R. W. MACKALL.

Perforating Machine.

No. 200,142. Patented Feb. 12, 1878.

Fig-1-

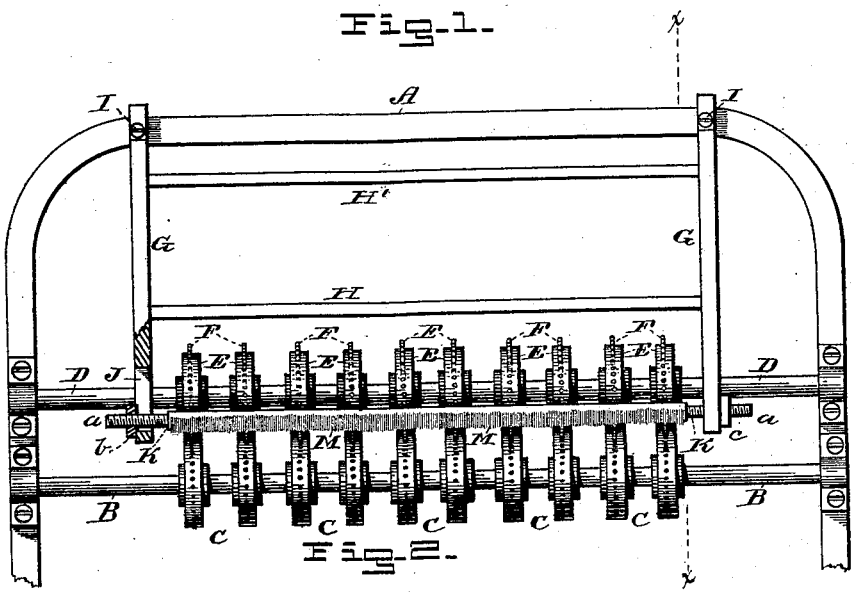
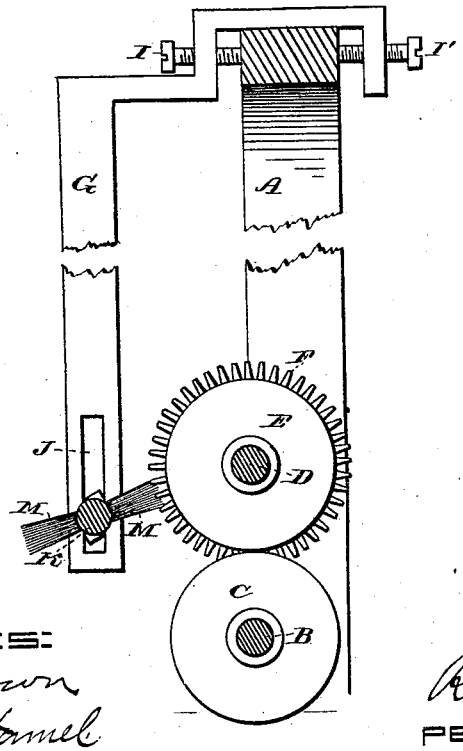


Fig-2-



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ROSALIE W. MACKALL, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN PERFORATING-MACHINES.

Specification forming part of Patent Letters No. **200,142**, dated February 12, 1878; application filed November 12, 1877.

To all whom it may concern:

Be it known that I, ROSALIE W. MACKALL, of Washington, in the county of Washington and District of Columbia, have invented certain new and useful Improvements in Perforating-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to certain improvements in perforating-machines; and the invention consists in a brush attachment to keep the punches clean—that is, prevent any accumulation of waste that may adhere to the punches after each perforation by sweeping them clean—which will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction, arrangement, and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a front elevation, showing my invention attached to a perforating-machine. Fig. 2 is a transverse vertical section taken on line *x x* of Fig. 1.

In the drawings I show my device secured to that part of the frame of a perforating-machine supporting the rollers, all of which will be described, as follows:

The frame A may be made after any well-known plan. In suitable bearings on this frame is horizontally arranged a shaft, B. This shaft is provided with any desired number of rollers, C, which are adjustably arranged thereon. The faces of these rollers are perforated with holes corresponding to, and for the reception of, the punches on roller E, the holes extending through to the inside or cavity of the roller. Immediately above the shaft B and its perforated rollers is arranged, in suitable bearings and horizontally therewith, a shaft, D, having adjustable rollers E. In the faces of these rollers are inserted a number of punches, F, corresponding in number and size to the perforations in the lower roller C, and into which the punches enter as the two sets of rollers revolve upon each other, driven by any suitable mechanism.

Having briefly described so much of a perforating-machine as is shown in the drawing, I will now proceed to describe my improvement.

In the drawing, G G represent two arms, which are held together by stays H, or by any other suitable means. These arms are made to secure the frame A in such a manner that they may have a backward and forward adjustment, as shown, for the purpose of adjusting the brush properly to rollers of various diameters. For making this adjustment I have shown two screws, I and I′, in each arm. In order to make a backward adjustment, the screw I is loosened a certain distance, and the screw I′ tightened until it comes in contact with the frame A, and vice versa for making a forward adjustment. These screws also serve as a means for securing the arms G to the frame A.

The lower end of each arm G is provided with a slot, J, which provides for the vertical adjustment of the brush-rod K. This brush-rod is provided at both ends with pins *a*, having screw-threads, as shown in Fig. 1 of drawing, and with nuts *b* and *c* for holding it in position, and for longitudinal and vertical adjustment of the rod. The longitudinal adjustment is effected by loosening one of the nuts and tightening the other, and the vertical adjustment by loosening both nuts, placing the brush-rod in the desired position, and tightening the nuts.

To the brush-rod K is secured, in any suitable manner, bristles M, forming a brush extending the length of and in a line parallel to, but a little below, the shaft bearing the punching-rollers, as shown in Figs. 1 and 2. This brush-rod K may be connected with gearing, and made to revolve or be held stationary, as desired.

The operation is as follows: The arms G being secured to the frame A, with the brush M in contact with the punches F of the rollers E, and the machine set in motion, the brush M will keep said punches clean and free of all waste that may stick after each perforation. Said brushes also serve as a means for preventing the paper from sticking to the teeth and revolving around with the rollers.

When the bristles have been worn short in front of each punch, the nut *b* is loosened and

the nut *c* tightened sufficiently to move the brush up to bring the unused bristles in contact with the punches. This is repeated until the space between the rollers has been worn, when the other side of the brush may be used.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a perforating-machine, an adjustable brush attachment, having a vertical and horizontal adjustment, substantially as described.

2. The arms G, provided with slots J, and having a backward and forward adjustment, in combination with a brush of any suitable construction, for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ROSALIE W. MACKALL.

Witnesses:
A. S. TAYLOR,
WM. H. WOMERSBY.