should apply his finger say at the dotted circle *e*, and with a quick motion of the finger set the glass globe *A* revolving rapidly in the direction of the arrow *f*. The same with the



glass globe *B*, it can be turned in either direction, and still as soon as left at rest will commence to revolve once in twelve hours. To make such a clock, a wood base *E* should be made about 2½ inches deep, and ten inches in diameter. It should be black and nicely polished, then turned out on the inside to receive a lever clock movement; an eight day would be the best. The curved pieces *G, H*, can be made of heavy sheet brass. The principle on which the motion is conveyed from the movement in *E* to the globes *A, B*, is entirely by friction. The standard *F* can either be directly under the pivot *a*, or on one side as shown. By placing *F* on one side of the axis of the globe, the idea of the motion being conveyed through it is to a certain extent lost. The bottom of *E* can be perfectly closed, and the winding of the movement done by turning the figure with the sword at *D*. The reader can readily understand that if the centre post of the clock movement was extended upward through *F*, and the lower pivot *a* of the glass globe rested on it, motion would be given to the globe through the pivot *a*. To explain, suppose in Fig. 2, *g* represents the centre arbor with a deep hollow cone, into this goes the pivot *a*, the friction of contact will convey ample power to turn *A*. All that is necessary to do is to recess in *G*, and conceal two wheels *a, g*, Fig. 3. Of these wheels *g* is attached to the centre arbor, coming up through *F* and *a*, of the same size and number of teeth, carries the hollow cone on which *a* rests. The globe *B* gets its power from *A* by using two ordinary dial wheels (minute and hour). The details of how to build all the parts will be given, together with detail drawings.

BARWOOD, Dec. 21st.

IN after-dinner coffee sets of silver a recent idea is to have the bodies of the pieces in repousse work, and the necks or upper parts engraved by hand.

HOLIDAY GREETING.

FROM the jewelers of North America there have come during the holidays kindly words of cheer, with the ever welcome cash. It is gratifying in the extreme to the KEYSTONE people to know that their efforts to furnish a bright, reliable paper is appreciated by the trade, and there is perhaps no better way to show our correspondents proper return for their courtesy than to reproduce a few of the pleasant things they have been saying. The correspondence comes from no particular locality or section, but from points all over the country:

NEW HAMPSHIRE.

E. E. Ramsdell, of West Swanzey, says that an investment in the KEYSTONE is the best place he has found to put his money.

F. W. Poole, of Plymouth, declares his intention to stand by the paper, as he would a life-long friend, whose coming he awaits anxiously each month.

VERMONT.

M. S. Sterling enlists under our banner for 1888, in the following brief sentence: "A spicy little paper; send it to me."

W. N. Severance, of Manchester, says: "I am more than pleased with your paper; it is practical, concise, and humorous, and exactly fills the requirements of the trade."

RHODE ISLAND.

Charles M. Clough, of Pantucket, enthusiastically says: "I like the KEYSTONE best of all the jewelry trade papers."

NEW YORK.

D. Peck & Son, of Naples, confess their inability to get along without it.

John Stagg, of New City, likes the new dress, hopes the paper will soon issue weekly, doesn't wish to lose a number, and wishes us success with a big S.

M. S. Benedict, of Katonah, confesses that his conscience has been troubling him, sends in a dollar, and compliments the management on the neat appearance, and instructive character of the matter in the KEYSTONE.

T. V. Dickenson, of Buffalo, New York, sends money and says: "I think I have had it three years and never paid a cent to my knowledge. Keep on sending it, and when my credit is played out tell me and I'll make it good. I like the paper for its newness, always up to the times, and often ahead. Success to you."

PENNSYLVANIA.

D. S. Bock, of Lehighton, writes: "Please take out my ad. I am getting more applications than I can attend to, and I have already secured the services of a first-class man."

Frank Galbraith, sends in the cash to pay for the KEYSTONE for four years, accompanied with exceedingly complimentary language concerning the paper and its management.

A. E. Bowen, of Lewisburg, sends the cash as he expresses it, in order to do his part toward supporting the KEYSTONE, saying at the same time that he does not see how we can afford to put out such a good paper for the money asked.

Robert B. Ringler, of Reading, sends cash, best wishes, and a request that we shall not allow him to miss a single number.

VIRGINIA.

T. F. Hollowell, of Manassas, writes: "Am very much pleased with the paper; success to it, and don't fail to send it regularly."

NORTH CAROLINA.

J. M. Tesh, writes from his new location at Mount Airy, Surrey Co., saying: "Send me the KEYSTONE for the year 1888. What I send is not one-fourth what the paper is worth to me."

SOUTH CAROLINA.

J. A. Daniels, of Anderson, says that he is satisfied that he gets more for his subscription to the paper than any money he ever spent.

MISSISSIPPI.

G. J. Stovall, of Winona, subscribes for himself and his brother, who is a dentist. Both have declared their intentions to stick by the paper as long as it is published.

TEXAS.

F. W. Pitschmann, of Houston, speaking of the KEYSTONE, calls it "A La-la," whatever that is, and asks if we would publish occasional articles that would interest the trade. Our answer to all such inquiries is: "Send them in. They are just what we want."

A. F. Stewart, Paris, Texas, writes: "Occasionally, I have an opportunity of glancing over the KEYSTONE, when received by the proprieior. I find it too good a paper for any merchant workman or apprentice to afford to be without. You will find inclosed postal note, for which you will please send me all this year's back numbers from which I may receive valuable information, and missed by not being a subscriber. Also find my subscription for 1888. Now the only truth is, I will have to draw straws with my wife to see which shall read it first, as she is very much interested in the gentleman "On the Wing."

P. S.—About how many jewelry stores and repair shops are there in America?

[About 15,000.—ED.]

OHIO.

W. F. Robie, of Prospect, thanks us for notifying him that his time was out, as he could not possibly get along without the paper, therefore cash accompanied the letter.

C. H. Weaver, of Miamisburg, sends in $1, and corrects his address.

INDIANA.

C. N. Hetzner, of Peru, renews his subscription, declaring that it is by all odds the best jeweler's journal he ever had, and that every jeweler should have it.

ILLINOIS.

Sidney Stocking, of Tolons, was shown a copy of the KEYSTONE by Byron Burns of that place. Messrs. Burns and Stocking are competitors, but at the same time great friends, both socially and in a business way. Mr. Stocking immediately subscribed, and made an urgent request for the entire monogram series, which he says is excellent.

Henry Walsch, of Buffalo, says that the paper is a welcome visitor in jewelry stores, containing always something new and interesting.

Louis Blattner, of Trenton, writes: "Must have it. Can't afford to miss a number."

M. J. Friend, of Lincoln, true to his name, says: "I always wait for the KEYSTONE, as for a friend."

MICHIGAN.

George D. Hamilton, of South Lyons, says: "It is indispensable in a jewelry store. I have a workman with me who takes great interest in it, and so do I. Keep sending it to me."

WISCONSIN.

M. Dodd, of Highland, has received the KEYSTONE for a long time, and has become attached to it.

R. E. Murphey, of Lancaster, has been receiving and reading the paper for some time, as he says with keen enjoyment. In his opinion, it is equal to any in the trade.

IOWA.

W. A. Siddall, of Spirit Lake, who has been receiving it during the past year, says he has come to regard it as much a necessity in his business as a balance wheel is to a watch.

KANSAS.

W. A. Hyde, of Baldwin, is brief, but to the point. He says: "You are a dandy!"

A. S. Montgomery, of Sterling, says earnestly that our subscription is entirely too low; the paper is worth much more than is charged. This is very true, and very gratifying.

E. Hewitt Griffin, of Blue Mound, asks that his "ad" for a watchmaker be taken out, because he has received over 100 applications, and secured a first-class man. He says that it is evident that the jewelers and watchmakers of the United States not only receive, but *read* the KEYSTONE. "Certainly" he says, "it is the best journal in the trade." This is the universal verdict of jewelers he has seen while on the road.

H. E. Porter, of Wamego, says that he would not do without the paper for ten times its price.

MISSOURI.

E. B. Lane, of Independence, writes: "The KEYSTONE gets there, Eli. I wouldn't be without it for four times the price."

CALIFORNIA.

J. E. Southworth, of Santa Clara, gives it to us in this style: "I respond with pleasure to your call for subscribers, for I could not keep house without it. I eat it for breakfast; luncheon it at noon; take a full dinner from it at night, and retire refreshed and ready for another day among the watches. You deserve great credit for your efforts for the good of the craft, for they cannot be for the good of your pocket at 'two bits' a year."

OREGON.

James K. Cleaves, of Marshfield, says that it doesn't come often enough, and would be willing to pay more to see it every week. It may come to that in time.

NOVA SCOTIA.

Samuel C. Howe, of Yarmouth, sends $1, and asks that the KEYSTONE be sent to him, adding: "I I consider it the best horological journal in America."

John A. Beck, Portland, Oregon, writes: "I send one dollar for subscription for your valuable paper. I can no longer endure the accusing conscience within me. I have been entertained, amused, instructed so long without money or price through your indulgence in sending me the the KEYSTONE, that I now pay and cry pardon for the past, with the promise to turn over a new leaf and pay promptly in advance for the future. There are two features in a watchmaker's life not to be overlooked: 1st. Advancement and progression in the present. 2nd. To take care of his loved ones by insuring his life for their benefit after he is gone. He finds in your paper, the KEYSTONE, security for his family in the Jeweler's League, of which I have been a member for ten years. Consider me hereafter substantially your admirer and subscriber permanently."

ONTARIO.

Alexander Moffat, of Port Elgin, writes that he can't and won't do without the KEYSTONE.

Barker & Co., of 411 Yonge St., Toronto, writes for a duplicate November copy, because their's was damaged, and they wanted to complete their file of the paper.

F. M. Smith, of Wallaceburg, says in sending his subscription: "without doubt the best paper in America for watchmakers and jewelers.

Julius H. Guenther, of 14 King Street, West, Toronto, asks for a duplicate November number to replace one he had lost. Couldn't bear to miss one, for he considered it the best paper in the trade.

M. R. Ceunter, of Seaforth, sends cash, and says that if there is anything left after paying his subscription, to use it in setting 'em up for that comical cuss, "On the Wing."

MAINE.

"Am now at work on my eighteenth year at the business, but learn something from every number of your valuable paper; it is the best journal I ever saw," says N. E. Wiggin, of Presque Isle.

KENTUCKY.

J. S. Osmall, of Uniontown, says: "A friend has sent me the last two issues of the KEYSTONE, and I have just discovered that I have been outside the jewelers' world by not receiving it. Please send it to me."

TENNESSEE.

Iliff Conger, of Sewanee, says: "I don't know when my subscription expires for KEYSTONE, so I enclose cash to encourage it to keep coming. I can't well get on without it. Besides I get it at such a bargain. My best wishes are with you."

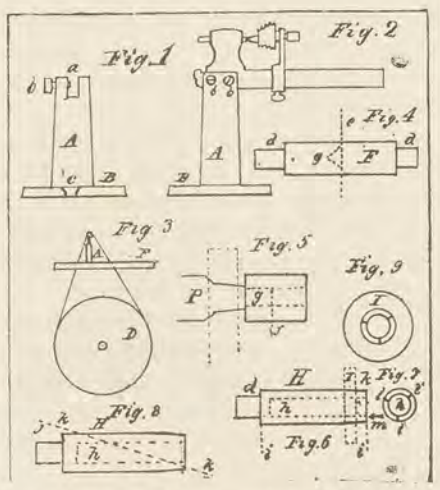
MASSACHUSETTS.

A. W. Harwood, North Adams, says: "I send you my subscription for 1888, and also for three years back. I like the paper exceedingly. There was one receipt in last May's issue that was worth five dollars a year to any practical jeweler."

THE BOW LATHE.

DECEMBER'S KEYSTONE describes the making of live spindles for a lathe on a common bow lathe, except the screw at *g*, Fig. 6. If, one goes to the trouble to make a live spindle for his bow lathe, he hardly wants to put it in his vice as shown at Fig. 4, December KEYSTONE, but should make a stand for it, which is screwed to his bench similar to any live spindle lathe. Such a support can be made either with brass or cast iron.

To make such a stand as is shown at Figs. 1 and 2, a wood-pattern should be made. Take a piece of pine wood inch square, and 2½ long, made slightly taper, so it will draw out of the sand readily, when molded for casting. The lower end of the support where it joins *B*, Fig. 1, is one inch square; the top where the recess *a* is made is ⅞ of an inch square. The base *B*, is 2 inches square, and ¼ thick. After the pattern is made, it should be varnished with shellac dissolved in alcohol. Any person can make such a pattern, if he half tries. At *a* is a notch to receive the lathe bar exactly as it is held in the bench vice. This slot or recess can be partly cast in, and then widened and filed to fit. At *b*, *b*, Figs. 1 and 2, are shown two screws for clamping the lathe bar. It is not necessary with such a



lathe to provide a counter-shaft, but it can run directly from a foot-wheel as shown in Fig. 3; where *A* shows the lathe mounted on its stand *D*, the foot-wheel and *E*, the work-bench.

A few words more may be necessary in regard to the spindle *P*, Fig. 5, in December KEYSTONE. The piece *G*, which screws on the end of the spindle at *g*, should also be hardened and tempered. The idea is the spindle *P* goes through the hole *P* in Fig. 7, and is fitted perfectly.

Ordinary wax chucks are made by turning a piece of large brass wire down at each end so a screw can be cut upon it as shown at *d*, *d*, Fig. 4. At Fig. 5 the lathe spindle *P* and collar *G* are reproduced from December KEYSTONE. The screw on *d* should be cut so that it will screw easily into *G*.

I suppose it is hardly necessary to say that the screw *g*, on the end of the spindle hardly goes half way through *G*, so there is no danger of the screw on *d* butting *g* on the spindle. After the screws *d*, *d* are cut, the wire *T* is sawed across at the dotted line *c* and makes 2 wax chucks, One of these chucks can be turned after it is in the lathe spindle into a hollow cone, as shown by the dotted lines at *g*, Fig. 4, to be used for turning staffs, cylinders or pivoting; as fully described in the little book on pivots and pivoting given to every subscriber of the KEYSTONE. A very useful chuck for many purposes, is made by taking a piece of brass about ¼ of an inch in diameter, and 1⅛ inches long. This will leave the part between the dotted lines *i i* about 15.16 of an inch long. Such a chuck is shown at *H*, Fig. 6. In the end at *h*, after centering is drilled, is a hole corresponding to the size of wire one wishes to turn. In the present instance, let it be assumed to be ⅛ of an inch in diameter, as this is a very convenient size for setting American jewels for balance pivots.

I consider the setting of American balance jewels of so much importance, I shall speak at some length about it. After the hole is drilled into the end of *H* nearly to where *d* commences, the outside of *H* is turned off smooth, and the end at *k* slightly taper. After *H* is turned, it should be split into 3 parts as shown at *l*, *l*, *l*, Fig. 7. This cut is an end view of Fig. 6, seen in the direction of the arrow *m*. The splitting is done with an ordinary jeweler's saw, when the chuck is in place as shown at the dotted lines in Fig. 5, the oblique dotted line at *j*, showing the direction of the saw, as is also shown in Fig. 8. The collar *I* is simply a brass ring, turned out of thick sheet-brass with a hole in it fitted to the taper part of *H*, so that as the ring is forced back, the slits in *H* close and clamp a wire inserted in the drilled out hole *h*.

Such a split chuck, holds a wire very true and steady, if due care is taken. A piece of brass wire one inch long will project out of such a chuck about quarter of an inch, and is in a good shape to set a jewel. The only difficult part of making such a chuck is in dividing the drilled brass chuck *H* into three equal parts, so the cleft parts close alike, and of course if they close alike they must close true. Such chucks split into two parts do very well, especially for smaller sizes of wire. The method of setting jewels by this system will be fully discussed in the next number.

GROVER'S DINING ROOM.

These extracts from an article in *Harper's Bazar* will be of special interest to the women-folks:

The private dining-room, or that in which the family residing in the White House take their meals on all save State occasions, and in which when they desire to have a few friends dine with them informally the meal is served, is one of the handsomest rooms in the building. It and the red parlor are the only ones on the first floor which suggests by their furniture and ornaments the apartments for similar purposes in the homes of people of wealth and taste. The East Room, the Blue and Green Parlors and the State dining room all have a stiff, ceremonious air, as if made for show, and call to mind the parlors of finely furnished hotels, which are not expected to be used as living rooms by anyone. But in modern hotels of the best class one does not see woodwork about doors and windows painted in colors, as was done six years ago in the Blue Parlor, and remaineth to this day a bright, glaring blue, which, there being much of it beneath and around the windows, spoils the tints of everything else in the parlor.

Some of the most really elegant furniture in the White House is in the private dining-room. The sideboard, of elaborately carved mahogany, made for the room, and purchased by Mrs. Hayes when mistress of the mansion, is there, and likewise the side table and buffet made by President Arthur's orders out of the dining room table (also of carved mahogany, which has been made by Mrs. Hayes' orders at the same time as the sideboard), and in similar style.

President Arthur complained that the carved legs of this table when he sat at it for meals hurt his legs, so he had it divided and fashioned into the two pieces of furniture just named, and replaced it with a large round table, which is still in the room, and stands in the centre, and on it meals are served. Two very old wooden side tables; with highly polished surface, are against the walls in this room. Side lights, wholly made of the finest glass globes, brackets, pipes, and all of fine rose shade, are affixed to the walls. The wall paper and the carpet are very handsome, and harmonize with the furniture, as the curtains do likewise.

The china, silver and glass on the sideboard, buffet and table would delight the taste of connoisseurs for their quality and form, apart from their intrinsic value and the associations that cluster about them. It speaks well for the honesty of White House employees that solid silver and gold tableware has remained there so long—fifty years and upward, some of it. Chance visitors are never admitted to this room for all day—when a President is living in the White House—all these valuables are exposed on the tables, etc., there. Some of this silver was used during Monroe's administration. Some of the china in use since, as it was during Lincoln's term, is there; it is white, with a Solferino border, and is generally put on the table when the family dine alone or have but one or two guests. Part of the elaborate china service, made and decorated to order, bought by Mrs. Hayes while in the White House is arranged on the buffets, and some of the larger plates are fastened on the wall.

Of the Monroe silver there is a whole service, all of solid silver. Among the pieces, all of which have beautiful shapes, are two soup tureens with covers. The tureens are affixed to large oval-shaped, flat-bottomed stands spreading beneath them like waiters. These stands and tureens are all in one piece. There are silver cake-baskets, gravy-boats, urns for coffee, tea and hot water, and water and sirup pitchers. There are fine glass claret jugs with silver tops, and a tea-kettle of burnished brass over a lamp for alcohol.

All the silver is very substantial-looking. The silver Hiawatha boat, used as a central ornament for the table on state occasions, stands on the buffet. This was bought at the Centennial Exposition of 1876.

Mr. Van Buren's gold spoons and forks, which were a lively campaign issue while he was President, are also on the buffet. They are very plain indeed, and, like all the silver, are marked "President's House."

All of these valuables are carefully watched, for the steward of the White House is responsible for them to the Government. He gives a heavy bond on taking his place, and all the furniture, ornaments and other United States property in the building are under his charge, and he is directly responsible for their care and preservation. No President takes to the Executive Mansion his own or his wife's silver, glass, china or household linen, as all these things are provided by the Government, and private property must not be mixed with them.

STRANGE STORY.

Not many years since certain miners, working far underground, came upon the body of a poor fellow who had perished in the suffocating pit some forty-six years before. Some chemical agent to which the body had been subjected—an agent prepared in the laboratory of nature—had effectually arrested the progress of decay. They brought it up to the surface, and, for a while, till it crumbled through exposure to the atmosphere, it lay there the image of a fine, sturdy young man. No convulsion had passed over the face in death; the features were tranquil; the hair was black as jet. No one recognized the face; a generation had grown since the day on which the miner went down his shaft for the last time. But a tottering old woman, who had hurried from her cottage at hearing the news, came up, and she knew again the face which through all these long years she had not quite forgotten. The poor miner was to have been her husband on the day after that on which he died. They were rough people, of course, who were looking on; a liberal education and refined feelings are not deemed essential to the man whose work is to get up coals or even tin; but there were no dry eyes when the gray headed old pilgrim cast herself upon the youthful corpse and poured into its deaf ear many words of endearment unused for 46 years. It was a touching contrast; the one so old, the other so young. They had both been young long years ago, but time had gone on with the living, and stood still with the dead.

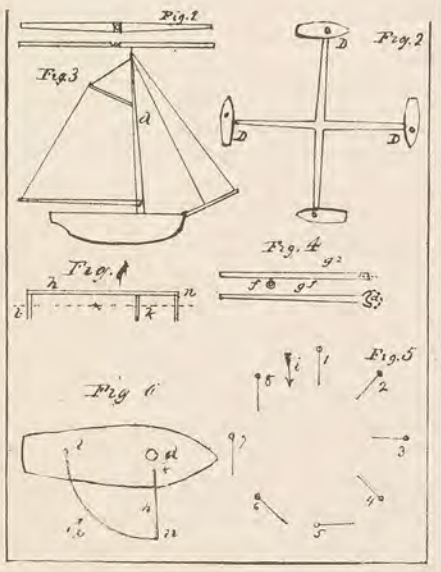
THE fly of untoward fate frequently gets into the ointment of riches. The tongue of Midas was miraculously turned into gold; a New York Crœsus dropped dead while clipping coupons—a clear case of over-exertion—and now it is learned that Cyrus W. Field, fresh from fingering gold in the recesses of his mammoth strong box, got his hand crushed by the sudden swinging of the iron door.

A LETTER safely reached its destination in Iowa with this endorsement: "There is a ten dollar bill folded in this letter, and if you want it worse than my mother does, take it,"

THE opelet, one of the wonders of the sea, is about as large as the Germanaster having numerous long, glossy petals of light green tipped with rose-color. The opelet clings to the rocks, but the petals wave about in the water, looking innocent and lovely. But the instant a foolish little fish touches one of the rosy tips, he is struck with poison as fatal to him as lightning. He immediately becomes dumb, and in a moment beautiful arms wrap themselves around him, and he is drawn into the huge, greedy mouth, and is seen no more. Then the lovely arms unclose and wave again in the water, looking as innocent and harmless as though they had never touched a fish.

JACK-KNIVES

BRONZING the pans and beams, and all the parts for that matter, above the box on which the scales stand, is readily done with bronze powder and spirit varnish which comes already prepared for gas fixtures and the like, and is for sale by almost all hardware dealers. The directions for using come with the bronze and varnish. Covering the old cigar box with plush is a job which boys no matter how clever had better leave to feminine fingers. And therefore, I advise the young artisan to enlist the services of a sister or an ever indulgent mamma for this part of the work. Little wooden models of guitars, banjoes and the like are always acceptable to sisters for decorating and covering. This is given as a suggestion, because it is not to be supposed the pupil does nothing during the whole month intervening between the issues of the KEYSTONE, except practice the lesson given. A very neat little easel can be made from the larger size of cigar boxes; but such boxes are not to be had on all occasions, and it is writers aim in every instance to select such jobs for lessons as will only require cheap material, and also such as is readily to be obtained. It is well for the young artisan trying to profit by these lessons to look out for thin wood of various kinds, so that he knows where to find it when wanted. At the time the scroll saw fever raged a few years ago, many hardware dealers laid in a stock of thin wood for this purpose; and such thin boards will be needed for various little trinkets, which it is proposed to build before we get through with these lessons. Cabinet-makers generally have black walnut boards ¼ of an inch thick. The cedar of which all the best cigar boxes are made, can be bought of the factories where these boxes are made in most all lengths and widths, and from 1-8 to 5-16 thick. All such sources should be looked to for material, so that when any kind is needed we know exactly where to go to obtain it. We will not talk at present of making easels or such decorative matters to barter with sisters for such services as covering our scales, but we will tell how to make an amusing toy particularly attractive to boys. It consists of four little vessels which chase one another around when placed in a position where the wind blows. These little vessels are mounted on four cross arms turning on a pivot in the centre. The only trouble with the little vessels not being more generally seen, is, they are considered quite difficult to make. But I confidently believe the plan can be explained so that my young readers will have no difficulty in making one. Two pieces of inch board four feet long, are provided and joined in the middle by halving. These pieces are shaped as shown at *A B*, Fig. 1. In the middle these pieces are notched as shown at *a b*, so that when put together at *a b*, they form four arms as shown at *A*, *B*, Fig. 2. The outer ends of the arms where the boats *D D D D*, are fastened should taper to one inch square. The little boats should be about ten inches long, and are whittled out of bits of pine plank 1½ inches thick, and two inches wide. There can be no rule given for the shape, but most all boys have an idea of the form of a boat, and it is good education for the eye to shape such forms as depend for their beauty on the taste and skill of the maker. At Fig. 3, is given the general form of the boat *D* 1, being a side view and *D* 2, an end view. Into these wooden vessels is inserted the mast *d*, about twelve inches long, 1½ inches of which goes into the wood of the boat. The mast should be about ⅜ of an inch in diameter, inserted in a hole of this size bored into the wood forming the "hull," a term applied to the boat part of a vessel. The bow sprit *e*, Fig. 3, should extend forward of the bow about 3½ inches, and go into a ¼ of an inch hole two inches more, making the stick for the bow sprit *e*, about 5½ or 6 inches long. The arranging of the ropes (twine) extending from the bow



sprit to the mast, will be taken up and explained by and by. The boom *g*, extending back from the mast, to which the principal sail is attached, is forked out to form a crutch as shown at *d*, Fig. 4. This is tied around the mast with a small bit of linen twine. In making such a small model we shall have to depart from the conventional methods used with regular vessels. The sail *E*, does in one sense the entire work of making the vessels chase one another around. The sail acts by exposing a broad surface to the wind when going with it, and turning to go edgeways when advancing against the wind. In Fig. 6, are given eight positions, showing how the main sail *E* stands toward the wind, which is supposed to be blowing in the direction of the arrow *i*. In large vessels the weight of the boom keeps the sail drawn tight so the wind only makes it a little cup shaped, but in such a little light affair as we are making, the boom would jump up with every puff of wind from the position it should be as shown at *g*, to the dotted line *j*, Fig. 3. To prevent this a piece of No. 10 iron wire is bent into a curve with an elbow. We will explain how this wire holds the sail flat. The curved position from *h* to *h*, Fig. 5, is bent to correspond to the circle *m m*, swept from the centre of the mast shown at *d*, Fig. 5; then an elbow is bent at *n*, coming back to the vessel. At this point *k*, the wire is bent directly downward at right angles and the bent part forced into the deck. At Fig. 7, is shown a view of the wire seen in the direction of the arrow *p*, Fig. 5. On the under side of the boom shown at *g* 2, Fig. 4, is shown at *f*, a small screw eye which sweeps around on the bent wire *h*, to hold the boom down. At our next session, we will try and finish our vessels and set them sailing.

MYSTIC JEWELS.

In 1400 an Italian writer set forth the virtues of the various gems, indicating the month in which it was proper to wear particular stones. The idea took, and for some time it was the fashion in several Italian cities to have the precious stone of the ring determined by the month in which the bride was born. If in January, the stone was a garnet, believed to have the power of winning the wearer friends. If in February, her ring was set with an amethyst, which protected her from poison and from slanderous tongues. The blood-stone was for March, making her wise, and enabling her with patience to bear domestic cares. The diamond for April, keeping her heart innocent and pure, so long as she wore the gem. An emerald for May, made her a happy wife, while an agate for June gave her health and protection from fairies and ghosts. If born in July, the stone was a ruby, which tended to keep her free from jealousy of her husband, while in August the sardonyx made her happy in the maternal relation. In September a sapphire was the proper stone, it preventing quarrels between the weddded pair; in October, a carbuncle was chosen to promote her love of home. The November-born bride wore a topaz, it having the gift of making her truthful and obedient to her husband; while in December the turquoise insured her faithfulness. Among the German country folk the last-named stone is to the present day used as a setting for the betrothal ring, and, so long as it retains its color, is believed to indicate the constancy of the wearer.—*Popular Science Monthly.*

DRIVE FAST, THOMAS.

Pretty well up towards Ansonia resides a gentleman, a lover of fast horse flesh, whom we will call Thomas Hicks, in order that he may not be called on too often this week to "set 'em up" for the boys. Mr. Hicks likes, and drives, lively horses, but in his stable there's one "old pelter" which Mrs. Hicks, whose timidity up to last week prevented enjoyment of a lively drive with Mr. Hicks, calls her own, inasmuch as his time is limited to a never-get-there-gait. If there's one thing more than fast horses especially doted on by Mr. Hicks it is fast cheese; in other words, cheese which when properly groomed can get up and travel about as fast as Mrs. Hick's horse can. The other day he concluded to drive over to New Haven and he invited Mrs. Hicks to go along, promising solemnly to drive as slowly as if going to camp meeting. Not without one or two misgivings, Mrs. Hicks accepted the invitation and they went to New Haven in about two hours and a half. While Mrs. Hicks was doing some shopping, Mr. Hicks skirmished about until he had found a limburger cheese salesroom, which like Job's warhorse, he "smelt afar off." He bought a cheese, stowed it away under his carriage seat and at precisely 3 o'clock Mrs. Hicks appeared and they started homeward. Before getting out of New Haven that miserable cheese began to smell dreadfully, but Hicks determined to charge it to sewer gas if his wife said anything. If she thought of anything rank she said nothing until they were out of the city, when she began to "sniff, sniff, sniff," and look about anxiously, not to say suspiciously. But she held her peace and the limburger continued to smell for all it was worth. Finally, with another "sniff, sniff, sniff," which threatened to put her nose out of joint. Mrs. Hicks ejaculated: "Thomas, I say, drive fast; there's something dead around here." Hicks needed no second request of that sort. He had been holding his horses in, until his hands were almost blistered, but now he let them go at a 2:50 pace. While travelling like the wind, that cheese never let up a particle, and they entered Derby at a rattling gait—just an hour and fifteen minutes after leaving Chapel Street in New Haven. When Hicks lifted the cheese out of the carriage the secret was out; but Mrs. Hicks had been effectually cured of her opposition to fast riding.—*Derby Transcript.*

THIS is pre-eminently the age of monuments. The Sandwich Islanders are about to erect one in honor of Captain Cook, as a slight atonement for the conduct of their forefathers in eating him.

HE GOT THERE.

One morning just before the war, as my train drew up at Brandy station, a chap in a butternut suit and a home-made wool hat rushed up and addressed me as I stepped to the ground:

"Is you th'r clerk on this ye'r kyar?"

"I'm the conductor; what do you want?" I answered.

"I wan'ter go ter Washinton on this ye'r kyar."

"Well, get aboard," I said.

He climbed the steps and rapped on the door. When he rapped a second time some wag inside called out: "Come in!" There were at least fifty passengers in the car. He began at the front seat, shaking hands with every one clear to the back end, and asking each "How d'yr do?" and then "How's ye'r folks?" Of course it was a regular circus for the other passengers. He lived forty miles in the country and had never seen a train before. When he stepped off the car here in Washington I felt sorry for him; but, will you believe it, that greenhorn is to-day one of the first merchants of Washington, and is reported to be worth over $200,000.

"A FIRST-CLASS watch should last for 100 years, if properly taken care of," said a well-known watchmaker to a New York *Mail and Express* man. "The reason that they wear out is the fault of the owner and not of the watch. In the first place a watch should be cleaned and oiled every eighteen months. If this is not done the oil which lubricates the works will dry and the works wear out by friction. Another mistake is to wear a watch in an outside pocket where it is liable to be jammed. I have known more watches ruined by billard playing than anything else. In leaning over to make a long shot, the vest pocket is frequently brought in violent contact with the table, and this repeated jarring can not fail to injure the works. Some watches are made to run eight days with one winding, but they will never become popular. Their owners always forget to wind them up on the eighth day. I know of only one or two in this country. They are made in Switzerland. The usual length of time modern watches are calculated to run with one winding is from thirty to thirty-six hours."

COLORED CLUB.

I SE pow'ful glad ter see so many ob you ternight. Kase der am a new departure in de club dis ebenin', an' after dis de exercises will be started wid singin', an' de poet ob de s'ciety hab done promised dat he will hab a new song at ebery meetin'. Dese songs will be selected from de new operas as fast as dey appear. De one dis ebenin' am from de Mikado, an' am to de tune ob "He is goin' to marry Yum, Yum," an' so let her go Galligher.

For he is goin' to buy a Boss case Yum, Yum,
So your Snide cases bury,
An' all will be merry.
I think you had better succumb, cumb, cumb,
An' join in our expressions ob glee.

An' on dis subject needn't be dumb,
For you will find there many
Who will sell for a penny
Their Snides, although now dey are mum, mum, mum.
For der am plenty good Bosses to see.

Then you had better go buy a Boss case Yum, Yum,
An' your Snides throw away,
An' be happy to-day.
An' you'll find dat you is feelin' lum, tum, tum, tum,
When from beastly Snide cases you is free.

Well, de song am immense, an' de singin' it would hab been grand, if Splitbezel Orcutt, Terror Hardy, an' Tomatocan Crocker, hab not joined in de singin', an' hereafter dese chaps will listen, an' if dey joins in de Janitor will kick dem down stairs. Splitbezel's voice reminds me ob de voice ob a hungry cat in a back alley, an' de voice ob de Terror sounds like a cross 'twixt de roar ob a sick elephant an' de song ob a Jersey skeeter. While de voice ob Tomatocan Crocker sounds like a buzz saw, an' jess made my corns ache. I felt berry much skared dat de police would run us in. I done told de landlord dat we would keep de peace, but such noises as dese fellows make would send us all to de Island for six months. Dey am warned.

De funny man, Wishbone L. Snowfall, am able to get up in bed, an' after eatin' a watermelon to-day he struck off de followin', an' sends it in, kase he tinks it am funny, an' will jess make you laugh:

Dar was a young jeweler named Ross,
Who said a cheap filled was good as de Boss,
So he sold a cheap snide,
An' immediately died,
An' dey say dat his death was no loss.

Well, said de Professor, I'se not de funny man ob de s'ciety, but I jess tinks I can knock dat silly, an' dis am de way I dose it:

Dar was a young jeweler in Clyde,
Who told a customer dat de Boss was a snide,
So he sold a cheap filled,
An' was immediately killed,
By de people who dar reside.

Well, it am 'bout time dat de chaplin ob dis s'ciety was gettin' in his work, an' if you miserable sinnahs will hold your breafs a minute, I'll jess show you all how I does it:

Dar was a young man in Berwyn,
Who said to wear a filled case am a sin,
So he bought a cheap gold,
An' found he was sold,
When his friend, de pawnbroker, would not take it in.

Well, said Pendantset Snowdrop, I tinks de Vice-President done hab some rights in dis s'ciety. I knows dat der am some niggahs in dis meetin' dat tinks I'se no poet, but jess hold your wool down while I comes at you on a run wid dis:

Dar was a young man in Bryn Mawr,
Who sold a snide case to de conductor ob a street car,
But de conductor's big boot
Made this young man scoot,
An' now he don't set down or ride berry far.

Well, said Sepulchre Snowpit, I wants a hand in dis Poetry Bee, for I'se away up on poetry, kase my ancestors were all in de poetry line, one ob dem havin' been de cook in Lord Byron's family. So you see it runs in my way, an' dis am de way I knocks all you niggahs out.

Dar was a young man in Bellair,
Who lubed a girl wid fiery red hair,
But he refused her a Boss,
An' cried whar's de white hoss,
An' now he am wild with despair.

"Dat will do for dis ebenin'," said de Professor. "An' if dar am any more niggahs strugglin' wid poetry, de will jess bottle demselves up until spring, an' den sell it to de bed bug poison man to use for advertisin' de powdah."

"Look heah, Mr. President," said Liftspring G. Roberts, "I'se just bustin' wid a piece ob poetry, an' I wants a chance to shoot it off. I'se sure dat it beats any ting said here to-night. De day will come when de great men ob de land will be fightin' wedder it was Shakespeare or Roberts dat writ de piece. De poetry am immense, an' de sentiment sublime, an' I demands de time to recite it."

"Well," said de President, "Liftspring G. Roberts will be giben a chance to shoot off his horn."

Well, dis am de way I paralyzes you all, said Liftspring:

Dar was a young man from Haverford College,
Who thought he was possessed ob a great deal ob knowledge,
So he bought a cheap snide
To present to his bride,
An' now de engagement she will not acknowledge.

I hardly tinks dar will eber be much ob a dispute 'bout who writ dem verses ob Liftsprings, but der am a good warnin' in dem.

Dis am a good place to call de 'tention ob de s'ciety to a new pictuah by de artist, Paintbrush. It was painted on de spot, but de names ob de parties am not giben.

Voice from under the sofa: "Dinnah, please let us come out."

Dinnah, "Deed I won't. You an' dat dog wid your snide cases hab got ter sleep der dis night. No niggah can carry a snide case in dis house.

Befo' proceedin' to de lectuah ter night, I'se gwinter to read a lettah dat shows de 'fluence ob dis s'ciety am growin' at a most 'markable rate. De lettah will 'splain itself, an' am as follows:

BOSSTOWN, DEC. 7th.

BELUBED ENLIGHTNERS:

As de Corresponding Secretary ob de "Shinin' Light" branch ob de Enlightners ob dis s'ciety, I proposes to write you a report ob de progress ob de work in dis place.

When dis s'ciety was started heah two months ago, dar was not a single Boss case in de town. At dat time de town was called Snideville, an' de prospect looked bery blue. Our President, de Hon. Neversaydie Charcoal, an' myself jess sailed in. We held meetins' on de cornahs ob de street, in de meetin' houses, skatin' rinks, an' ten pin alleys, an' at de election fo' Aldermen. We swept de town, electin' nine Enlightners to one Snide. Brudder Charcoal an' myself bof got 'lected. Well we jess made tings howl roun' dat Council meetin'. We passed a law makin' it a penalty ob $25 to carry a snide case, an' a fine ob $1000 fo' a jeweler to sell one. We also ordered dat dose who had snide cases should tie dem on de dogs tails instead ob de license tag. We also passed a law dat any jewelry drummah dat brought snide cases in de town should not be 'lowed to flirt wid de girls or tell any jokes to de hotel clerk, an' was to receib a coat ob tar an' fedders.

At de next meetin', we bounced out de Mayor, Snidecase Gould, an' nominated Bosscase Vanderbilt, an' I'se tellin' you we had a hot time ob it, as de snide case makers rushed in, bought beer an' watermelons, an' gib dem to any one who would vote for Snidecase Gould. Dis was a mos' pow'ful argument, an' it looked as if Snidecase would get de place. But I done foun' out dat Snidecase had sold his cheap filled case to de Deacon ob de Baptist Church. Den I went to work. Had large signs painted on wagons sayin', "Save your homes, your wives an' daughters," "Save your country." "Save your watermelon patches." "Save your possum an' taters." Vote fo' Bosscase Vanderbilt an' you will all wear biled shirts an' own a yaller dog. I also turned on de fire alarm, rang all de church bells, an' jess covered de town wid Boss stickers. Had all de pretty girls out dressed in white, singin' dat beautiful song, "Wait till de Snide's Roll By," an' "Johnny get your Boss Case." Dis turned de tide. Bosscase Vanderbilt was 'lected by a large majority.

In de ebenin', we had a large torch light procession, an' jess painted de town red. We called on de new Mayor, an' gib him a serenade. After dat he done called us in to a possum suppah an' a watermelon racket. We all staid der an' eat until two o'clock in de mawnin'. Den we went down to Snidecase Gould's house, an' took him out in de back yard, an' dressed him up in a Prince Albert suit ob tar an' fedders wid a snide case tied roun' his neck, an' rode him out ob town on a rail. De next day de Council passed a bill declarin' dat all de boy babies be named "Jas. Boss," an' de girls, "Bossena."

So you see, brudders, de good work am goin' on wid a rush, an' I hopes you all am doin' your lebel best, an' will neber let up until ebery man and woman in de land am de happy owner ob a Boss case, an' de snide makers am all rushed off to de North pole. I'se gwinter to close dis lettah wid a few words from Shakespeare. I'se changed it a little, but I'se sure dat de poetry am jess as good, an' de sentiment much bettah:

"Who steals my snide case, steals trash;
'tis something, nothing,
'Twas mine, 'tis his, and has swindled many thousands.
But he that flitches from me my good old Boss case,
Robs me ob dat which enriches him
And makes me poor indeed."

Yours for de Boss,
FULLJEWELED CARLE.

P. S.—A messenger boy hab jess informed me dat I'se de fadder ob twins. One is a girl, an' de odder a boy. Dey will be called Jas. Boss an' Bossena Carle. De town is gwinter be luminated ter night.

Modern Furniture.

Befo' makin' any 'marks on dis lettah, I wants to call yer 'tention to dis pictuah. It speaks fo' itself.

Dis lettah will be printed in all de known languages, includin' dat ob de Bowery tough, an' will no doubt convince de people dat we is in earnest. I hab been asked seberal times how it is dat der am any one dat is opposed to de Boss. I always says its de natural cussedness ob de human nature, an' am not at all strange. You all know dat der am a great many people in dis world dat object to goin' to heaben', an' fight de church all dey can, an' only kase de church am tryin' to save dem. You also knows dat der am men an' wimmin dat am opposed to soap an' wattah. In fact der am not a good ting in dis world dat do not hab jess 'bout as much opposition as any ting bad has. An' it always seems to me dat de opposition to de good am a great deal harder to get obber den dat opposed to de bad. Wedder it am dat mankind likes de bad de best am a problem dat we wise men ob de world hab got bald-headed an' poor in tryin' to fin' out. When I finds out, I'll tell you all.

De facts an' de lettah ob Fulljeweled Carle hab so taken up de time ob de meetin', dat I'll pospone my lectuah dis ebenin'. I was gwinter lectuah on Liars dis ebenin', an' I'se glad to see so many ob you present. An' am also sorry dat I hab not de time to talk to you. At our next meetin', de Foolkiller will lectuah on de subject ob "Fools," an' I hopes to see you all present.

"I moves dat we impeaches de President," said Faultfinder Snowkase." "He hab called us all liars an' fools."

"Who done woun' up dat Faultfinder Snow," said de Professor. "He minds me ob a jack rabit, an' de man dat always goin' roun' wid a chip on his shoulder am suah ter get it knocked off. You all knows I didn't go fo' ter say as how you all was liars an' fools. But I kinder tinks I has my eye on one jess now. But St. Paul done said all men are liars. As dis s'ciety has a Foolkiller, you can jess bet your persimmons dat I'se not gwinter take anyting back.

It am reported dat Rolledstock Van Milliette, an' Handpress Steele, were seen at Ridgeway Park wid snide filled cases in der pockets, der moufs full ob chewin' gum, an' blowin' dat dey was de Robinson Crusoe an' man Friday ob de Island, an' wanted to clean out de place an' de beer barrels in fifteen minutes. De Committee ob Investigation will look into dis, an' report at de next

meetin'. An' if it am so dey will be introduced to de s'ciety kickin' machine in de cellah, an' I'll bet dey won't want to set down for de nex' tree months.

Heah am a couple ob instantaneous photographs dat our artist took out in de country a few days ago.

"Robber.—"Gib me your Boss case, or your life."

Dude.—"I has no Boss. Heah am all de wach I hab."

Robber.—"I golly, dat dude hab a Snide. Good-bye."

I wants ter say befo' we adjourns, dat de good work ob de Enlightners am beginin' to tell, an' de jewelers all ober de country am joinin' in de movement, an' de sales ob de Boss case am increasin' at a rapid rate, an' de people are loud in der praise an' demand for der mos' excellent cases. An' I hopes dat ebery Enlightner will feel encouraged, an' keep on in de good work until ebery man an' woman in de lan' am goin' roun' wid a case ob de Keystone factory in der pockets, an' dat der will not be eben a snide case left to tie on de tail ob de poor dog. An' when dis time comes, den will der be great happiness in de lan', an' one great cause ob profanity will be done away wid; fo' de 'mount ob swearin' dat am got off on 'count ob bad watch cases am terrible, an' if fo' no udder reason den dis, you all ought ter sail in an' do your lebel best, but de time am comin', honeys, an' I'se jess tellin' you dat dat will be a mos' pow'ful happy day fo' dis ole niggah. De ole banjos will be brought out, an' we will dance an' sing in de moonlight, as we useter befo' de wah. Possums, watermelons, an' persimmons will be on ebery man's table, an'

Den de watermillion patches
  Will hab no fences built aroun',
An' de colored man will be considered
  De boss rooster on de groun'.
An' der will be a great big fountain
  Dat will squirt up possum pie,
An' if you wants to get dese good tings,
  To sell Boss cases you must try.

I also understans' dat de committee on de rules an' regulations hab at last got ready fo' ter report; dey will be read at de next meetin'. De excuse ob de committee am dat as dey work in de Keystone Watch Case Factory, dey hab been workin' day an' night, an' hab not had de time. I knows dis ter be a fac', so I excuses dem. Mr. Howard Roberts, de Secretary, done wrote me last week sayin', dat dey had neber been so busy since dey was in de business, an' dat de demand fo' de Boss case was larger den dey could 'tend to eben in der new factories.. He also sends de tanks ob de whole factory to de Enlightners. I has ordered dat his name be put on de roll book as an honoary member ob de s'ciety.

As Mr. Fatty Bennett, ob Boston, hab pasted up de mos' Boss stickers since de last meetin', his pictuah will be painted by de s'ciety artist, jess as soon as de s'ciety can raise de money to buy de paint, fo' Fatty wants it life size, wid his feet in de pictuah, an' dis will take heaps ob red paint.

FIVE FAMOUS CLOCKS.

One of the instruments at the Lick Observatory, which the visitor to that institution justly regards with more than usual interest, is a clock which stands just inside a window opening off from the main hall of the building toward the West. This interest does not arise from a striking appearance of the clock, for it is quite plainly mounted, but because it has functions which seem to be so much at variance with its surroundings. Bolted firmly to a heavy pier, in a room where its beats can scarcely be heard, even in the solitude of that lonely mountain top, it regulates the movements of boats and railway trains and the endless variety of activities from which rise the noise and bustle of busy commercial life hundreds of miles away.

Clock-making has been brought to such a degree of perfection that a clock which is subject to variations of as much as the tenth part of a second a day is not considered first-class. This is a degree of accuracy equivalent to the measurement of a mile with an error not more than the sixteenth of an inch. Even a good watch is subject to irregularities very much greater than this. The true test of a timepiece is its performance from day to day, and many a watch, which is claimed by its owner to have varied not more than half a minute a month, would have been found guilty of greater errors if it had been examined frequently during the interval.

The Lick Observatory has five standard clocks by the best makers in the world. They are all bolted to heavy brick piers, which pass up through the floor of a room specially constructed for the purpose, with double doors, windows and walls throughout. The piers are built on the solid rock of the mountain, and are entirely disconnected from the building, so that no jar can be communicated to the clocks. The double walls of the room effectually guard against change of temperature. Five chronometers are also kept here, two of which are regularly used in connection with the time service. In some observatories the clock-room is situated deep under ground, and the clocks are even sealed up in air-tight cases, but the equable climate of California renders this unnecessary on Mt. Hamilton.

Four of the observatory clocks keep sidereal time, and are allowed to run without regulation, their errors being allowed for; the fifth is the standard mean time clock, and is constantly adjusted, so as to be as nearly right as possible, every day at noon, when time signals are transmitted to the railroads. This is effected by means of small weights of different sizes. The one most used makes the clock gain a tenth of a second per hour when placed on top of the pendulum, and makes it lose the same amount when placed on a little shelf at the bottom. It weighs 75.1 grains. The clock is compared with one of the sidereal clocks and two chronometers every day a little before 9 o'clock in the morning, and thus its error is determined. Then the weight is applied, so as to correct the error before noon.

If, for instance, the clock should be found two-tenths of a second slow the weight would be put on top of the pendulum and removed at the end of two hours, when the clock would be just right. The pendulum is of itself so nearly in adjustment that the clock will run a day without getting more than a tenth of a second out, and it is hardly ever necessary to correct an error of as much as two-tenths of a second. The rule which has been adopted is to always have the clock within a tenth of a second at noon. Another comparison with the two chronometers immediately after the noon signals are sent gives the precise amount of error of the latter. The errors of the sideral clocks are determined by observation three times a week.

There are other methods of regulating a clock without disturbing the pendulum, but probably none are simpler and better than this.

Having described the way in which the standard clock is kept running on true time, let us see by what means its signals are transmitted to a distance.

Everybody nowadays knows that when a telegraph operator taps his key the armature of a magnet at a distant station moves and gives a click, and that it is with an alphabet composed of long and short clicks that he is able to spell out words and transmit a message. The electric pulse started by the depressions of the key travels along the telegraph wire with such enormous velocity that the time required for its transmission over ordinary distances is not appreciable.

Suppose a telegraph operator to be seated at the observatory in front of the standard clock where he can see its face, and to tap his key at every second of the dial; then the instrument in all telegraph offices will give corresponding clicks, and if he distinguishes the beginnings of the minutes and hours in any way, say by making a click double or by omitting it, the operators in the distant stations can tell the exact time.

In the actual arrangement the operator in front of the clock is dispensed with, and the tapping of the key is done by the clock itself, although the hand key is replaced by a very delicate pair of springs, so as to throw as little work as possible on the clock. A wheel, originally with thirty teeth (the thirtieth being cut away), is fixed on the arbor of the second hand and lifts a spring at every even second, except the fifty-eighth, making a magnet outside the clock-room click just as if an operator were tapping his key at intervals of two seconds, but omitting the last click of every minute.

There is another wheel in the clock which causes five beats or ten seconds to be omitted before the beginning of every fifth minute. The arrangement of the clock and of the outside machinery for transmitting time, which need not be described here in detail, is nearly the same as that used in the time service of the observatory at Madison, Wis., where it had been introduced and perfected by Professor Holden.

The powerful electric current which is necessary to send the signals over the long telegraph line to San Jose is not let through the clock as it might injure the delicate machinery inside, but a very feeble current is employed to work the magnet outside, and this in its turn starts at the same instant the more powerful current by the motion of its armature just as if the latter were a key worked by hand. An electro-magnet so arranged is called a relay, a name well-known to telegraph operators.

At the other end of the telegraph line leading down the mountain, in the railroad office of the Southern Pacific Company in San Jose, is a large relay which is caused to beat by the currents sent from the observatory in this manner every two seconds. The observatory is responsible for the proper working of this relay, but not for the transmission of time signals beyond it. The instrument is covered by a glass case, to exclude the dust of the railway office.

Suppose that the reader is seated by his relay at any time between 9. a. m and 6 p. m., and wishes to tell the exact time by the observatory clock. He hears the instrument bearing at intervals of two seconds, but so far this conveys no information to him. Presently, however, comes a pause, and one beat is omitted. The next beat he knows begins a minute, but perhaps he has no way of telling which one. He waits a minute or two longer, and then comes a pause—five beats are omitted. He looks at his watch and sees that the nearest even fifth minute is, say 11:25. At the next beat he can catch the time exactly. To identify the minute after the long pause. his watch must be less than two an a half minutes in error.

If he does not know the time beforehand to within two and a half minutes, he may wait for the noon signal, from which the railways get the time. The noon signal is for the purpose of identifying beyond the possibility of doubt the 12 o'clock beat. It is not entirely automatic, but requires the attention of the observer on the mountain. At four minutes before 12 the relay armature, which up to that time had been beating as usual, begins to rattle rapidly to and fro, and by the following succession of long and short beats to spell out the word "time:" —— — — —— — ——— —. This is repeated until 11:57, when the beating stops and a long pause of one minute begins. The first beat after this is 11:58 and the clock then beats regularly for two minutes. The last two seconds of the minute before 12 are omitted, as usual, and the next beat is exactly noon. After this the clock is cut off and the beating is not resumed for several minutes.

The duty of the observatory ends here, but from this relay as a starting point the time signals are spread over the country in all directions. The large relay is made to start simultaneously at every beat four different currents on independent lines owned by corporations or individuals having contracts with the observatory for time.—*Chicago Evening Journal.*

In silver jewelry the yacht pattern in oxide is a new design, worn in full set, including pin, cuff buttons and guard, with the Mayflowers of 1620 and 1886 in relief upon the billows. The design of the buttons is similar, and the whole is expressive of the interest in yachting.

HINTS FOR SALESMEN.

HERE is what a drummer, traveling for an exclusive jewelry house, says: "I was much impressed by seeing and hearing a jeweler sell a Boss case. While I was waiting to interview the proprietor, a customer came in to buy a gold watch. He was a man of about 35 or 40, with a well-to-do look about him. Now selling goods is a strong weakness of mine, and the next best thing to please me after selling goods myself, is to see others do it. I always stand by and watch the transaction, taking notes and making points for future use. In this way I frequently get some profitable ideas.

The customer informed the proprietor that he had been thinking for some time of buying a gold watch for himself, and had came in to see if he could make a selection. The proprietor, who is a very straight-forward, business sort of a man, looked down into the show case, with the customer, watching his eye to stop on some particular watch, quietly asked him if he liked a large, small, or medium sized watch. The reply was, he wanted something serviceable, and thought a good-sized watch would be more apt to fill the requirement than a smaller one.

"An 18 size American is what you want; and now if you will let me inquire about how much you have made up your mind to let me stick you for a watch I shall know what to show you." The customer replied he did not intend to let the dealer stick him on any watch. The proprietor laughingly replied: "I don't fancy many men could stick you on any thing you bought. But jokes aside, you of course have made up your mind about how much you feel disposed to pay for a watch, and this point established, I then can tell you what I can give you to the best advantage for your money. I know many people have an objection to having this question asked as it half implies that the dealer thinks that is all the money he has, and then brags up some inferior article to the price perhaps, then falls a little, and the victimized customer goes away to find out he has been swindled. Well here is a 14k Keystone Solid Gold case, weighing 51 dwts., and is the very perfection of watch case making. There are points about that case that would be difficult to show and explain to you, that put it ahead of all cases in the market. Look at the style about it, shape, proportion of stem, and pendant bow, and the engraving, striking even at this distance, and yet so fine and perfect that you cannot, with the naked eye, detect a fault, no matter how close you inspect it. Examine the joints and the little lip where the nail catches to open it—just perfection. And in opening it, the catch spring is not like a bear trap, yet perfectly secure, and the spring to throw up the cover (front back, the case-makers call it) just strong enough, perfectly elastic, and even in its action. Its a dandy, I tell you!"

After a little pause, while the customer was taking in these graces, he added. "Did you never have a tailor examine a coat, particularly one some other tailor had made for you. He did not do like some friend, rub his hand over the cloth to feel of the quality, or pull it together to see how it fitted. He saw all that at a glance, but turned over the lappel, looked at the button holes, and turned up the collar to see how it was stitched, how the edges were felled, and the lining put in. Now you see the points of this case are as noticeable as the ones I have just mentioned. I can put any priced movement in you may desire, from $5 up to $50."

The customer, who was now getting interested, asked how much the case was worth. "This case" said the jeweler "will cost just an even $58, and you ought to have with it a movement that will cost at least $20. I'll put you in an excellent full fifteen-jewel movement, and call case and all $75. The customer looked the watch over, and then came the confession which the dealer had angled for from the first. "I had made up my mind not to pay more than $50 or $60 for a watch," adding that several of his friends had bought gold watches at these figures.

"Oh! yes," said the jeweler, "I have cases and movements here, I can sell you for those figures and much less," reaching into the show case and taking out a case. "There is a case with a 7 jewel, genuine American movement, I will sell for $30. The case weighs 30½ dwts., and was sold and warranted to me as 10 K. I would not warrant it to assay 8 K. Here we have a fair comparison between this cheap gold case and this high grade 14 K of the Keystone make. Look at the joints, they don't half fit. The whole case is as thin as paper. Lean up against anything, and you have a dent in it, and matches, or even perspiration, will stain it. And look at the engraving, why it looks as if laid out with a butcher knife, and finished by lightning. Of course there is nothing to compare in any sense to a solid 14 K. case, but let me advise you if you get a solid gold case, get one heavy enough to serve you, no paper-shell cases. Even a 50 dwt. is light, too light for a man who is pushing about in this busy world. If you want a cheap gold watch, take one of the Boss cases made by this same Keystone Watch Case Company. Here is one of them. They are made out of three plates of metal, joined so as to be perfectly solid, with enough genuine 14 karat gold outside to wear for thirty years. The Company warrants them to wear for twenty years. You can see for yourself by the engraving that there is no thin skin of gold over the stiff metal. Even the deepest lines show nothing but gold, and of course every line, even the deep heavy ones, must be completely worn away before the filling or lining which stiffens the case will show, and you and I both very well know that twenty years' wear, except a man lines his pocket with sand paper, is not going to efface all this heavy engraving. Here you have a neat, tasteful case, elegantly engraved, and so far as appearances go, a 14 K case, guaranteed for twenty years, and you may safely assure yourself for thirty years. More than this, the case is strong enough to resist everything that will be likely to come against it, for a man's ribs would break before the case would yield."

"You are drawing it rather strong ain't you" remarked the customer.

"Not a bit of it," rejoined the jeweler. I know an instance where one of these cases saved a man's life, when a bull hooked him,* and the case was but little dented. But if it had been this case (showing the paper shell), there would not have been much left of it. True, the strong plates of the movement would have held out, but would have been ruined; while with the Boss a little application of a horn mallet and a case stake, and it was all right, and the works were not injured in the least. This case will cost you $25.50; and again comes a selection of movements. You can put in a cheap movement, and have the outfit cost but little over $30. What I would advise you to do is to put part of what you save by buying a Boss case into the movement. If you take this $15 movement, I will make case and all $40, and you will have every way a better watch than you could buy in solid cases for $50 or $60. For a solid case could not be heavy or the movement fine for $50 or even $60."

After a few trivial remarks, and selecting chain, the $40 was paid, and the customer went away happy. But what pleased me, was the manner in which the dealer first elicited what the customer wanted to pay, and then the facts he produced, which could no more be resisted than could a proposition in the rule of three, and all so skilfully done that no one would have suspected a method in it, except one who spent his life in selling goods.

*An actual fact. The name and residence of the party can be furnished.

ATTRIBUTES OF GEMS.

January, Garnet.—Emblematical of constancy and fidelity in every engagement.

February, Amethyst.—Once considered a sure preservative against violent passions and drunkenness.

March, Bloodstone.—Courage and wisdom in perilous undertakings, and firmness in affection.

April, Sapphire.—Once thought able to free from enchantment, and denotes repentance and kindness of disposition. (We have also been told that it was thought to insure love and constancy if worn constantly.)

May, Emerald.—Discovers false witnesses, and insures happiness in love, and domestic felicity.

June, Agate.—Causes its wearer to be invincible in all feats of strength, ensurers long life, health and prosperity.

July, Ruby.—Discovers poison. Also insures the cure of evils springing from the kindness of friends.

August, Sardonyx.—Insures conjugal felicity.

September, Chrysolite.—Frees from passions, and from sadness of the mind.

October, Opal.—Denotes hope, and sharpens the sight of the possessor.

November, Topaz.—Fidelity and friendship; calms the passions and prevents bad dreams.

December, Turquoise.—Prosperity in love.

The *moonstone* was worn as an amulet by the Orientials to protect them from harm and danger. It is now admired for its silvery light and the good luck it is fancied attaches to the wearer.

Many are superstitious about wearing the *opal*, supposing that it has some evil influence, and that misfortune always followed any one who wore or possessed one. We know of a lady who had a very peculiar necklace of opals. One very large stone, with a pendant, and two not quite so large were heavily set in gold grape leaves, and the chain which fastened it around the neck was linked together by four small stones. She brought this necklace to a jeweler's one day, and said it was given her forty years ago, as a wedding gift from her husband, and she never had an hours's "good luck" since, and had brought it to sell. The jeweler said it was old fashioned—all out of date—and tried to persuade her to keep it. No; she would never have it in her possession again. He might give her what he pleased, and she left it, receiving for it a comparatively small sum.

But if you were to give credence to any superstition connected with the opal, we should prefer the old Persian legend:

"Gray years ago a man lived in the East
Who did possess a ring of worth immense,
On a beloved hand. Opal the stone,
Which flashed a hundred bright and beauteous hues.
And had thesecret power to make beloved
For God and man the one
Who wore this in faith and confidence."

—*Domestic Monthly.*

MRS. HIGH JINKS (very English)—"Bridget, see if the brougham (broom is at the door." Bridget—"An' what would you be wantin' wid de broom, mum?" Mrs. H. J.—"I am going out to ride." Bridget (sotto voice)—"Och, murther, it's a witch she is to be ridin' out on a broom! I'll be lavin' at once for service wid a dacint family." *Detroit Free Press.*

A BRAVE ENGINEER'S EPITAPH.

I noticed a few days since a queer inscription upon a tombstone in Maury Cemetery, Manchester. It was over the grave of Engineer Mike O'Donnel, who was killed in a collision on the Richmond and Danville Road a few years ago while at his post of duty. A similar inscription, I am told, is upon a tombstone in Hollywood. It reads as follows:

Until the brakes are turned on time,
Life's throttle-valve shut down,
He works to pilot in the crew
That wear the martyr's crown.

On schedule time, on upper grade,
Along the homeward section,
He lands his train in God's round-house
The morn of resurrection.

His time at full, no wages docked,
His name on God's pay-roll,
And transportation through to heaven,
A free pass for his soul.

—*Richmond State.*

GREAT TREES FROM LITTLE ACORNS GROW.

Bolivar was a druggist.

Mohamet Ali was a barber.

Virgil was the son of a potter.

Milton was the son of a shopkeeper.

Demosthenes was the son of a cutler.

Robert Burns was a ploughman in Ayershire.

Shakespeare was the son of a wool-stapler.

Cardinal Woolsey was the son of a pork butcher.

Oliver Cromwell was the son of a London brewer.

Whitefield was the son of an innkeeper at Gloucester.

Columbus was the son of a weaver, and a weaver himself.

John Jacob Astor once sold apples on the streets of New York.

"Honor and shame from no condition rise;
Act well your part, there all honor lies."

The Keystone.

ADVERTISERS say that it is the best medium to reach trade that they ever saw.

THE KEYSTONE reaches every Jeweler in the United States and Dominion of Canada.

To secure a place in the columns of the KEYSTONE, advertisers should forward copy so that it may reach us not later than the FIRST of each month.

ADVERTISEMENTS under the heads FOR SALE—SPECIAL NOTICES—and WANTED are Three cents for each word, and no charge less than twenty-five cents.

Stick to this motto, and never forget it:
Advertise well—it will pull you safe through.
Advertise well; do not think what 'twill cost you;
Publishers' bills are but friends in disguise.
How do you know what your caution has cost you?
Would you be wealthy you must advertise!
Advertise well! though business be waning;
Those who spend freest must win in the end.
Up and be doing! No need for complaining;
Act for yourself, and be your own friend.
Advertise well! All lanes have a turning.
Nothing pays better than paper and ink.
Thousands who daily this motto are spurning,
Find that it brings them to bankruptcy's brink.

ADVERTISEMENTS.

☞ Notices on this page Three Cents a word, no advertisements less than Twenty-five Cents. For number of insertions, liberal discount made.

FOR SALE.

A FIRST-CLASS jewelry store in a city of 3,500 inhabitants. A fine chance for a man to drop into a fine trade. Competition light. Can reduce stock to suit purchaser. We made $2,400 clear last year. Address Lock Box 74, Prairie Du Chien, Wis.

FINE location. A big thing for the lucky man that snaps it first. Sell fixtures and part of stock cheap. Rent of store, low. In a good Iowa town; write at once. Don't apply after February 1st, 1888. E. Hansell, Scranton city, Iowa.

WATCHMAKERS ATTENTION—A well-established and good paying business in the best town of its size in the U. S. 3000 inhabitants; growing rapidly, Business centre for the western slope of Colorado. Two Railroads—2 more coming. Mammouth Hot Sulphur Springs; bound to make it the greatest health resort in the country. Repairs over $250.00 per month. Good mdse. profits; best location; fine, largest size regulator, Bliss Transit, chronometer, 2 first-class benches, safes, cases, etc. About $1,000 cash. Reason for selling, other business. Address, Box 90, Glenwood Springs, Colorado.

OLD established jewelry store, $3,500, stock and fixtures. Profit $2,000 yearly. For a good watchmaker an excellent opportunity. Can reduce stock if wanted. Not very far from New York. Care "M," this office.

PAYING jewelry business established 23 years. Stock and fixtures about $6,000. Can be bought for eighty per cent. of invoice; all in good order. Address L. A. Scherr & Co., 726 Chestnut Street, Philadelphia, Pa.

SAFE; burglar and fire-proof. Inside, 33 x 19 x 19. Steel door, two inches thick; closes air-tight into felt packing. Almost new; sell at half-price; don't need it—have two. L. W. Pierce, Traer, Ia.

RARE chance. Will sell place on royalty, or exchange for a good stock of jewelry. A few state rights for my patent in permutation locks, (for doors, show-cases, secretaries, cash-drawers, etc., etc.,) or will take partner who has capital to invest, to manufacture. Patent issued Nov. 1st 1887. No. 372,512. See article in December KEYSTONE. For further particulars, address, A. S. Boice, New Richland, Minn.

GOOD will and fixtures of an established jewelry store, No. 1108 Columbia Avenue, Phila, Pa. Good reasons for selling. Appply to or address, E. P. Humphrey.

A JEWELRY business within 100 miles of New York and Phila. In a good country town; only store of the kind in the place. Address, "W. H. M.," this office.

STARK lathe. Nickel-plate. In good order. Price, $15. Geo. C. Hasslinger, Elsberry, Mo.

A GOOD jewelry business in Kansas. If you want to buy a good business, address "R. L. H.," care this office.

OR exchange. For watches, jewelry or diamonds, or western land. A full set of jeweler's manufacturing machinery in good order. Cost $2,000. Will give good trade. Address A. B. Clough & Co., 747 Washington St., Boston, Mass.

FOR sale or trade for stock of jewelry; splendid farm in Franklin county, Penna., 110 acres good land on R. R., 3 miles from county seat. Healthy climate. Good neighborhood. Address, A. Nicolet, East Liverpool, Ohio.

$8.500 Will buy jewelry store, stock and fixtures, invoice $4,000. Established in 1876, (and brick dwelling combined). Store has French plate front—dwelling has all modern improvements. No other jewelry store within eighteen miles. This includes a handsome frame photograph gallery, 12x41 feet, with all the latest improved instantaneous apparatuses, material, accessories, etc., etc. Located in centre of town. Population 3000. On the principal street. Only those having the cash need apply. For further information address, "Jeweler and Photographer," Box 35, Hamburg, Berks Co., Pa.

I HAVE 256 acres of fine, smooth timbered land in Illinois. Want to sell, or trade for jewelry store. Address, B. F. Humphrey, Milton, Iowa.

FORTY acres of good land in Hancock county, Iowa, $12.50 an acre. Will take half in watches and jewelry, balance cash. G. W. Tallman, Lanark, Illinois.

FOR cash. A good paying jewelry business, more work than one man can do the year around; with good prices. In one of Montana's best towns. Population 2,500. Stock and fixtures invoice about $5,000. Reason for selling—failing health. Will sell less than cost. "Jeweler," this office.

FOR SALE.

JEWELRY business in town of 1000. Two railroads. Competition very light. Invoice $1,200. Will sell fixtures, and part or all of stock. Reasons going to California for health. Address, box 82, Creston, Ohio.

ONE of the best paying jewelry stores in the west. Bench work $65 per month. Stock $1,000. Town 1,200 people. Two railroads; county seat; no competition in 25 miles. Good reason for selling. Address, "K. G," this office.

ONLY jewelry store in town of 1800 population. H. T. Rexwood, box 145, Searcy, Arkansas.

STOCK and fixtures, or fixtures alone of best paying jewelry store in healthiest location in Louisiana. Town of 5000 population. Surrounding country the wealthiest in state. First-class schools; two railroads; water connection; two saw mills; one oil mill; two foundries; two shingle mills, and one ice and sash factory. Commenced business four years ago with $2,800 cash, and added to stock and fixtures until they will inventry $7,500. Stock clean and new. Reason for selling, wish to go into wholesale business. "Rosebud," care this office.

JEWELRY business in one of the best mining towns on the Pacific slope. Prices for cleaning watches, $2; mainspring $2; balance staff $4, etc. Very best reason for selling. Splendid climate. New store. Best location in the city. Will rent store and dwelling for $30 per month. Will pay $20 per week for good workman to work for me to investigate before buying. None with less than $1,000 cash need apply. Address W. A. Wiseman, Lock Box 47. Park City, Utah.

SMALL jewelry business that pays, in a nice little town of 1000 inhabitants; pleasant location; centre of town; no opposition; good run of bench work; cheap rent; stock and fixtures invoice $900, will sell for $800 cash. Reason, ill health. Will sell my house cheap. S. B. Yingling, box 52, Reisterstown, Maryland.

A GOOD paying jewelry store in a large manufacturing town. Stock and fixtures invoice $2,000. Box 272, Claremont, N. H.

BROWN'S Patent Refrigerator Store House for preserving fruits and vegetables. Will sell State, County, or Town rights for improved real estate, or stock of jewelry. Address, Samuel Brown or Arthur Erwin, Russellville, Ark.

JEWELRY store in one of the best mining towns in S. W. Colorado. Stock and fixtures invoice $2,700, will reduce to $1,500. No competition. Established eight years. Good run of work at prices averaging twice the amount obtained in the east. Yearly profit $2,000. Other business requires entire attention. Inquiries promptly answered by Geo. O. Gilbert, Rico, Colorado.

WATCHMAKER and jewelry business established ten years. In the town of Lititz, Lancaster co., Pa. Stock and fixtures amounting to less than $1,000. Good opening for either maaried or single man. Storeroom and dwelling together. Rent cheap. Possession given at once. Address "M. A. T," P. O. box 21, Lititz, Pa.

OLD established jewelry store in Illinois town of 4,000. Good trade; good run of bench work; no opposition; town has all modern improvements. Two railroads; is the division of one, with car and machine shops. Stock and fixtures will invoice about $2,000. Will sell for what they are worth. Reason for selling, change of business. If you haven't the cash, do not write. Address, "S. O," this office.

DO NOT MISS THIS CHANCE

JEWELRY store and dwelling combined in the business centre of Smyrna, Delaware. Store has French plate front in most modern style; has been a jewelry store for more than 40 years. Dwelling large, with twelve rooms—8 bed-rooms, large, modern hall, with vestibule; store-house good as new. Cost over $7,000. Will sell for $5,000. Will sell all or part stock and fixtures with good will very low. Half for real estate; cash. Good terms for balance; ref. D. F. Conover & Co., Phila., Pa. or J. V. Smith, Smyrna, Del.

A BONANZA for a man with limited capital. An established jewelry business and repair trade, paying over $200 per month above expenses. Excellent location in the best town south of the Ohio river. A grand opportunity for a man with $2,500 cash. Address, W. C. Stull, Nashville, Tenn.

CHEAP. Photographic outfit 5x8. First class, perfect order, have two. I say cheap. M. A. Morehouse, Wevertown, N. Y.

A PAYING jewelry store established 10 years. Stock invoices from $1500 to $1800. Consisting of watches, clocks, and silverware. Only jewelry store in the town. Population about 1200. Healthy climate. A good chance for young man. Good rise of work. Address, C. H. Fulmer, Box 24, Frenchtown, N. J.

JEWELRY business established 14 years, in county seat of town. Newer store and residence completed last year. French plate glass front. Will sell or rent. Good home for watchmaker with family that speaks German and English.

FACE plate, bezel chuck, slide rest and screw plate. Address, "Watchmaker," Heekin, Grant Co., Ky.

SPECIAL NOTICES.

I HAVE a list of watchmakers wanting jobs. Also 3 stocks for sale. Do you want one? E. Hewitt Griffin, care this office.

FOUND at last! How to keep sweat and frost off show-windows. Windows always as clear in Winter as Summer. If directions are followed, and results not as represented, money refunded. Correspondence solicited. A. J. Hood, 571 Main St., E. Orange, New Jersey.

FREE! Send 1 cent stamp for free sample of Magic Polisher. F. H. Jackson, Angelica, New York.

THE improved fancy spotted Shetland pony for ladies and children's use. Photographs of ponies and 96 page treatise on the horse for 25 cents. List for stamps. S. M. Mc Lain, box 51, Forreston, Illinois.

SEE King & Eisele's Snap No. 1, on page 18.

SEND 25 cents to D. W. Camp, Laceyville, Pa., for best antioxidizer and flux in use.

SEVERAL bright boys can have a chance to learn watchmaking, also improvers taken. Call on, or address W. F. A. Woodcock, 74 E. 3d St., Winona, Minn.

SPECIAL NOTICES.

SEE! SEE! FOR SIXTY DAYS ONLY, I will mail copy of "FIFTY SUGGESTIONS TO JEWELERS" to any address for twenty cents in stamps; published at 35 cents. The "Jeweler's Journal" says "Mr. Wettstein's book should be read by every jeweler, clerk and apprentice in the land. One page of the work is worth ten times its price to any tradesman." See notice: "Rid your community of etc." H. Wettstein, Harvard Junction, Ill.

PRACTICAL watchmaker and jeweler would like partner who can furnish capital. A reliable man who means business. "E. A," this office.

RID YOUR COMMUNITY of the swindling peddlar and snide auctioneer nuisances. Fifty "BEWARE" bills posted in your locality whenever they put in an appearance will accomplish it. Try it, and if they do not give your town a wide berth, the money will be refunded. Mailed post-paid to any address for 25 cents, or with copy of "VALUABLE SUGGESTIONS" (of which, see notice) for 45 cents in stamps. H. Wettstein, Harvard Junction, Ill.

WANTED.

TO purchase a good jewelry store in some lively town. Address Box 9, Weissport, Pa.

A YOUNG man, 21 years of age, speaking German and English, 3 years exp., wants situation with watchmaker by 1st of February to finish trade. Refs. furnished. Address "J. E.," this office.

FIRST-class watchmaker, 15 years exp. Competent to take charge of large jewelry business. Open for engagement in February. Exp. in fine and complicated work; best reference. Wages, $25 to $30, according to location. "February," this office.

BY a young German, 15 years exp. as watchmaker and salesman, can do all kinds of complicated watches, and the finest new work; also jeweler and engraver. At liberty in January or February. South or West preferred. Ad., "W. A." this office.

A GOOD watchmaker and jeweler. Cannot pay high wages at first. Address, Weissport jewelry store, Weissport, Pa.

BY young man of 19, to finish trade as watchmaker. 15 months exp. at bench. Good reference. H. C. Risse, Carthage, Ill.

SITUATION by young man of 23, with practical watchmaker to finish trade. Instruction more an object than wages. Two years experience at bench. Engrave some. Best ref. as to character. Box 493, Red Wing, Minn.

WHO will tell me how they polish steel needles? In other words I wish to polish small pieces of steel wire about the size of needles. Who will tell me how? C. J. Olin, Piqua, Ohio.

JOBBING jewelers and ring makers, and stone setters. Steady employment. Address King & Eisele, Buffalo, New York.

OPTICIAN'S set of trial lenses in pairs. Convex, concave and cylindrical in case. L. W. Pierce, Traer, Iowa.

A FIRST-class watchmaker is desirous of obtaining a good position. Have had over twenty years experience, and have a full set of tools. O. B. Hull, Winsted, Connecticut.

A good workmen. Single man preferred. Address Lock Box 103, Princeton, Ky., with salary.

POSITION by young man capable of doing all kinds watch, clock and jewelry repairing, and some engraving. Has good set tools. Speaks English and German, can give best references. Address "K. H J.," this office.

TO buy a Slide Rest No. 1, for Moseley Lathe, No. 1. Must be cheap, and in good order. Will trade for Francis engraving machine. Caspar Ritzi, Brookville, Ind.

FACE plate, bezel chuck slide rest, and screw plate. "Watchmaker," Weekin, Grant County, Ky.

SITUATIONS WANTED.

WOULD like to get a good permanent situation as watchmaker and jeweler. Address "G. C. H.," 3603 Thompson Ave., St. Louis, Mo.

ON or about April 1 next, as watchmaker and salesman. Can take charge of store. 4 years exp. at Bath. Strictly temperate. Nothing but a permanent position accepted. Am young married man 23 years old. Those meaning business, address "A. Z." this office. Iowa or Colorado preferred. Ref. given and expected.

BY young German. 15 years experience as watchmaker and salesman. Can do all kinds of complicated watch and new work, also repair music boxes, electric clocks, and jewelry and can engrave. Has full set tools, American lathe, and all attachments. At liberty in January or February. West or South preferred. "A. W.," this office.

BY a young man 6 years exp. as engraver, watchmaker and salesman. Speaks good German and English. "A. H.," this office.

YOUNG man of 21. Six years at the trade with first-class workmen. Can do all kinds of watch, clock and jewelry repairing. Good set of tools. Can furnish good reference. Michigan preferred. Address J. H. Harris, Linden, Mich.

WANTED a situation in Philadelphia by a working jeweler, 22 years of age—and unmarried. Can set diamonds and other stones; do badge work, and all kinds of general repairs. Address "Competent," this office.

BY first-class watchmaker and salesman, 20 years experience. Box 258, Marysville, Ohio.

BY a good watchmaker. Best of ref. Address, Box 197, Shawano, Wis.

YOUNG man wants position as clerk in jewelry house, satisfactory references. Clarence J. Osborn. Glenmore Ave. near Williams Ave., Brooklyn.

A GOOD watchmaker who can do fair engraving. Steady work and good wages to right man. References required. A. L. Hasmer, 77 Main Street, Lockport, N. Y.

A WATCHMAKER of long experience with a good set of tools and an American Lathe, wants a permanent job with lots of work. Address, C. C. G., Oberlin, Ohio.

Special Notice.

Every Keystone 14 K. Solid Gold Case is accompanied by a guarantee, of which the above is a facsimile. Each and every piece of gold used in making a Keystone 14 K. Solid Gold Case is guaranteed to be 14 K. fine, U. S. Mint assay.

Keystone Watch Case Company

Philadelpia.

New York. Chicago.

SITUATIONS WANTED.

BY a young married man of 14 years experience at the bench. Used to all kinds of difficult and complicated watch-work. Can do all kinds of jewelry repairing, hard soldering, re-coloring, etc. Can engrave or act as salesman. Have a complete set of tools, and can furnish best of references. Address, "J. H." care KEYSTONE.

A. R. BRATTIN,

Wholesale Dealer in Everything Wanted by Jewelers. Issues no Catalogue. Duplicate prices of any Catalogue.

N. W. Cor. Seventh and Delaware Sts., Kansas City, Mo.

H. M. DAVIS,

No. 73 Nassau Street, Room 6, New York.

Watch Case Repairer.

Jewelers desiring first-class workmanship and prompt attention will find it to their advantage to give me a trial. Jobs sent me by mail or express will be repaired and returned promptly. Engine Turning, Springing, Jointing, Polishing and general repairing neatly and quickly executed.

Cash for Old Gold and Silver.

We pay cash for silver and gold. Returns made same day as received.

E. & J. SCHWEIKERT,

No. 19 W. 4th Street, Cincinnati, Ohio.

J. J. DONNELLY,

73 Nassau Street, Room 6, New York

Gold and Silver Electro Plater, Fire Gilder and Colorer.

All kinds of work neatly and promptly executed. Orders by mail or express will receive prompt attention.

CHARLES KOHLBUSCH,

Manufacturer of

Fine Balances and Weights

For all purposes.

35 Nassau St., N. Y.

Send for Catalogue.

Repairs promptly attended to.

Hirst, Moore & White, (Limited.)

Wholesale Dealers in

Watches, Diamonds and Jewelry,

Rooms 3 and 4,

631 Chestnut Street, Philadelphia, Pa.

We sell to the retail jewelry trade only.

Trade Work.

We make a Specialty of doing work for the Trade.

Satisfaction guaranteed.

E. & J. SCHWEIKERT,

No. 19 W. 4th Street, Cincinnati, Ohio.

The Keystone

A monthly journal for the Jewelry Trade, published at Nineteenth and Brown Streets, Philadelphia. Price, 25 cents a year in advance.

CORRESPONDENCE and other copy for publication should reach the KEYSTONE before the FIRST of each month.

ADVERTISING rates for column, double column, quarter page, half page, and full page advertisements furnished on application at this office.

CIRCULATION is 15,000 larger than that of any other journal of its class, reaching every jeweler in the United States and Canada.

THE KEYSTONE has a bona fide circulation of 22,000 copies.

Address all communications to
"THE KEYSTONE,"
Nineteenth and Brown streets,
Philadelphia, Pa.

J. T. WILLIAMS, Editor.
S. H. STEELE, Publisher.

PHILADELPAIA, JANUARY, 1888.

It will be noticed that the connection of Mr. Robert W. Robins with the KEYSTONE has been severed. The publication will be continued on a broader basis, and a greater division of duties. Mr. J. T. Williams, who has in reality been in control of the technical department and general literary contributions of original matter, will assume the editorial management. The printing and publishing department will continue under the supervision of Mr. S. H. Steele, who has had control of the make-up and arrangement of matter for the KEYSTONE for the last year. All contributions of whatever nature are, in the future, to be addressed to THE KEYSTONE, 19th and Brown Sts., Phila., Pa.

THERE seems to be many allied and kindred industries which can well be combined with the craft of watchmaking, and the KEYSTONE is taking the subject in hand, and intends during the ensuing year to give practical instruction for one or more such industries. All these things take time, especially if done well and it is our aim to do better than well —best.

ON and after April 1, 1888, the subscription price of the KEYSTONE will be FIFTY CENTS.

THE KEYSTONE management solicit items of interest from all sections of the country. Every one knows watchmakers and jewelers are good talkers, and if they will only take the trouble to write, would in the majority of cases, become interesting writers. It is not so much lengthy, laborious articles we desire, as gossipy little chit-chat of how you are doing; the business outlook; how the trade is run in your immediate region. Anything you think of which would be interesting to a fellow tradesman; like some little ridiculous incident for "After Hours." What interests you will interest others.

As the KEYSTONE is going to press, comes the announcement of one of the most extended strikes which ever clouded the prosperity of this country. We refer to the strike in the Schuylkill Valley. The immediate effect of this so-called united effort is directed against the coal and iron industries of this region. It is estimated that, at the present instant, fifty to seventy-five thousand men are "out" of work; ordered out by those who control the movement: not so much on the account of insufficient pay or oppressive acts on the part of employers, as to establish a principle. This principle being the right to dictate to the employer whom he shall employ. The equalizing of labor to a fixed standard is a myth. It is undoubtedly true, that it can come nearer to being realized in the coarse kinds of labor like coal mining, than anywhere else. But even here, as soon as the question is put to a practical test, a hundred complications present themselves. Probably there are no set of men more thoroughly satisfied of the impossibility to scale labor than the kindred trades of watchmaker and jeweler. Let us consider if such a ridiculous coalition could even be conceived to exist, of a watchmakers trade union, where each was scaled to fixed prices, so much a week for a watchmaker, good, bad, or indifferent. Then, this is only a very marked illustration. The cure for strikes lies not with the labor classes, nor the corporations who employ, but with the average business man. Let him set his face firm against these disastrous efforts, which accomplish nothing. After wars, strikes are the most distructive influences which can possibly be brought to bear on the prosperity of any country.

ON and after April 1, 1888, the subscription price of the KEYSTONE will be FIFTY CENTS.

ONE of our leading army engineers has brought before the engineer classes of late an experiment of so startling a nature in its inception as to promise wonderful results. It is a monster magnet made of two Rodman guns, which are connected at the breech. Around the magnate thus formed is wound about twenty miles of submarine cable. The cable is some that has been used in the torpedo service. It is wound and fastened in a substantial manner, making a permanent magnet. When electricity is applied some strange results take place. For instance, a bar of railroad iron thirty feet long, if placed in the open cannon's mouth, cannot be drawn out by as many men as can grasp it.

Another instance of the strength of this big magnet was illustrated recently with a 350 pound cannon ball. The shot was placed in the mouth of the cannon on the negative side. On reversing the electrical current it fell from its position, but was attracted to the opposite cannon and clung to its side. The positive current was then reversed alternately with the negative, and the heavy cannon ball played between the two cannon like a tack between the poles of a toy magnet. Before many days there will be a public exhibition of this remarkable, attractive magnet. —*Safety Valve.*

There can be no doubt that such a magnet would be a huge curiosity, but that such a rude arrangement, producing very startling results, is not to be thought of. The law govering magnetic phenomena is not like the simpler problem of a steam engine, where the only factors are steam pressure, piston area, and piston velocity. From these discount friction, and you have the solution. Such simplicity does not exist with electro-magnetic problems, as no simple ratio exists between size and results. As for instance, a properly made electro-magnet weighing two or three pounds will sustain as many hundreds of pounds. But it does not follow that a magnet weighing one hundred pounds will sustain one hundred times its weight. The laws governing magnetic phenomena are very complex, but science is slowly entangling the skein.

AWARD OF PRIZES.

After counting ballots we are able to announce the result:

First Prize.
H. A. Meht, 71 Nassau St., N, Y.
Second Prize.
W. Keating, Philadelphia.
Third Prize.
J. A. Freund, Chicago, Ill.

Each competitor will receive in a few days his designs mailed to him, and a portfolio of proofs of all the monograms from the original steel plates.

THE KEYSTONE gets many notices from all parts of the country of the doings of such scamps as described below by Mr. Porth. The best way to treat such men is to have them arrested as common swindlers and locked up:

JEFFERSON CITY, MO., Dec. 27, 1887.

DEAR SIR:—This is to put you on your guard against a party calling himself S. Edwards, who is traveling through the State selling cheap jewelry, representing himself to be the agent of some leading jeweler in some neighboring town, and warranting his goods in the name of some jeweler that the customer is well acquainted with. His plan is as follows: He sells the party some small article for from 25 cents to $1.00, and then proposes a drawing scheme, stating that the customer is sure to draw from $25.00 upwards in jewelry upon the payment of $4.50 for a chance, and that if the goods do not prove satisfactory they can be exchanged for the full amount of valuation at (giving the name of some jeweler that the customer knows to be responsible) at any time. In this locality he used my name and swindled the people badly. Please look out for him, and either cause his arrest or notify me; that I may bring him to justice, and oblige,

GEO. PORTH,
Jeweler, Jefferson City, Mo.

WE recognize on our exchange table the familiar title, "*Scribner's Magazine.*" We remember well the former *Scribner* as it won its way to the front, a decade and a half ago. We can well recall the indomitable energy, pluck and perseverance put into the journal by its founders, and the contemporary remarks as it progressed forward: "It is a bright magazine." "It is equal to any." "It is the finest magazine published." "Where does it get its paper?" "Who makes its ink?" "Where does it get its illustrations?" The present *Scribner* is doing nobly, and a second triumph awaits it.

The most ardent pessimist can hardly convince himself that taken as a whole the past year in a business sense has not been satisfactory. True, we have grumblers of all grades, even from the young fellow who went west to find a gold mine. He found it, and commenced to kick because the gold was not already coined; also from the man who is not satisfied with a rational profit and a fair return for his energy and industry. A growing sentiment for the past year with our best business men is a feeling to insist on prompt cash payments, and it is a course that can not be too strenuously upheld. In fact, it is the only method for the true business man to pursue, as all extended credits are disastrous. A man who buys strictly on a cash basis has every advantage of the market, both in buying and selling to his slow neighbor of the long credit system. Even the cash discount given on four month's bills, should satisfy any thinking man of the ruinous effect of the long credit policy, as millions could now be borrowed on a perfectly safe security at 4 per cent. per annum. The KEYSTONE is situated to judge well of the sentiments of the trade, and would not be long in hearing of any extended grumbling or dissatisfaction. No, it seems from the wide field of trade of which the KEYSTONE has cognizance, that there is expressed a general sense of satisfaction. We have received a great number of letters, both from wholesale houses and persons in retail trade, corrobrating this impression.

ON and after April 1, 1888, the subscription price of the KEYSTONE will be FIFTY CENTS.

LAYING before me as I write, are copies of the KEYSTONE of the dates of Jan '84, Jan. 85, Jan. '86, Jan. '87. And it is not without a strong sense of pride, I note the progress of this journal. A progress unparalleled in trade journalism, or any jonrnal, no matter what its purpose or aim—that in four short years advances from humble obscurity to stand at the front—the cynosure of the trade. This is not said in a spirit of vain, glorious boasting, but the statement is fully substantiated by facts as incontrovertable as a mathematical deduction. Now let us see what can be truthfully claimed for the KEYSTONE: First.—It reaches every jeweler, watchmaker and dealer in the United States and Canada. Second.—It has more *bona-fide* subscribers than any jewelry trade journal on the globe. Third.—It is the best advertising medium for the jewelry and kindred trades in existence. Fourth.—It contains more original matter of interest to the trade than all its contemporary journals put together. The truth of these four statements can be proved by a glance at our page of small "ads." Here are displayed three times the number of this kind of "ads" to the combined showing of all competing journals. This proclaims in a statement stronger than can be combined in words, "that the KEYSTONE has three times as many readers as all the jewelry trade journals combined." Careful examination of this number, (Jan. '88), will convince you that we are still advancing; still see improvements to be made, and can safely promise a still greater advance for the next year than has been realized in the past twelve months. Among the prominent features of this journal are original technical articles from eminent experts and specialists in their several lines. In this respect the KEYSTONE has led for the last three years; and it is the intention of the management to open still wider this mine of mental wealth to the younger members of the craft. The permanent increase of size will enable us to offer still wider range of reading to our subscribers and friends, and with every succeeding issue we can safely promise a surprise. While choice selections will be given, we will try to give as much original matter as possible. And now comes an aunouncement not based so much on promises of what is going to be done, as on that which has already been accomplished. On and after the first of April, 1888, the subscription price of the KEYSTONE will be raised to fifty cents, so that all our friends who desire to come under the KEYSTONE banner should make haste and be wise.

TRADE TOPICS.

HEARING, as we do, congratulations for the KEYSTONE from all parts of the country, we feel inspired to do much in return for the cheering words of commendation, and will use the best of our abilities to elevate the KEYSTONE standard from number to number. And while exulting in our own success, we cannot avoid thinking of the numerous expressions from our friends, scattered over this broad continent, of a year of unusual business prosperity, and an especially good holiday trade.

IT would confer a great favor to the KEYSTONE for all our friends who have December numbers of 1887 to spare, to mail them back to us, as we are entirely destitute. Out of the 36,000 copies printed, there are just two copies remaining in this office.

A. K. BRATTIN, of Kansas City, Mo., is one of our representative live men. Profiting by his experience of thirty-five years, in both wholesale and retail branches of the jewelry trade, he is doing a thriving trade where he is located; and the future is promising of further successes for him.

THE *Daily Herald*, Columbus, Ind., recently said: "Our young friend J. H. Arnold has fitted his jewelry store up in handsome style, and that cosy place may well be called headquarters of style and taste, in all that pertains to his line of business. In addition to the mammoth jewelers' safe that was put in lately, he has three handsome black walnut silverware cases, five handsome counter tables, and a neatly arranged optical department that adds materially to the appearance of the room. The cases are of native woods, and will compare favorably in design and finish with anything found in larger cities."

JOHN HEATH, of Raritan, N. J., has purchased the stock and fixtures of the store of the late E. K. Solliday, of Lambertville, N. J.

"THE KEYSTONE is too valuable a paper to miss,"—is what W. A. Graber, of Sharpsville, Pa., says.

"WORTH its weight in gold," is what Wm. H. Anderson, of Portage, Utah, says of the KEYSTONE. Mr. Anderson lives in a mining country and knows what gold is, even when it is in the rough.

"A VERY spicy little paper," is the opinion of J. Lampman, of Collins Centre, N. Y. Whole families are of the same opinion.

THERE is no one who has had experience in regulating watches, but what has been vexed, when regulating a watch down fine, to try and move the regulator for a small variation. "Zip," away it goes to twice the variation, in the contrary direction. This is all removed by using Wm. B. Tucker's michrometer regulator. His advertisement will be found on another page.

"I AM much pleased with the KEYSTONE. I think it is the best journal issued for the jewelry trade," is the verdict sent in by C. A. Parlin, of Oroville, California. Thank you Mr. Parlin! May your trade increase beyond your fondest hopes.

WE see that C. E. Rose, of Corsicana, Texas, is closing out his large stock of goods at cost, previous to removing to Colorado Springs, Colorado.

THE friends of P. S. Park, jeweler of Mexia, Texas, claim that he is doing a rattling good business.

FREDERICK JACOBI, of Newaygo, Michigan, sends the KEYSTONE an elegant holiday souvenir. It speaks highly for his taste and liberality.

To excel in elegant holiday cards seems to be among the ruling ambitions of our dealers; each trying to outdo the other. Conspicuous among these, is one sent us by A. R. Brattin, Kansas City, Missouri.

THE KEYSTONE is in receipt of a circular from Mosely & Company, Elgin, Illinois, containing some very sensible remarks as regards split chucks. These gentleman make a fine lathe, and thoroughly know their business.

W. H. DOTTER, of Hagerstown, Md., writes: "I am sorry to see your monogram contest closed, as I received more new ideas from them than from all the books I possess, and I have several costly ones."

LOOKING in on our friends of the Penna. Smelting Company, at their office, 918 Filbert Street, Philadelphia, Pa., we found them busy, and expressed themselves as satisfied with the business of the past year.

THE Philadelphia Optical Co., doing business at 916 Chestnut Street, Philadelphia, Pa., show a splendid line of goods; and although always busy, pay a commendable attention to all their customers, whether they buy big bills or not.

S. KIND & COMPANY., 441 Market Street, Philadelphia, Pa., carry an immense line of popular jewelry, both solid and plated, at taking prices. They also carry everything in American movements and cases.

ANY man who visits New York and is in the jewelry trade, should visit J. T. Scott & Company, 4 Maiden Lane.

R. & L. Friedlander, 65 and 67 Nassau Street, carry full lines of watches, diamonds and jewelry, and especially a fine assortment of watchmakers material. Write to them for a catalogue.

STERN & STERN, at No. 6 Maiden Lane, New York. For these gentlemen all we can do is to heartily endorse the last line of their "ad.," which please read.

IT is very doubtful if any one invention pertaining to the watch business has been so universally adopted by the trade, as the Birch Key. Our memory goes back to sets of bench keys of four, with eight pipes, and these constantly broken. Now, one bench key fits everything, and lasts indefinitely.

DAVID F. CONOVER & CO., wholesale jewelers on the corner of Seventh and Chestnut Streets, Philadelphia, Pa., express themselves well satisfied with the sales of the passed year. A very worthy house we say, and entirely deserving of the immense business they do.

MR. F. G. HALL, of Heuvelton, New York, sends the KEYSTONE a dainty little three-cornered *billet deux*, annoucing his willingness and ability to supply his customers with a fine line of watches, jewelry, and silverware.

L. S. A. BAKER, of San Jose, Cal., sends his hearty thanks for a number of back numbers of the KEYSTONE, and asks particularly after the Premium Engraving Book, to which all new subscribers are entitled.

A. S. FELKER, the popular jeweler of Steelton, Pa., having made extensive attractions in his store to accommodate increasing trade, opened for business December 15th, a store that has been a delight to his patrons.

H. E. WASHBURN, Winchendon, Mass., writes in a recent letter to the KEYSTONE: "A clock was brought to me yesterday for repairs, with mainspring broken in thirty-two pieces, if any of your readers can beat that, they can go to the head."

A. F. STEVENS, of Merrimac, Mass., says: "I like the KEYSTONE very much, would not be without it for four times the amount asked for it. Each number seems better than the last."

F. G. HALL, Heuvelton, New York, writes: "Don't stop my paper. If my subscription happens to expire, for I would rather pay for five years in advance, than to miss any of the numbers." Mr. Hall recently received a very flattering notice in the *Northern Tribune*.

IN our notice of the patent watch movement box of Mr. R. B. Lester, of Aiken, Lambert & Co., we were made to call Mr Lester, as Laston. This is a mistake of the printer's devil, and does not effect the movement box of Mr. Lester, which is pronounced by all who see it as the most perfect ever invented.

KING & EISELE are busy taking inventory and fitting ready for their Snap No. 3, which will be a stunner. But in order that their customers will have a benefit this month, they have re-opened their Snap No. 1 for thirty days.

A LETTER just received from Bowman & Musser, Lancaster, Pa., speaks in glowing terms of their business in the past year, and are very hopeful for the coming one. These gentlemen deserve all their success, and they are of the class of men, who not only deserve success but achieve it.

CHARLES HAAS, of Marietta, Ohio, was favored recently with a long notice in the *Weekly Leader*, from which we extract: "Eight years ago Mr. Haas employed a jeweler and began to look after that branch of business. Subsequently he employed another, and bought a complete set of tools, and as he was not strong, he learned the trade of a jeweler, and is able to do all sorts of repairing of watches, clocks and jewelry."

THE Olin Lathe, advertised and illustrated in our columns, seems to be attracting a good deal of attention among some of our best watchmakers. It is highly spoken of for accuracy, and certainly has many good points about it; and its foot-wheel is universally approved where used. They work elegantly.

EVERY watchmaker of experience knows the rapid wear of pendant bows from swivels. It seems Mr. Burt Ramsay, of Clyde, Ohio, has struck a remedy in his leather-lined swivel. There can be no doubt but that the trade will appreciate the invention. Look over his advertisement on another page.

THE editor of the KEYSTONE advises all its readers to take note and preserve each copy of this paper for the coming year with especial care, as several technical articles will be published by experienced writers worth five times the amount of subscription. The articles on clocks and clock repairing, now running, will be by far the most practical and exhaustive work on the subject in the language when completed.

MR. J. E. DOUGLASS, Chillicothe, Mo., writes again to the KEYSTONE enclosing a letter from T. R. Newell, Merril, Wis., where it seems Wolf turned up some three years ago, or at least a man wonderfully like him, even to the spot on his forehead, and the propensity for appropriating other peoples property:

"I saw your notice in the September KEYSTONE in regard to Charles Wolf. Three years ago, I was in business in Shakopee, Minn., and had been there for eight years. There was a fellow walked into town one rainy day more dead than alive, with a little old-fashioned Dutch hat and ragged suit of clothes on, and made known the fact to some of his countrymen that he was a watchmaker and must have work. I gave him work and a place to live. He worked abont a week and skipped. I could get no trace of him, although I sent printed postal cards all over the State. He got away with all of my watch jewels, and some other stuff amounting to over $100. He had a round dark-red spot right in the centre of his forehead, and was about the man you described in notice. Please write me if you ever get any trace of him. I do not remember what name he gave me, but do not think it was Wolf. Respectfully,

T. R. NEWELL.

JUST as the KEYSTONE is going to press, we receive the following letter from Mr. Douglass:

Chillicothe, Mo., January 4, 1888.

DEAR SIR:—Few days ago, I sent you a letter from F. R. Newell, Merrill, Wis., and now I want it. The "Great Wily Wolf," through the medium of the KEYSTONE, is caught. A. L. Kellman, Orleans, Neb., caught him yesterday, and wired me to-day, and a requisition is after him now. Please return me the letter, as it will be of benefit as evidence in this case. Send it by return mail, if not destroyed.

Yours truly,

J. E. Douglass.

We wish all of our subscribers and readers would send in accounts and descriptions of crooked men and their crooked ways, as the immense circulation of the KEYSTONE, reaching as it does every man in the business, will render it impossible for a thief to escape. It will be a special effort of this journal to bring such scoundrels to justice. This arrest can be well counted as one more argument in favor of the KEYSTONE as an advertising medium.

Jas. Boss Filled Cases.

FACTS never grow old, nor do proverbs get musty. Such sayings as "Honesty is the best policy," and "Virtue brings its own reward" never tire us, but, like fruit as food, are always acceptable. Now, it struck us that this was a good deal the same with James Boss Filled Gold Watch Cases. They could ever be talked about and thought of with pleasure and profit; but it occurred to us that the Boss cases had the advantage in the comparison. A perfect peach or orange of its kind is all we expect, and a standard reached there, the advance ends. Not so with James Boss Cases; one perfection attained forms only a stepping stone to rise higher. On this page are shown a reproduction, as far as black and white will go, of the most elegant and perfect Filled Gold Watch Cases made. If there ever was a line of goods which need no talk to sell them, specimens are given on this page.

Keystone Watch Case Co.,

New York. Philadelphia. Chicago.

TESTING GOLD WATCH CASES.

Our esteemed contemporary, the *Jewelers' Weekly*, of the date of December 22d, comes to the front with a proposition to have gold cases tested by assay; selecting at random from the open market such cases as come to hand; sawing the case in half and having a government assay made of one-half, the remaining half being retained for a test assay. All this sounds nice. But it is not reputable case makers who would object. Their productions are all right now. They are not the parties who need hedging in; neither is it the way to remedy the difficulty. It seems to us that our friends of the *Jewelers' Weekly* are a little late in their zeal, as we find the daily press anticipating and crying out about fraudulent watch cases previous to their effort. In the Philadelphia *North American*, of December 17, is an article copied from the New York *Sun*, exposing the practices of unprincipled case-makers sending out circulars offering to make cases of all degrees of fraud, and stamped to suit the retail dealers conscience. Nor does the *Weekly* offer any protection to the innocent retailer or purchaser, except to catch as you can a specimen case of say Johnny Snoozer & Co., case makers, and saw it in half and assay it. Now it is not to be presumed that J. S. & Co. never make any cases which will not come up to standard. On the other hand, the probability would be that if a case of J. S. & Co. was found in the place where the commission to select cases would be likely to go for specimens, it would come up to standard or near it. But that would not prevent J. S. & Co., making crooked cases for crooked dealers. No, the solution to the problem seems to be for the reputable case-makers to use in common, in addition to their own individual mark, a certain stamp indicating quality. This stamp being a patented trade mark, protected by law, would prevent crooked makers from using or counterfeiting it. By this means, the retailer would be confident in buying and selling, knowing that goods bearing this stamp were of the quality claimed. The rival interests of the members forming the syndicate would be the greatest safeguard, as a tripping member would lessen the competition.

This arrangement is precisely what the Gold Case Manufacturers Association has been endeavoring to effect for some time. But, as in all such associations, individual interests asserted themselves; and while all agreed on the importance and necessity of such a course, still there were a hundred and one details to arrange and harmonize, which took time. And it is with pleasure we are able to say the arrangement is nearly completed, requiring only the perfecting of a few details, when its influence will speedily be felt, and dealers feel a confidence in buying not heretofore enjoyed; as they will then know a case bearing the common stamp of quality is all right, no matter what maker's individual name it may bear. And more than this, retail purchasers will soon learn to know and expect this stamp, and will be put off with no other. Mr. C. N. Thorpe, President of the Keystone Watch Case Company, is also President of the Gold Watch Case Makers Association; and was among the foremost in its organization.

ON and after April, 1888, the KEYSTONE will be 50 cents.

Keystone Solid Gold Cases.

EVERY dealer knows how flat trade is after the holidays. It is like fishing after a heavy rain—slow work. But as in fishing, an attractive bait (or bargains) will generally secure something to keep up expenses, and the pot boiling. Knowing this dullness that invariably follows the trade torrent of the Christmas flood, the Keystone Watch Case Co. have produced a series of new designs in Solid Gold and James Boss Cases to attract the torpid customer.

Keystone Watch Case Co.,

New York. Philadelphia. Chicago.

BUSINESS PROSPERITY OF THE PAST YEAR.

The noticeable features of the year just closed, so far as the United States are concerned, were a general condition of peace and stability and unusual business prosperity. It is true there were two or three extensive and wasteful labor strikes, but these did not inflict serious loss, except upon those that engaged in them. The hanging of the Chicago Anarchists caused a good deal of popular excitement, but did not seriously disturb ordinary business transactions. The volume of business was never so great before, and if the profits were not exorbitant, the generally sound condition of the industrial interests of the country shows that business was on the whole, fairly remunerative.

To specify all the channels in which the increased volume of business manifested itself would require more space than an ordinary newspaper article would allow. But a few leading items of production and development will serve to show in a general way, the high mark reached in 1887, and that the year closes without any serious indication of a business reaction. In the matter of railway building 1887 surpassed all former years, the total new railway mileage reaching 12,724 miles. The highest point ever reached before was in 1882, when 11,568 miles of new railway were built, the increase for 1887 being nearly 1,200 miles. The railway increase for 1887 was greater than for the years 1885 and 1886 combined. The total railway mileage of the United States was increased by the operations of 1887 to about 151,000 miles.

Following in the line of the unprecedented railway activity come the statistics of the anthracite coal output. This is placed for the year at not less than 34,172,939 tons, against 32,136,363 tons in 1886, the greatest production of any year prior to that time. This increase of upwards of two millions of tons took place in face of the long and stubborn strike in the Lehigh regions, showing that the demand was so imperative as to induce a supply in the face of most serious obstacles. The final figures of the bituminous coal and coke output for the year are not yet available, but enough is already known to show that these two branches of production, like that of anthracite, were never so great before.

Of course, 13,000 miles of new railway, with the additions required for new sidings and old track relaid, could not be built without causing the iron and steel business to boom as they never boomed before. The exact output of pig iron and steel rails for the year will not be positively known for two or three weeks yet, but that it was greater than ever before, does not admit of doubt. Turning to the manufacturers of textile goods, the year has been one of continued activity. There have been few idle factories, and the suspensions when they did occur, were not of long duration.

In the agricultural department the production has not risen to the highest point. Both the wheat and the corn crops were somewhat below what they have been in some unusually prolific years in the past. The cotton crop was more than an average one. There is enough and to spare in every important channel of agricultural production, and enough is as good as a feast at any time.

Looked at from any point of view, therefore, the year just closed may be regarded as a very satisfactory one. It has been marred by some unnecessary labor disturbances fomented by demagogic leaders, but even these have not sufficed to check the steady flow of productive industry. The loss they entailed, has fallen chiefly on those engaged in them, and the great body of workingmen have learned that peaceable relations with employers and steady employment are preferable to causeless strikes and idleness.—*Exchange.*

IT is confidently believed that those in the jewelry trade are eminently capaciated to finding a loose screw in a man's disposition. Quite a number of years ago, Charley C. came to New York to live. Charley was born and bred in one of the interior cities of the State, and was well up in New York matters, and you could no more have taken him in by any of the sharper tricks of the street, than you could have translated him bodily to the moon. The weak point of Charley's character was his implicit confidence and faith in his friends. How well he had chosen these will be discovered as we proceed. Charley and a bevy of "the boys" went down to spend a Sunday at Coney Island. And, by the way, Coney Island was not then what it is now, for the period when these incidents occurred I am speaking of, happened more than thirty years ago. The facts of the case were Charley and his friends were out for a racket, and among the gang was a mischievous fellow who never slept when there was a victim to a sell to be obtained.

Among the methods to kill time fishing was proposed, and at that particular time fishing was notoriously bad at Coney Island; and our friend, the wag, knew it. So posting one or two willing friends, the proposition to go "clam fishing" was received with boistrous applause. Charley C,, who was to be the victim laughed at the idea; but upon the serious arguments of the gang, and two or three drinks Charley became a convert, and with a bit of red flannel tied to the end of a line, fished for clams out of an old yawl hired for the occasion. The racket was worked to perfection. Charley was first duly impressed with the idea that clams were slow biters, and the only way was to wait quietly. His line was properly baited and thrown over, and his attention called to something else, and during the diversion his line was quietly hauled up and the shell of a big Quahog pried open, the flannel bait inserted between the edges of the shell, and then put gently back in the water. A little lull in the boat induced Charley to look to his line, when up came the big clam to the great delight of the victim, who between "bottled cocktail" and excitement, was now an ardent clam fisherman. The thing had to be gone dexterously about, as Charley insisted on pulling up his line every few minutes to "see if he had one." The fun lasted for three or four hours, during whlch, he caught eight or ten clams. Indeed, more than all the rest of the party, who had to pretend to catch some, to keep up the delusion. How Charley found out about the sell I don't know, but one of the gang who mentioned it to him a day or two afterwards had to wear an oyster on his eye for two days, and probably that is the reason no more of the party made any further inquiries.

James Boss Diamond Cases.

LORD DERBY is credited with saying that he desired to see the day when "Every useful thing would be beautiful, and every beautiful thing useful." Very few we could find who would not heartily endorse this sentiment. Yet it is seldom—very seldom—we see it so happily realized as in the James Boss Diamond Cases. Here are combined elegance and economy—the most exquisite beauty with the least possible cost. More money expended would not add one iota to the appearance or service. A careful study (it will repay you) of the accompanying engravings from new styles will convince the reader that they are all we claim. The stones are genuine diamonds of fine lustre, set in a solid gold star.* The star with its radiating points, aids the effect of the scintillations from the stone. As far as gratifying the sense of sight is concerned, every effect of elegance and display is secured at comparatively low figures. How low we wish we dare tell you, but you can write to your jobber and find out.

Keystone Watch Case Company,

New York. Philadelphia. Chicago.

*This Solid Gold Star is patented by the Keystone Watch Case Company.

The Keystone for 1888.

The Jewelers' Trade Journal of the Continent.

Now is the time to subscribe. Send in your Twenty-five Cents before April 1, 1888.

Save all your KEYSTONES for 1888. The original technical articles will be well worth ten times the subscription price to any practical man.

Advertisers, take notice.

THIS Journal reaches every Watchmaker and Jeweler in the United States and Canada, with a bona-fide circulation of 22,500 copies, and three times as many readers. Consequently, it is the best advertising medium to the trade.

New Contributors.

New Articles. New Attractions.

ELECTRIC MOTORS.

That the future has great things in store in this direction there can be no doubt. That power can be conveyed by electricity, is amply proved. In France recently, something like 80 horse-power was conveyed nearly 30 miles with a loss of only 30 per cent. To what does this point? Does it not indicate that the true economy of transit lies in only carrying the engine and not the generating power, such as water and fuel? In this one item, would be a saving of the loss of 30 per cent. This proves the economy of electricity, but we have only to look at actual facts to find and establish a decided economy. All who are conversant with mechanical engineering are aware that a railway locomotive is a horrible coal-eater, and it is very doubtful if any in use will yield an effective horse-power for 3½ pounds of coal per hour. On the other hand, we have plenty of stationary engines which yield one horse-power for 1½ pounds of coal per hour. And it is an equally well established fact, that the wear and tear of a stationary engine is much less than a locomotive. These facts, and facts they are, show clearly that for rapid transit on short lines, the best is an electric motor of some kind. In all such achievements, the difficulty of accomplishing the project is not because some insurmountable object is to be overcome, but the opposition of corporations who are making money and getting rich in some other way They block the way to the advance that might otherwise be accomplished. It is only a matter of time, however, and another decade will see electric engines running not only railroads, but hundreds of other mechanical devices.

MANY of the professional labor agitators are wont to assert that inventions and improvements in machinery tend to reduce the wages of workingmen. The assertion is, of course, easily disproved by the facts, and it can be shown with equal ease that labor was never so much in demand as since the multiplication of labor-saving machinery. The greater the facility for producing manufactured goods, the lower the cost; and the less the price, the greater the demand for them. This is abundantly illustrated by the history of the sewing machine. When that was first constructed, the cry went up that it would take the bread out of the mouths of the sewing women, but, as a matter of fact, it has added tenfold to their opportunities for earning a livelihood, for there never was such a demand for sewing women, nor so many ways in which the needle could be employed. In comparison with the wages paid in olden times, those of to-day, when machinery is more universally used than before, are very much higher. In this country, where machinery is found in greater abundance than anywhere else, wages are very much higher than in any other. The Illinois Central Railroad publishes a record of locomotive service for thirty years that has a strong bearing on this point. According to that record, the running cost per mile has fallen from 16.52 cents in 1857 to 13.93 in 1886. This reduction has all been effected by inventions and improvements in machinery. During the same time the wages of engineers and firemen have risen from 4.51 cents to 5.52 cents per mile run. Demagogues may dispute these figures, but it is nevertheless true that improvements in machinery, not only in railroads, but in other industries as well, are a benefit in every way to everybody concerned. The general public is served at cheaper rates and the mechanic receives increased wages. Those peculiar individuals who advocate a return to "good old times," who prefer hand work to machinery, and who preach that invention is really a curse to labor, should try to understand the situation. A very little actual knowledge of the subject will show them that the workingmen of this country owe a debt of gratitude to inventors that they will never be able to pay.—*Jewelers' Circular.*

A WELL-KNOWN society lady, says: "The prettiest bit of jewelry to be seen with the street suit at present is the bonnet pin, which fastens down the bows of the bonnet. These are set with rubies, emeralds, diamonds, pearls, cat's-eyes, moonstones, garnets and turquoises. They are so tiny and unobtrusive that the masculine mind has not yet grown apprehensive about them. They come in shapes wee and dainty—swallows, horseshoes, fans, swords, insects of all sorts, trefoils and pens, and they cost—but why let the carping masculine world know what they cost? Since we dress for them and the result seems to please them, shall we allow them to complain about cost?"

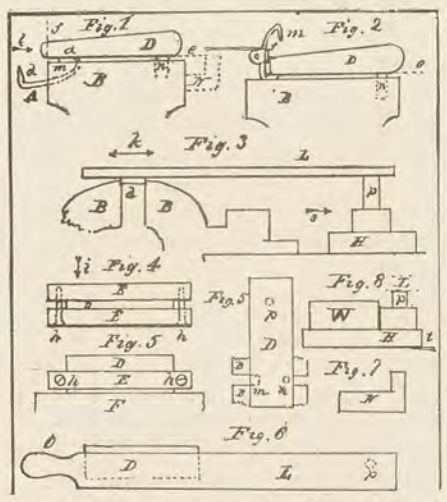
ONE of the great industries of Amsterdam is the cutting and polishing of diamonds; and nearly all the finest diamonds in the world are brought here to be cut into shape. We will make a visit to one of the principal diamond establishments, and when we get there I think we shall be surprised to find a great factory, four or five stories high, a steam engine in the basement, and flywheels, and leathern bands, and all sorts of whirring machinery in the different stories. On the very top floor, the diamonds are finished and polished, and here we see skilled workmen sitting before rapidly revolving disks of steel, against which the diamonds are pressed and polished. It requires great skill, time, and patience before one of these valuable gems is got into the shape in which it will best shine, sparkle and show its purity. Nearly half the diamonds produced in the world, the best of which came from Brazil, are sent to this factory to be cut and polished. Here the great Koh-i-noor was cut; and we are shown models of that and other famous diamonds that were cut in these rooms. By the way the Koh-i-noor was recently offered to Jay Gould for $2,000,000 but he declined the investment.

AN Irish girl called on a clergyman and inquired his price for "marrying anybody." He replied, "two dollars," and Biddy departed. She called a few evenings after and remarked that she had come to be married. "Very well," said the minister, but, seeing that she was alone, ventured to inquire: "Where is the man?" An expression of disappointment passed over Biddy's features, as she ejaculated: "And don't you find the man for two dollars?"

A PHOTOGRAPHER in one of the country towns of Massachusets was recently visited by a young woman, who, with sweet simplicity, asked: "How long does it take to get your photograph after you leave your measure?"

CLOCKS.

ONE of the escape wheel in pitting the pallets, is one of the most troublesome things with which the clock repairer has to contend. This wear can, however, be easily and expeditiously remedied by using a thin Washeta oil stone, such as wood-turners use to sharpen their turning tools. Even a common Washeta oil stone will in almost every case answer if used as directed. But it will pay any person to purchase a thin slip and keep it for this especial purpose. The only change which need be made is to square the thin edge of the special stone on the line *f*, Fig. 1, so that it will go back to the base of the exit pallet *g*, Figs. 1 and 2. The oil stone can readily be ground square by clamping between two pieces of wood about 1 inch square, and long enough to clasp the stone as shown at Figs. 4 and 5. In these figures, Fig. 4



shows how the stone is clamped as if seen from above. The two pieces of wood *E*, are closed together by two 2¼ inch wood screws shown at *h*,*h*. Fig. 5, is an edge view seen in the direction of the arrow *i*. In Fig. 5, *F* represents a flat piece of marble or roughened plate glass for grinding off the edge of the oil stone *D*, with emery and water. The stone *D*, is shown as if protruding through the claps some little distance. In practice, it should only protrude just enough to fairly meet the stone or glass *F*. The arrangement for stoning off the pallets is shown in Fig. 1, 2 and 3.

The principle on which it is worked is the oil stone *D*, has three points of support, one of which is the pallet and the other 2 are wooden pins on which the oil stone rests to keep it from rocking, and consequently the pallet is stoned away dead flat. To give the idea perfectly, suppose the entrance pallet is clasped in the bench vice-jaws *B*, as shown in Fig. 1. It is placed in the left hand corner of the vice-jaws, and near the opposite corner is inserted a piece of soft wood, presumably a piece of pine an inch or two long, and a trifle thicker than the pallet is wide. This piece of wood is placed as shown at *n*, and the vice closed to clasp it. The vice jaw at *g*, is still open wide enough, although pinching the pine piece *n*, to allow the pallet *g*, to be inserted. The vice screw is turned, the pine piece *n* yields until the pallet is clasped firmly in the vice jaws *B*. Now it will readily be seen that the height to which *n* protrudes above the vice, governs the line *e*, which is supposed to represent the surface of the pallet face, and by filing off the upper end of *n*, the surface of the oil stone *D* can be made to exactly correspond with the pallet.

One thing more and the device for stoning off pallets is complete, and this is to guard against rocking of the oil stone in its back and forth motion. This will be understood by inspecting Fig. 3, which is a view of the parts seen in the direction of the arrow *l*, Fig. 1. When nothing is used except the stone *D*, almost any temporary device for supporting the end of the oil stone *D* will answer. With the Prentiss bench vice, the hole where the stake goes can be used to insert a plug extending upward to support and guide one end of the stone. The best arrangement, however, is to mount the oil stone *D* in a strip of wood about two inches wide and eighteen or twenty inches long, shaped as shown at *L*, Fig. 6. The oil stone *D* is let into the lower surface of *L*, at the dotted lines, so the surface of the stone is flush with the wood. The oil-stone can be cemented into place with black pitch or rosin, with which a little tallow has been melted. A handle can be provided as shown at *o*, Fig. 6. In this arrangement, the end of the wooden oil-stone holder *L*, can be steadied by taking a piece of inch board, about three inches wide and ten inches long, into one end of which is driven a wooden pin *p*, which screws to support the end of *L*, as shown at *H*,*p*, Fig. 3. This wood support is shown again at Fig. 8, as if seen in the direction of the arrow *s*,*s*, Fig. 3. This support is placed on the bench about twelve or fifteen inches back of the vice, and an old eight day clock weight laid on it to hold it steady, as shown at *W*, Fig. 8. To bring the end of *L* level, and have the stone cut flat, the pin *p* can be driven in or out of *H*, and for adjustment the wooden wedge *t* can be slipped under *H*, as shown at *t*, Fig. 8. In case the strip *L*, holding the oil-stone *D*, is too wide to rest on the wood pin *n*, in the vice, a piece can be cut of the shape shown in Fig. 7, and again at the dotted outline *N*, Fig. 1.

After a pit has been stoned out, the pallet should be polished with Vienna lime or diamontine, using a strip of hard wood shaped like *L*. It is not necessary to have a handle *o*. Vienna lime comes in black bottles of about quarter of a pound for twenty-five cents. The lime to be good should be in hard lumps, and the best way to reduce it to power is to shave it off the lump with a knife, when it should be wet with alcohol. The polishing power of Vienna lime is something wonderful to those who never used it. Get a small bottle with ground glass stopper, and mix an ounce bottle full of alcohol and lime for use. When a bottle of lime is opened it should be speedily closed, as the air slacks the lumps and renders the lime useless for polishing. The reason a Washeta stone is recommended is, it cuts much faster than an Arkansas stone.

This arrangement can be used to stone and polish any kind of pallet, as well as the ordinary pendulum verge shown in Fig. 1. A few hours work will, if the text and diagrams are carefully studied, serve to make all the parts needed, and then ten or fifteen minutes serve to perfectly restore any set of pallet to there original shape and polish.

A SQUARE of dead gold covered with chased stars and crescents forms a chatelaine pendant.

Boulder Colo Dec 10 87

That blessed old Wandering Watch-maker is too funny for anything & better yet the moral he draws out of his fun is always good. Ram and I laughed till the tears came so did the tears come on reading little Dolly's letter but they came from a very different source. Your paper is the breeziest thing I know of among our trade publications

Respy

Roberts & Ramsey

TO make advertising a success, we must realize two conditions. First, the advertisement must be printed and distributed to those interested. Second, after it is printed and distributed, it must be read. Under the first condition, the KEYSTONE stands unrivalled, as each issue reaches every Jeweler in the United States and Dominion of Canada. That it is read and appreciated, we call your attention to the *fac-simile* of a Postal Card recently received, which is only one of hundreds.

"NO, THANKS. NO WATERBURYS FOR ME"

"NO. I GUESS I DONT CARE ABOUT THEM"

"I SAID NO!"

"OH! YOU DONT SELL ANY EXCEPT TO THE RECOGNIZED RETAIL WATCH TRADE? WELL SEND ME ABOUT A GROSS."

"SHAKE !!!"

YOU are a watch dealer, eh? You profess to sell watches? I take it that you have an eye for profit, and that you keep that eye open for the best selling and most popular watches. It is to your advantage to keep such watches in stock.

Do you keep them? Have you watches for people of all classes? Watches for the rich and watches for the poor?

There are some people who cannot afford to buy a gold chronometer, and those people want a watch. Have you watches for such people?

You have?

The Waterbury?

Ah, there you show your business capability; some watch dealers are opposed to them.

And why?

Because they are cheap, and the watch dealer says they will prevent sale of other watches. Nonsense! The Waterbury was made for them who desire a reliable time-keeper for little money. Is it at all likely that those people, not seeing a Waterbury in your window, will buy a chronometer? The increasing sale of the Waterbury is a firm guarantee of its popularity, and if you want to augment your business, keep **a few dozen in stock.**

THE OLD FAMILY CLOCK.

"Tick, tock," goes the old clock!
Its ancient case is black with age,
Yes its tongue takes, with steady gauge,
The measure of the moment's doom,
And through the lonely keeping-room
"Tick, tock," sounds the old clock.

The moments slowly interlock
In sighs. She vainly tries to sew,
Shunning the fact she soon must know:
A whisper seems to pierce the gloom
As once:—"Mother, why don't he come?"
"Tick, tock," answers the clock.

Slowly swings the old clock.
A deeper grief than that of death
Drips in her tears, and chills her breath
With voiceless fear; he, staggering, nears
With bloated face and ribald jeers,
"Tick, tock," goes the old clock.

"Tick, tock," swings the old clock.
Hark! was that an echoing sigh?
Or the wind's rising lullaby?
How sweet to slip out on Life's tide,
And into Heaven's harbor ride!
Solemnly swings the old clock.

—Lydia Wood Baldwin, in "Good Housekeeping."

FACETIOUS GEOGRAPHY.

Here is a little nonsense that will do you no harm. It consists in a series of funny geographical queries, which call for equally funny answers. If you take interest enough in the matter to send in answers, we will publish them. Here we go:

1. What is the most metallic river in South America?
2. What mountain always wears a head dress?
3. Which is the happiest State in the Union?
4. What political division of Africa is suggested by one's birth day?
5. What country of South America is never warm?
6. What city is dear to all pork packers?
7. What city of Europe must always remain a quantity of paper?
8. In case of a universal flood, what city of Europe would you prefer to live in?
9. What is the sweetest smelling city in the world?
10. What islands should the penniless man go to?
11. What sea can never be destroyed?
12. What country is the most proper for married folks to live in?

PRECIOUS STONES FROM THE URALS.

A small but fine collection of semi-precious stones from the Ural Mountains has been recently brought over. These crystals were secured at the fair of Adun Tschilon, in Siberia, among the Ural Mountains. These crystals are not to be used as gems, but are intended for museum pieces. The largest is a blue topaz, limpid as sea water, which it resembles in color, and weighing eighteen and a half ounces. Next in size is a sherry-colored topaz, weighing nine ounces. Its tint suggests a piece of crystalized wine jelly, beautifully translucent, with dimensions 2½ by 2½ by 1½ inches, proportions which the learned in crystals will appreciate. Among the beryls is a yellow crystal 2 by 2½ inches, weighing four ounces. Richer in color is a golden beryl, an inch and a half high and half an inch wide, so perfect in its proportions and so clear that it looks like a vial of amber oil. But the treasure of the collection is a rubellite an inch and a quarter long, and eleven twelfths of an inch across the prism. The color is a deep red, showing pink at the angles. This is the finest crystal in the United States. The rubellite is the red tourmaline, of which specimens are found in Maine. Those in Russia are more highly valued. In the Russian crown there is a large rubellite which is often taken for a ruby. A curious specimen is a piece of albite feldspar, on which is implanted a doubly terminated crystal of smoky quartz, holding at an angle, like a piece of fine joiner work, a fine blue crystal. From the same fair comes a stand of 195 faceted beads of blue chalcedony, which is exceedingly rare. From Katienberg, where the art of stone cutting is unsurpassed, are beads of rhodonite. The stone is of lovely pink, and, when faceted, throws off the light brilliantly. Some work in jaspers and rock crystal is very fine, and one of the curiosites of Katienberg work is an upright receptacle of gray jasper, which is so highly appreciated among the Russians. Heaped in it are berries of all kinds and colors, wonderfully simulated, in color and quality, by stones. The present taste for things Russian is gratified in many ways. Russian bronzes, reproducing episodes with the fidelity of Tolstoi and Dostoievsky, make for the moment French bronzes seem inane. In another direction Russian silver, and work in enamels, which the requirements of the Russian Church has brought to a perfection found nowhere else in Europe, holds the favor of the hour.

HOW TO SUCCEED IN BUSINESS.

Don't make the field too broad.

Make friends, but don't encourage favorites.

Keep down expenses, but don't be penurious.

Keep a high vitality. Sleep well, eat well. Enjoy life.

Enter your charges when the goods are sold. Don't wait.

Make plans for a little way ahead, but don't cast them in iron.

Don't tell what you are going to do—till you have done it.

Stick to your chosen pursuit, but not to chosen methods.

Be content with small beginnings—and be sure to develop them.

Don't take fresh risks to retrieve your losses. Cut them off short.

Be cautious; but when you make a bargain, make it quietly and boldly.

A regular system of sending out bills and statements is more effective than spasmodic dunning.

Have a proper division of work, and never interfere nor permit interference with your employees.

It is better for your creditors to postpone payment squarely than to pretend to pay by giving a check dated ahead.

Look after your "blotters"—and all books of original entry. In litigation they are reliable evidence; copies are not.

Don't fail to keep an "estimate" and whenever an estimate is given to a customer, enter every item of cost in this book, giving the customer only the sum total, having carefully revised each item to make sure that no errors have been made.

ONLY A RING.

Only a ring! the soldier sigh'd,
As he forth from his bosom drew
A tiny ring once worn by his bride—
A pledge of affection true:
She died the day that Vicksburg fell;
And through the bitter years
He carried that ring in its casket shell,
Long dimmed with affection's tears.

Only a ring! a little ring,
A circlet of beaten gold,
Yet to him a precious, priceless thing,
Hid away in its casket old:
It blanched his lips, his cheek grew white,
As he gazed on the relic dear;
The man who never failed in fight,
And never paled with fear.

Only a ring! a golden band,
Of endless love the token,
That brightly gleamed on the dimpled hand,
Ere the faithful heart was broken.
Tenderly now it speaks to him
Of the glowing past, now faded,
Of a fair young face in the distance dim,
With the mists of oblivion shaded.

THE POWER OF CO-OPERATION.

"Co-operation is destined to grow into a mighty tree beneath whose branches universal labor shall one day find shelter and alternately exercise and rest."—*Thornton*.

Forty-two years ago eight poor weavers in Toad lane, Rochdale, England, met together to talk over the condition of the working classes and try to find some remedy for the amelioration of their race. After many meetings and much serious talk they came to the conclusion that unity is strength, and if they would put together their little savings they could buy direct from the producer, sell at a lower figure and have a profit on their investment. Their capital amounted to $140. Little did they think some of these poor men would live to see monuments erected more enduring than statutes of bronze or pillars of stone. And yet such is a fact. This $140 brought no profit the first year, but the second it did. Then commenced the most wonderful success the world ever saw in co-operation. This nucleus of 1844 has grown a mighty giant, doing banking business of $80,000,000 a year, yielding a profit to its 911,797 membership of $15,000,000 yearly, owning stately warehouses in London, Manchester, Leeds, Newcastle-on-Tyne, Glasgow, New York and other foreign countries. Four steamships bring the products from all corners of the earth. They have 1,400 stores in the United Kingdom, work their own mines, own streets of dwellings, almost townships. These co-operative societies subscribe to hospitals, charities and churches. They own libraries, newsrooms, and have established science classes and founded scholarships in the university. In the past twenty-five years they have done a business of over £1,800,000,000, giving these 900,000 and more members a profit of nearly £147,000,000. There are no drones in this mighty army, but they do the work and put the profit to their own use, not give it to middle-men. Here you have the naked truth of the mighty power of co-operation, the principle is spreading throughout the countries of Europe. In every city, town and village in France, building societies are established. In this country, New Jersey, Maryland and Massachusets, the good work is spreading. Men and women of the watch case trade of this country, can you do like your brethren of Europe? Save your money, form clubs, open co-operative factories. You have men of brains and business integrity, and aptitude to manage the business. All honor to such men who have sown the seed of independence and self-reliance amongst their fellow craftmen. Let the good work go on.—*The Watch Case Maker.*

A NOVEL piece of jewelry is a small Edison incandescent electric lamp mounted and used as a scarf pin. Nothing except the lamp is exposed to view, which lights up most brilliantly when a button is pressed. The battery is carried in a pocket.

THE first manufacturer of buttons in this country was Samuel Williston. While he was dragging along as a country shopkeeper—his eyes having failed him while studying for the ministry—his wife bethought her she could cover by hand the wooden buttons of the time, and thus earn an honest penny. From this the couple advanced in their ambition until they had perfected machinery for covering of buttons, the first employed for the purpose in this country. From this sprang an immense factory, and then others, until Samuel Williston made half the buttons of the world.

SOME time ago Luther F. Brooks, a diamond merchant, bought a petrified fish in Oregon of a man who had just brought it down from the mountains. The finder said it came out a ledge on top of the mountain near Portland, about three thousand feet above the level of the sea. At the time Mr. Brooks purchased it the tail of the fish could alone be seen, but he set to work removing the rock that covered the remainder of the object. He labored carefully and slowly for several hours a day for six weeks, and was rewarded by obtaining a fine specimen of a petrified fish, about seventeen and one-half inches long and six inches through the widest or thickest part. The outlines of the tail are complete, and the small rib bones are as distinct as though they had just been placed there. The upper and lower fins are also plainly seen, and the head has retained its shape, while the vertebral column is clearly defined. The stone proper is of a light grayish tint, forming an excellent relief or background for the dark color of the fish.

THE HUMAN HAND.

The human hand is beautifully formed; it has so fine a sensibility, that sensibility governs its motions so correctly, every effort of the will is answered so instantly, as if the hand itself were the seat of that will; its actions are so free, powerful, and yet so delicate, that it seems to possess a quality of instinct in itself, and we use it as we draw our breath each moment, unconsciously, and have lost all recollection of the feeble and ill-directed efforts of its first exercise, by which it has been perfected. In the hands are twenty-nine bones, from the mechanism of which results strength, mobility, and elasticity. On the length, strength, motion and mobility of the thumb depends the power of the hand, its strength being equal to that of the fingers. Without the fleshy ball of the thumb, the power of the fingers would avail nothing, and accordingly the large ball formed by the muscles of the thumb is the distinguishing character of the human hand.

THE DIAMOND POLISHER.

These thirty years upon a wheel
I sink the stone in lead,
'Till finest cuts at last reveal
The deep fire's golden red.

Those flames from out the earth's abyss
No one can imitate;
The flames that beauty's eyelids kiss
Are fanned by love or hate.

Mysteriously on me, who hang
Spell-bound, the colors shine;
For rayless from the earth it sprang,
The magic art is mine.

Through which the mistresses of thrones
Are dazzlingly arrayed—
But, noble dames, the purest stones
Of soot and dust are made!

ANECDOTE OF CHARLES X.

Charles X, of France, when a child, was one day playing in an apartment of the palace while a peasant from Auvergne was busily employed in scrubbing the floor. The latter, encouraged by the gayety and playfulness of the young count, entered familiarly into conversation with him, and to amuse him told him a number of diverting stories and anecdotes of his province. The prince, with all the ingeniousness of childhood, expressed his commiseration for the narrator's poverty and for the labor he was obliged to undergo in order to obtain a scanty livelihood. "Ah!" said the man; "my poor wife and five children often go supperless to bed." "Well, then," replied the prince, with tears in his eyes, "I must manage for you. My governor every month gives me some pocket money, for which, after all, I have no occasion, since I want for nothing. You shall take the money and give it to your wife and children; but be sure not to mention the matter to a living soul, or you will be finally scolded." On leaving the apartment, the honest dependent acquainted the governor of the young prince with the conversation that had taken place. The latter, after praising the servant highly for his scrupulous integrity, desired him to accept the money, and to keep the affair a profound secret; adding, that he should have no cause to repent of his discretion. At the end of the month the young Count d'Artois received his allowance as usual, and watching the moment when he was unobserved, hastily slipped the whole sum into the hands of his protege. On the same evening a child's lottery was proposed, for the amusement of the young princes, by the governor, who had purposely distributed among the prizes such objects as was most likely to tempt a boy of the Count's age. Each of his brothers eagerly hazarded his little store, but the Count d'Artois kept aloof from his favorite amusement. The governor, feigning astonishment, at last demanded the reason of this prudence; still no answer from the count. One of the princes, his brother, next testified his surprise, and at length pressed the count so hard that in a moment of a childish impatience, he exclaimed: "This may be very well for you; but what would you do if, like me, you had a wife and five children to support?"

DRIFT.

The Springfield *Republican* opportunely publishes a portion of the address of James Bartlett, an old citizen of Detroit, at the semi-centennial of Michigan. Mr. Bartlett is an intelligent workingman and no rhapsodist. He had long been a machinist in Massachusetts when young, and spoke of things within his own knowledge. His own recollection went back forty-five years, for he first began in 1842, in a machine shop employing about fifty men, on cotton machinery for Lowell. He said:

"The wages of a machinist in this shop were $1 to $1.25 a day; one nabob of a pattern-maker received the great sum of $1.50. They went to work at 5 o'clock in the morning and worked until 7:30 at night, with an hour for breakfast and three-quarters for dinner. It was several years before we obtained eleven hours a day. It has now been ten hours a day for twenty-five years or more, and we grumble at that, though we may get more than twice the wages we did forty years ago; and we are hoping to get the same or higher pay for working eight hours. I know the condition of the machinist is better than it was when I first joined the guild; he has better pay, better houses, better education, better living; and I hope will keep on improving for the next fifty years. Large machine shops were started before 1836; one in Lowell employed over one thousand men on cotton machinery. Now the country is dotted with them. For my part, I don't want any more of the good old times. The present time is the best we have ever had, though I hope not the best we shall ever see. In fifty years we have reduced our hours of labor from fourteen to eight hours a day; our wages are doubled, and the necessities of life are much cheaper, (a barrel of salt, which cost $3.50 years ago, has been sold in Michigan for 75 cents.) The great curse of drunkenness is very much diminished. We live in better houses, better warmed and lighted, and we are better clothed; a high school education is in the reach of every child; books are free to all; the poorest laborer who meets with an accident in our streets will receive surgical aid that no King could purchase fifty years ago. Our great railroads distribute the fruits of labor so that famines are impossible. Beef killed on the prairies is sent all over the country, and supplies the markets of Europe. Fish from the salt seas and from our great lakes are eaten fresh all over the continent, and tropical fruits are peddled round all our streets."

VERY few who carry a watch ever think of the unceasing labor it performs under what would be considered shabby treatment for any other machinery. There are many who think a watch ought to run for years without cleaning or a drop of oil. Read this and judge for yourself: The main wheel in an ordinary American watch makes 4 revolutions a day of 24 hours, or 1460 in a year. Next, the center wheel, 24 revolutions in a day, or 8760 in a year. The third wheel 192 in a day, or 59,080 in a year. The fourth wheel 2440 in a day, or 545,600 in a year. The fifth or 'scape wheel 12,960 in a day, or 4,728,200 in a year. The ticks or beats are 388,800 in a day, or 141,882,000 in a year.

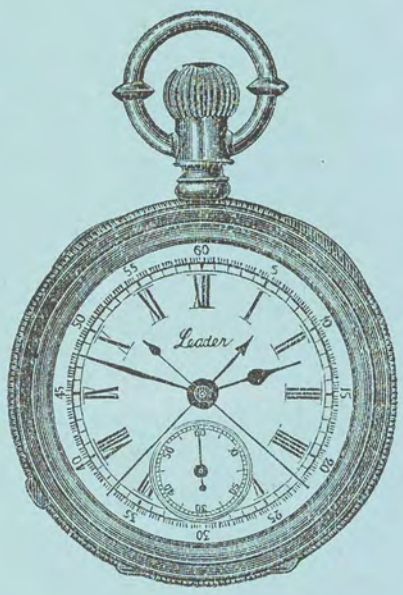
ROUND, flat brooches, dotted with rosettes of gold, and faintly marked with stars or bands by means of different shades of yellow gold, are exceedingly rich in effect. A diamond or fancy stone in the centre adds to the beauty of this brooch.

S. C. Scott. Established 1847. J. T. Scott.

The Latest:
"THE LEADER,"

The Cheapest

Open Face



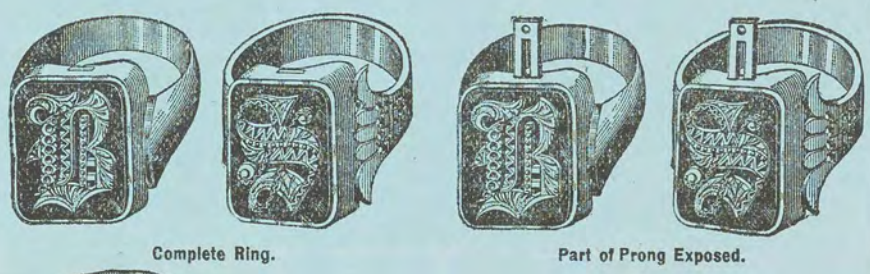
Split Second Watch

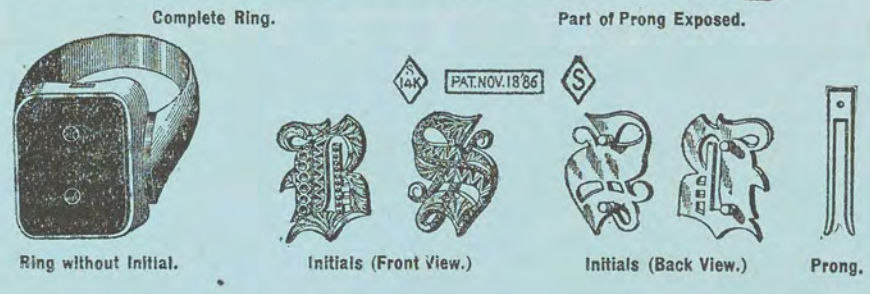
in the Market.

Also our

"SUCCESS"

Initial Ring.


Complete Ring. Part of Prong Exposed.



Ring without Initial. Initials (Front View.) Initials (Back View.) Prong.

Ask our Travelers for them and send for samples.

J. T. Scott & Co.,

4 Maiden Lane. - - New York

Jobbers in all kinds of

American Watches.

Importers of SWISS WATCHES, including a full line of Chatelaine Watches in Gold, Silver and Nickel.

Also a full line of

Diamond Goods,

Comprising Loose Stones and Mounted in Ear-Drops, Lace-Pins, Scarf-Pins, Collar-Buttons, Fancy and Soltaire Rings.

Sole Agents for Chas. F. Tissot & Son's FineMovements, fitting the 6 and 16 Size Elgin Cases; Also for Nickel Open-case Roskopf and Triumph-Roskopf Watches.

Largest and most complete Stock ever offered.

Would call special attention to our full and complete line of Chronograph Watches.

Our Jobbing Department is under our Personal Supervision.

☞The Julius King Optical Co. have their New York Office in our Store.

WHICH WINS?

THE GAME OF WATCH CASES