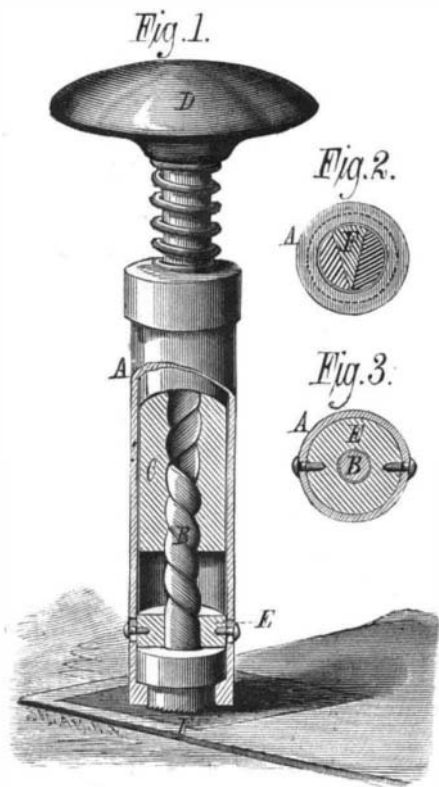


IMPROVED CANCELING STAMP.

Without doubt the amount lost by the government yearly from the reuse of canceled postage stamps is enormous, and so far no adequate means of canceling stamps, so that they cannot by any possibility be used again, has been adopted by the government.

A device which will effectually cancel a stamp by abrading its surface is shown in the annexed engraving. The



GROTHAUS' CANCELING STAMP.

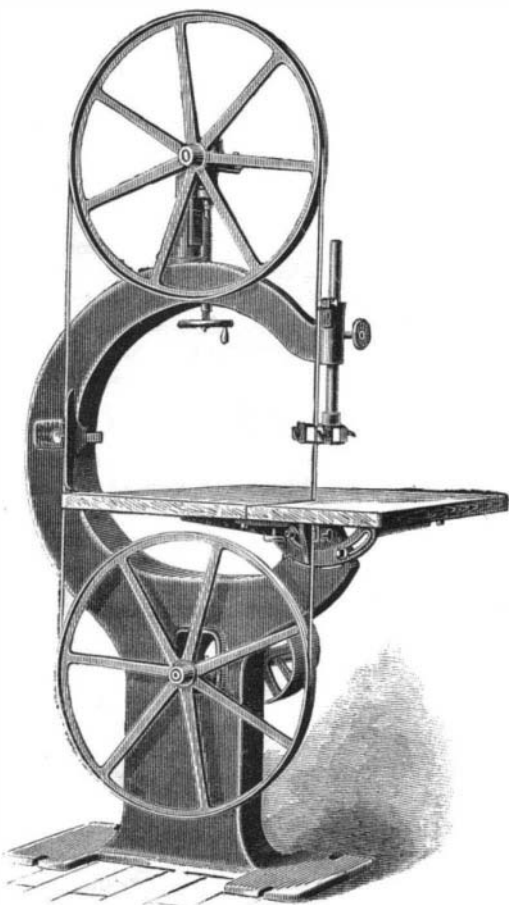
handle or body, A, of the canceler contains a sliding nut, C, which is attached to the handle, D, and receives the screw, B, attached to the revolving cutter head, E, which is retained in place by an internal flange at the bottom of the handle and by an inserted collar, E.

Between the handle, D, and the top of the case, A, there is a spiral spring which returns the parts to their normal position. The cutting head, which is shown in detail in Fig. 2, is cut like a file in different directions, so that when the head is revolved by the engagement of the nut, C, with the screw, B, the surface of the stamp is abraded, and if the canceling stamp is previously supplied with ink, the ink will be absorbed by the abraded surface, and the effects of cancellation are complete. The stamp cannot afterward be restored.

This invention was recently patented by Mr. Frederick E. Grothaus, of Borem, Texas.

NEW BAND SAW MACHINE.

This machine is new in design, and is adapted to the various requirements of a good tool of this size. The metal



CLEMENT'S BAND SAW MACHINE.

is distributed so as to obtain great strength in the arch, while the supporting parts of the frame are made comparatively light. The wheels have improved concave arms, and are carefully turned and balanced, and covered with pure rub-

ber. The bearings are extra long on both shafts, and lined with a good quality of Babbitt metal. The upper wheel is made adjustable to strain the saw, and it is also adjustable across its axis to shift the saw upon its face; it is cushioned on the straining screw to compensate the contraction of the saw in cooling. The guides are of hardened steel, adjustable in every direction. The loose pulleys are self-oiling, and have extra long hubs. The shafts are of steel, and the table is made of kiln-dried hard wood, unless otherwise ordered, is arranged to tilt to an angle, and has the clamp bar across the slit.

This size is adapted to pattern, carpenter, bracket, toy, cabinet, carriage, and general work, and to the lighter grades of sawing in all wood shops. It will carry blades to five-eighths of an inch in width, No. 22 gauge.

Every machine is furnished with a wrench, scarfing frame for holding the saw while soldering, and with tongs for melting the solder.

This tool is a favorite among pattern-makers, and well adapted to sawing of the lighter kind.

There are four sizes of the machine made. The particular one illustrated is known as the twenty-eight inch band saw machine. We give its dimensions below:

Extreme height, 7 feet 1 inch; floor room, 3 feet 2 inches by 4 inches; table surface, 30 by 34 inches; sawing space, 10 by 28 inches; pulleys, 10 by 3 1/4 inches; diameter of wheels, 28 3/8 inches; revolutions, 500 to 550; length of saws 16 feet; shipping weight 675 lb.

These machines, in their various sizes and with all improvements, are made by Mr. Frank H. Clement, 122 Mill street, Rochester, N. Y.

Mortality of Brakemen.

The brakemen on our railroads find it quite difficult to get their lives insured. It is estimated that there are at least ten brakemen killed throughout the country every day. The reader of the daily newspaper learns how this class of men are killed or maimed while coupling cars and making up trains, while others are knocked from the tops of cars by bridges, or slip or fall, or are injured or killed in collisions. Then there must be at least three times as many brakemen injured as are killed, of whom the public knows nothing about or gets no account.

At the lowest calculation, if 10 brakemen are killed every day, that would be equivalent to 3,650 during the year, which, added to the number injured in various ways while on duty, would give the sum total of deaths and injuries about 14,600 a year. These are frightful figures of a fatality, a loss of life, or injury to the body, that is attributable either to accidents, carelessness, or negligence.

We therefore venture to assert that it is a fact that the public has no idea of the number of accidents that occur on the various railroads throughout the country every day; and it is also true that there is no vocation so fraught with danger to life and limb as that of the brakemen on our railroads, particularly on freight trains, men on passenger trains having a great many lives intrusted to their care, and, consequently, have a greater responsibility resting upon them than that which rests with the freight men.

Indeed the life of a freight brakeman is a precarious one. Some insurance agents, in some parts of the country, do not take risks on employes on freight trains; but conductors and brakemen on passenger trains are insured by their paying an extra per cent. Railroad men say that only about 25 per cent of the brakemen of freight trains die a natural death; also, that the average life of the brakeman, after he goes on the road, is about ten years.—*Boston Commercial Bulletin.*

The New Chesapeake Bay Lighthouse.

What is regarded as one of the finest lighthouses in the world is being erected in Chesapeake Bay, off Cape Henry. From base to top it measures 155 feet, with a diameter at the base of 30 feet and at the top of 16 feet. There are six stories, above which are a service room, watch room, lantern room, and finally the roof. Its total weight is 1,700,000 pounds, 7,000 pounds of bolts alone being required to put it together. The exterior, which is octagonal in shape, is constructed of cast iron, while the cylindrical interior is of sheet iron. The castings of the base and first story are two inches in thickness, and the sheet iron lining 3/8 of an inch. The staircase, which has iron sill steps, goes around the cylinder instead of up a shaft as in the lighthouses now in existence. The "light room" is a circular steel frame 12 feet in diameter and 9 feet high. The glass to be used is now being manufactured in France, and a light of great power will be adopted. Every story is solidly bolted together by heavy cast iron floor plates 1 1/2 inches thick, while the points and facings are finely planed, four planers having been kept running day and night for the entire eighteen months. So closely are the plates fastened together that from the outside each story looks like a solid piece of iron. The base and windows are elaborately ornamented with castings, while a handsome iron railing surrounds the watch room. Many of the bolts are 1 3/4 inches in diameter at one end, and 1/2 of an inch at the other. The iron work was furnished by Messrs. Morris & Trasker, Philadelphia.

Tin in the Sierra Madre, California.

The *Commercial*, of Los Angeles, Cal., reports that an assay of tin ore from the mine discovered near Pomona, showed a result of \$89.70 per ton in tin. This mass of tin ore has hitherto been mistaken by prospectors for common rock stained with iron.

IMPROVED DIVIDERS AND CALIPERS.

The engraving represents an improvement in dividers and calipers, recently patented by Mr. Edward Soetbeer, of New Bremen, O. The invention consists in the adjusting device, which is arranged so that the instrument may be opened or closed and held firmly in any desired position. A swiveled bearing in one leg of the instrument and a swiveled nut in the other leg receive the adjusting screw, which is



SOETBEER'S CALIPERS.

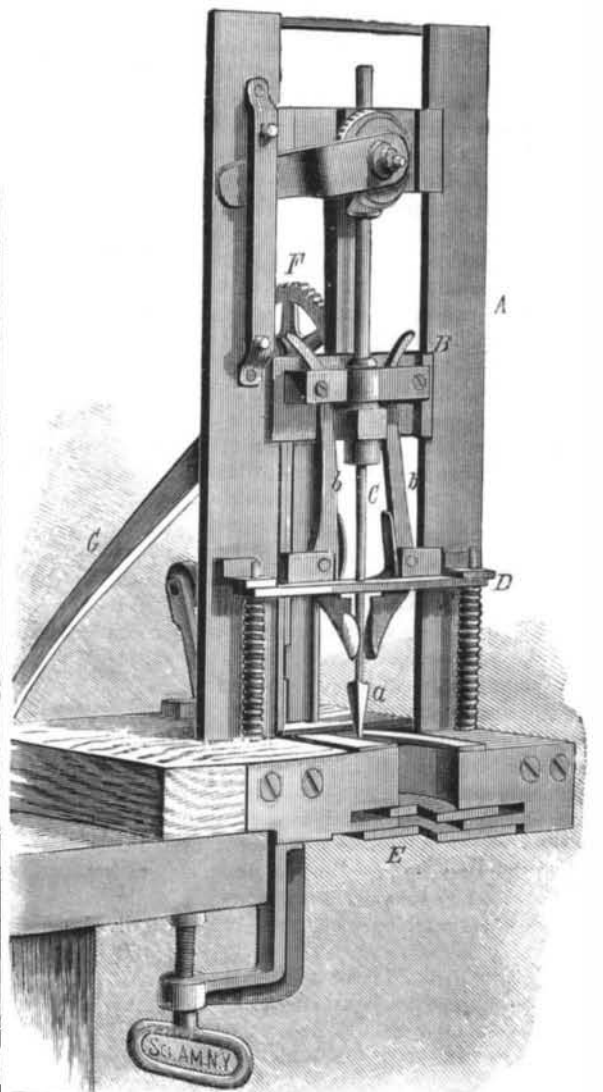
prevented from longitudinal movement by a circumferential groove in the shank of the screw, and a pin extending through the bearing and through the groove in the screw.

It will be seen that by this construction the bearing and nut of the screw are always parallel to each other, and the adjustment of the instrument is positive.

Further information may be obtained by addressing the inventor as above.

NOVEL CORK EXTRACTOR.

We give an engraving of a novel cork extractor lately patented by Mr. Chester C. Clark, of Brownwood, Texas, and designed for drawing corks from bottles containing champagne, beer, ale, mineral waters, etc. It is to be attached to



CLARK'S AUTOMATIC CORK EXTRACTOR.

a table, shelf, or counter, and is operated by the lever handle, G, projecting from the back of the apparatus.

The bottle from which the cork is to be extracted is placed between the jaws, E, which close and hold it securely when