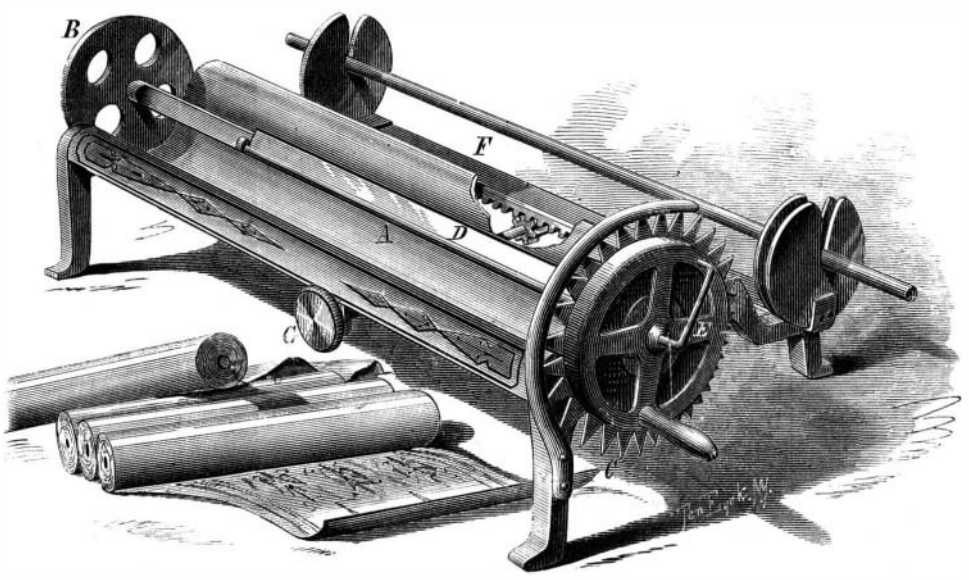
## IMPROVED WALL PAPER TRIMMER.

We illustrate herewith a new and simple apparatus for trimming the edges of wall paper up to the printed line thereon. The cutting device is a small circular saw, and to its shaft an end of the paper is attached so, that the single operation of rotating said shaft drives the saw and feeds the paper to it. The cut, as we find by practical trials, is perfectly smooth, and as neat as if made by shears, while it is done with great rapidity, hardly a minute being required to trim a large double roll.

The frame is made of cast iron, and supported upon legs. One end of the roller, A, has its bearing in a fixed standard, while the other end bears in the standard, B, which is hinged to the frame, and can be turned down for the purpose of removing the roll of paper from the roller, A, after the trimming is accomplished. The journal of the roller in the stationary standard projects through the same, and a wheel is firmly secured thereon. This wheel is made dish shaped or flanged and surrounds the standard within. Upon the inner edge of the flange is secured the cutter, C, which is made in the form of a circular saw. One side of the roller, A, is made concave, and at one edge of such concavity is hinged a plate, D, by means of a rod which extends out through the journal of the roller to the outer side of wheel, where the rod is bent to form the handle, E. The plate, D, forms a clamp for fastening the end of the paper to be trimmed. It will thus be seen that the roller is the spindle on which the paper is rolled, and is also the shaft of the cutting device, whereby the machine is greatly simplified. The roll of paper to be trimmed is placed upon the shaft laid in two standards upon a movable carriage, F, sliding in guides on the rear part of the frame. The one standard is stationary on the carriage while the other is movable thereon, so as to be adjusted to the width of the paper placed on the shaft. On the under side of the carriage is a rack bar, into which gears a pinion on the end of a shaft, under the frame, extending to the front part thereof, and provided on its front end with a handle wheel, G, whereby the carriage may be moved to the right or left as required. After the roll of paper has been placed upon the shaft, its loose end is trimmed for two or three inches, either by the machine or hand shears, so as to enable it to pass the cutting device. The end is then inserted in the clamp and secured. By revolving the shaft or roller, A, the paper passes under and between the cutting device, and is trimmed and rolled upon the roller. The only care required while trimming the paper is to see that it is so fed as not to leave a white line or cut into the figure. This can be regulated by means of the wheel operating upon the carriage, as already described. By turning down the hinged standard, the trimmed roll is easily removed.

The machine is compact, while at the same time it is heavy enough not to need fastening down, so that it can be placed in any convenient position.

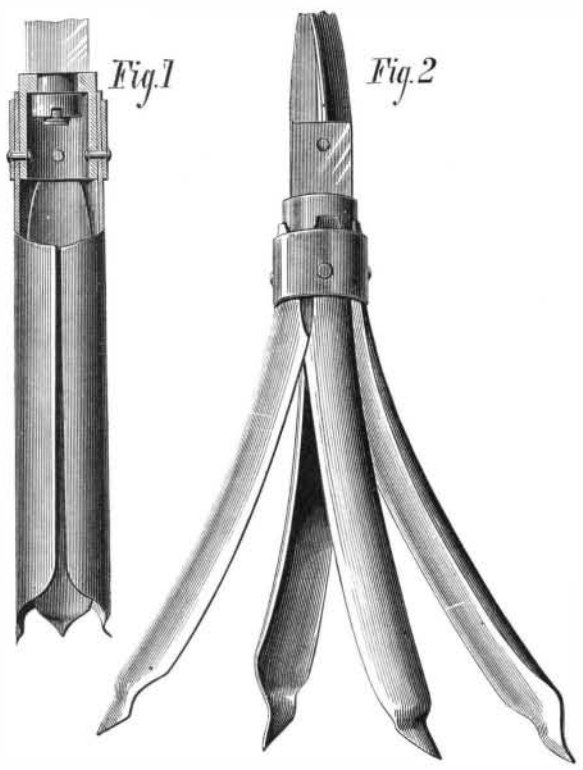
Patented December 7, 1875. For further information address Mr. Charles Boust, Northumberland, Pa.




BOUST'S WALL PAPER TRIMMER.

## WESTON'S LIGHTNING ROD DISCHARGING POINT.

In order to render lightning rods of any efficacy as a protection to a building, it is absolutely necessary that the ground terminals shall be large, and sufficiently so to discharge all the electricity from the rod. The object of the device illustrated herewith is to secure an extensive metallic surface in contact with the earth, with comparatively little cost and trouble.

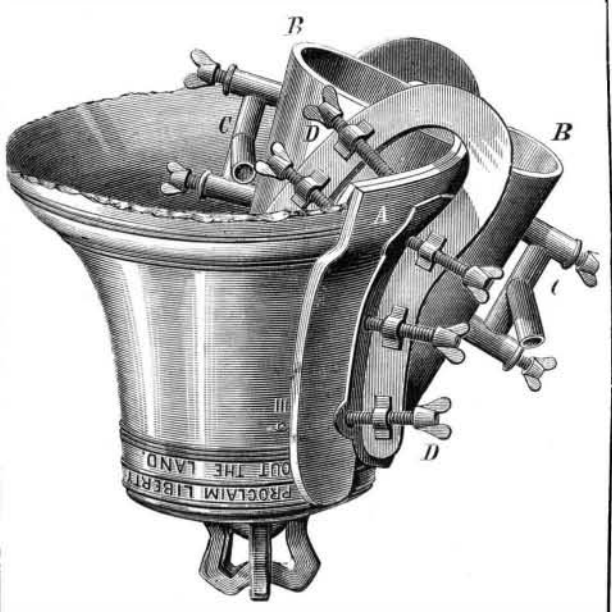



The device consists of four metallic arms, formed as shown and riveted about a central socket. When closed, the point appears as in Fig. 1. To attach it to the lower end of the ground rod, the pivot of the latter is inserted in the socket and the nut screwed on from the inside, as represented in the broken away portion in Fig. 1. A hole is then made in the earth with a crowbar, and the point, with the section of rod attached, inserted. When at the bottom, by forcing the rod down, the sheets or arms of the point will spread out as in Fig. 2, thus giving a large discharge area. The nut which connects the lower section of the rod with the point is left loose, so that the former is allowed to turn when screwing it into the section above. To attach the point to cables a zinc ring is first put on, then the discharger, and then another ring near the end of the rod. The discharger and upper ring are slipped back to their proper position and fastened with set screws.

Patented through the Scientific American Patent Agency, March 7, 1876. For further information address the inventor, Mr. J. H. Weston, 29 West Sixth street, Cincinnati, Ohio.

## RIGGS' METHOD OF MENDING CRACKED BELLS.

Mr. Daniel L. Riggs, of Salem, Oregon, has patented (June 16, 1874) a new method of mending cracked bells, which, if we may judge from the testimonials submitted, has proved highly successful in many trials. The inventor proposes its application to repairing the Independence Bell at Philadelphia, and claims that he can render that historical object as good as new, and that its tones will ring out as clearly on July 4, 1876, as they did a hundred years before. The idea is simply to melt the metal at the crack so that the latter becomes closed by the fusion; and this is carried out by the novel arrangement of two furnaces and a mold, shown in the annexed engraving applied to the bell.




The apparatus is made in two portions, secured, one without and the other within the bell, so as to encompass the cracked part. Each section consists of a mold, A, of plumbago or fire clay, which exactly corresponds to the contour of the bell. On these molds are added walls, B, so as to form chambers or furnaces, to each of which air blasts are admitted and controlled by the system of tubes and check valves, C. At D are the clamps and hand screws by which the whole is held tightly in place. In the upper edge of the molds and just above the crack is a gate for adding molten metal. The furnace chambers being supplied with fuel and ignited, a blast is thrown into them until the edges of the crack are fused and united. Molten metal is then poured in in sufficient quantity to fill any deficiency which may be found to exist.

The Centennial Committee and others can, for further particulars, address the inventor as above.

SEVERAL years ago the Berlin Museum paid $24,000 for what were supposed to be Moabite antiquities. It has been discovered that they are not genuine.

### Success in Milling.

John Griffith, a miller, gives his secret of successful flour grinding as follows, in *Leffel's Illustrated Milling and Mechanical News*:

"My burr is 26 inches in diameter, and has 15 leading furrows, with one short furrow to each leading one; the short ones one inch wide and very shallow. The chief secret is in the shape and condition of the furrows and draft. The stone being in face, running balance, and tram, the draft should be 1 inch to the foot in diameter of the stone; the width of the furrows should not be less than 2 inches for a 3 foot stone, pretty deep at the eye and taper out to the skirt to half an inch deep; it is then worked as smooth as possible with a pick and rubstone or emery wheel to a feather edge at the face. A stone dressed in this way will grind one third or one half more with the same power; and the same cloth will bolt it, and leave no clammy flour to clog the cloth. It bolts freely and the cloth is clean. I run about four bushels through the No. 9 cloth (6 feet in length and 29 inches in diameter), and return from 2 to 4 feet No. 10 in an hour. Grain does not want to be ground; what it needs is to be mashed and rubbed between the two smooth surfaces. Where the furrows are deep and rough, they will grind some too fine and some not fine enough, and throw out unground grain or unmashed particles. A grain of wheat is a bundle of fine particles; and if the bran or shell is broken and rubbed, it will be flour. I have ground 4,000 bushels of wheat since there was a pick on my burrs, and they run nicely yet."

### Foul Smells from Drains.

There is but one simple way, says a writer in the *Journal of Chemistry*, to prevent noxious emanations from cellar drains; and that is to start the drain pipes at the outer wall, and hang all the waste pipes from the cellar ceiling in plain sight, where the slightest leakage can at once be detected. These pipes had best be of iron, and in any ordinary building can be arranged to have a sufficient pitch towards the drain, without coming below the cellar ceiling enough to interfere with headway, and at the wall can be carried down perpendicularly into the mouth of the drain pipe, where the junction should be made tight with cement, and should be in plain sight. The best kind of drain pipes are of glazed stoneware with socket joints, and they be should laid in a bed of cement, and the joints made tight with the same. For common drains, a pitch or fall of one half inch in a foot is sufficient.

## NEW AUTOMATIC GREASE CUP.

A sectional view of a new automatic grease cup, adapted to the lubrication of valve chests and cylinders, is represented in the annexed engraving, which we extract from the *Bulletin du Musée*. It consists of an exterior box, *a*, which terminates below in a screw shank, by which the apparatus is secured in place. Within the box is suspended a small receptacle, *b*, at the lower part of which is a small capillary tube, *d*, and above this a fine sieve, *g*. The top is hermetically sealed by the cover, *e*, a central orifice in which serves for the introduction of the lubricant (melted tallow), being closed by the screw, *f*. The receptacle, *b*, is filled with tallow until the grease begins to enter the screw aperture above. The object of the sieve, *g*, is to retain any impurities; and it may easily be cleaned by removing the core, *e*.

In operation steam enters the cup in the direction of the arrows, passes up above the receptacle, *b*, and presses upon the grease therein. At each momentary diminution of pressure, which takes place in the cylinder or in the valve chest at each change of stroke, a drop of tallow escapes at *d*, being forced down by the steam above. The apparatus is thus entirely automatic, giving a quick supply when the engine runs rapidly, and *vice versâ*, while the delivery stops altogether when the motion of the machine is arrested. This device is now in use on many locomotives on railroads in Saxony.