

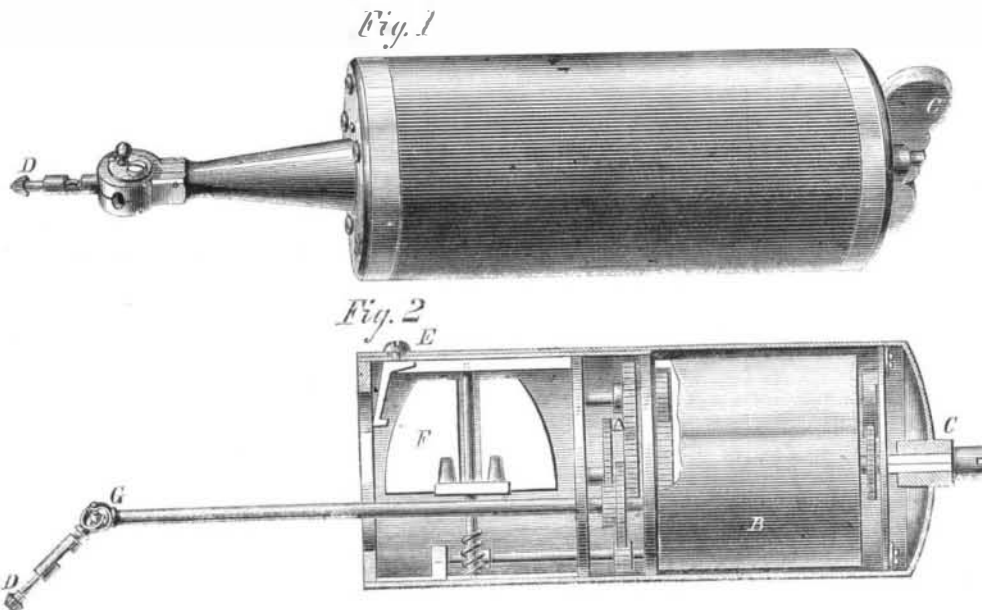
**Improved Grinder and Driller.**

This instrument is intended for dentists' use, and is designed to enlarge cavities and remove the carious portions of the bone with dispatch. From the nature of the mechanism employed to drive the cutting tool, it will be seen that the object is attained.

In the engraving, A represents a train of gearing of the usual kind, driven by a spring in the barrel, B. This spring is wound up by the key, C, at the end (see sections), and will run for a long time; the cutting tool, D, at the end is stopped or started by a spring stop, E, which catches in the vanes of the fly, F. The tool can also be diverted from a straight line and used at an angle of 45 degrees, as shown. A universal joint, G, is provided, so that the rotary action is transmitted without any irregularity.

Externally the instrument is as shown in Fig. 1; this view is very nearly the full size. It can be easily grasped in the hand and directed to any part of the mouth with great facility. There is no prying or pushing in its use, so apt to be the case with the old-fashioned tool, and the patient suffers much less accordingly.

A patent is pending through the Scientific American Patent Agency. For further information address, Philo Soper, inventor, London, C. W.



**SOPER'S GRINDER AND DRILLER.**

his investments "money at interest," but it would have been nearer the truth to call them merchandise at interest. It is true that Mr. Robbins paid money for each of the notes when he bought it, and each was paid in money when it was due. So is money paid for a bushel of wheat or a barrel of pork when it is bought and sold, and there would be just as much propriety in calling a pork barrel money, as in calling the capital loaned by Mr. Robbins money.

The whole supply of capital to the money market

cheaply than usual, for a large number of parts may be made up at once and put together irrespective of one being specially adjusted to the other at the time of making.

In the engraving, A represents a screw cap fitting over the shell, B, as usual, at N. The top of the chamber is bored out parallel with the seat so as to receive the wings, C, of the valve, V. These wings, in addition to others at the bottom of the valve, serve as guides to the same, so that as it is drawn up or down by the screw on the stem, it always rises true, furthermore, by simply raising the cap, as shown in the engraving, and rotating the wheel, the valve will bear truly on the seat and be ground in a perfect manner, at the same time the steam passages are unobstructed, and the area of them remains the same.

The invention was patented on May 2, 1865. For further information address the inventor, James Powell, Union Brass and Plating Works, Box 247, Fifth street, Cincinnati, Ohio.

**A NOVEL STORE.**

We have received from Messrs. Kennedy & McCandless, of Oil City, Pa., a photograph which represents an immense barge safely moored at the Phil-

lips Ferry Dock. The trade circular of this enterprising firm, informs us that the barge bears the name of Floating Palace "SCIENTIFIC AMERICAN." The photograph represents the palace as bearing on its side, in bold letters, the title

**SCIENTIFIC AMERICAN,**

to which is added the following miscellaneous list of articles kept on sale in this modern Scientific Palace, viz., cigars and tobacco, pipes, pens, ink, paper, pencils, fish hooks and lines, dominoes, ready-made clothing, boots, shoes, carpet bags, umbrellas brooms, lamps, lanterns, oil and wick thread, needles, pins, brushes, window glass, demijohns, planks, buckets, smoking mixture, clocks, watches.

This firm is bound to succeed.

**Statistics of Manufactures.**

The Secretary of the interior, in response to a resolution of the House, communicates a list of the cities of the United States with the statistics of their manufactures, including those having 10,000 inhabitants and upward. It includes 102 cities, beginning with New York and ending with Newport, Ky. The total capital employed is \$417,129,234; hands employed, males, 410,920; females, 147,000; value of products, \$874,934,827. New York stands first in the list. Capital, \$61,212,757; males employed, 65,483; females, 24,721; value of products, \$159,107,369. Philadelphia employs a capital of \$78,318,885; male operatives, 68,350; females, 30,633; value of products, \$135,979,777. Cincinnati is third in order; products, \$46,000,000; capital, \$17,000,000 in round numbers. Boston; products, \$36,000,000; capital, \$13,000,000. The other principle cities produce as follows:— Brooklyn, \$34,000,000; Newark, \$22,000,000; St. Louis, \$21,000,000; Baltimore, \$21,000,000; San Francisco, \$19,000,000; Lowell, \$18,000,000; Providence \$15,000,000; Louisville, \$12,000,000; Richmond, \$12,000,000; Pittsburgh, \$11,000,000; New Bedford, \$11,000,000; Chicago, \$11,000,000; New Orleans, \$10,000,000; Manchester, \$10,000,000; Troy, \$10,000,000; Rochester, \$10,000,000.

INVENTORS and manufacturers, by reading H. M Crane's advertisement of this date, will learn of something to there advantage.

The average wages of sewing girls in Dublin, Ireland, are 75 cents a week.

**THE WAY THE MONEY MARKET IS SUPPLIED.**

In reading the money articles in our leading daily papers it is manifest that nearly all the writers suppose the supply of loaning capital—the supply of the money market, as it is called—depends mainly upon the quantity of currency or money in the community; the truth is, this supply is influenced very little, if any, by the quantity of money in the country. This will be made plain by the examination of an individual case.

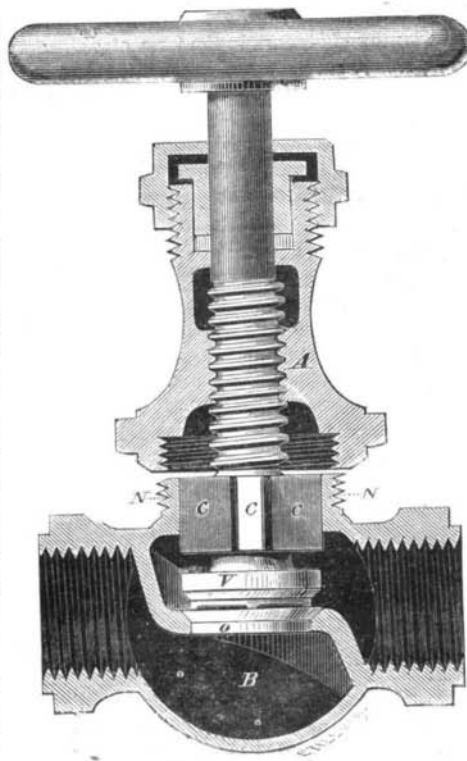
John Robbins, one of the money lenders of this city, recently died. It is said that fifty years ago he had accumulated \$100,000 in the jobbing trade, and that at the time of his death his funds at interest amounted to \$4,000,000. In fifty years the amount of capital that he supplied to the money market of Wall street had increased \$3,900,000; let us see in what form this increase was made, and what connection it had with the volume of currency in circulation.

Mr. Robbins kept the run of dealers in dry goods, and confined his purposes exclusively to their paper. It is well understood among traders that the amount of their sales depends mainly upon the stock of goods which they have to sell; and, as their profits are proportioned to their sales, they all strive to keep as large a stock of goods as possible. When, therefore, their own capital is all invested in goods, they are generally ready to hire the capital of other men, if it is offered on satisfactory terms. It is plain that if they hire capital and keep it on hand in the form of money, they will lose the interest on it; in fact they do not want it for this purpose; they want it to increase their stocks of goods, and so soon as they hire it, they invest it in merchandise. The capital that our dry-goods dealers hired of Mr. Robbins enabled them to increase their stocks of dry goods. The enlarged stocks augmented their sales and profits, thus giving them the means to pay Mr. Robbins his interest. As the interest accumulated Mr. Robbins loaned that also, and it was immediately invested in stocks of dry goods. Thus his accumulation of \$3,900,000 took place in the form of bales and cases of cloths. Had he taken a fancy to loan his funds to leather dealers his accumulation would have added \$3,900,000 to the stocks of leather and hides. He called

of Wall street is made by individuals like Mr. Robbins. This supply is increased by these men spending less than their income; it is diminished when they spend more than their income, or when they make loans that are not repaid. It is neither increased nor diminished by the quantity of currency circulating in the community.

**POWELL'S GLOBE VALVE.**

It is well known that globe valves frequently require grinding so as to keep them tight, and prevent leakage through them into the cylinders. Instances



have been known where engines have started from steam creeping through the stop valves and caused great damage.

In this engraving we show a new method of construction whereby the valve may be ground in at any time by merely removing the cap. This method also permits the valve to be constructed much more