R. NEALE.

DEVICE FOR WIPING AND POLISHING ENGRAVED PLATES.

No. 189,377. Patented April 10, 1877.

Fig. 2.

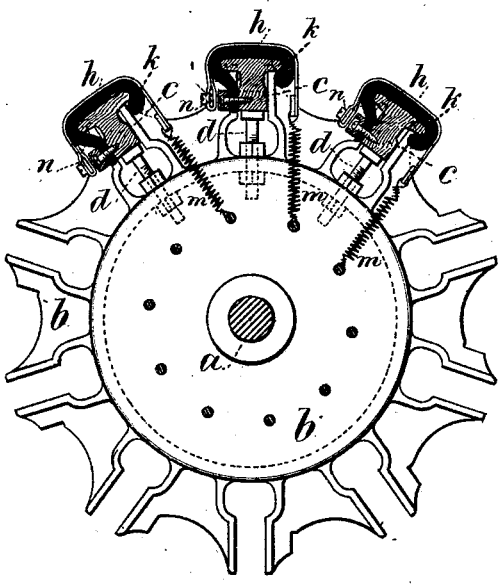


Fig. 1.

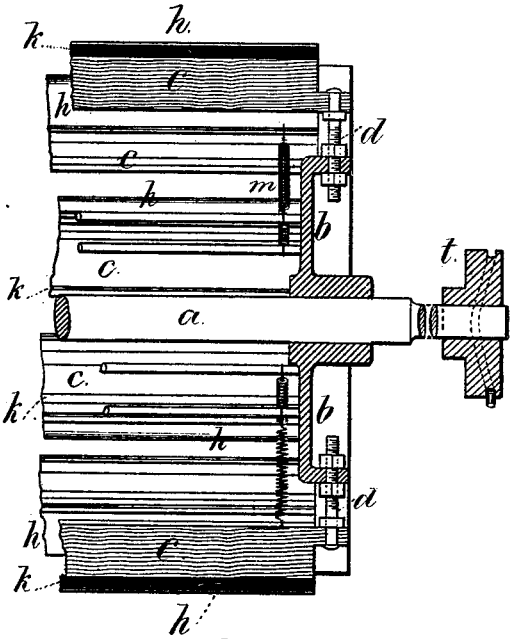


Fig. 4.

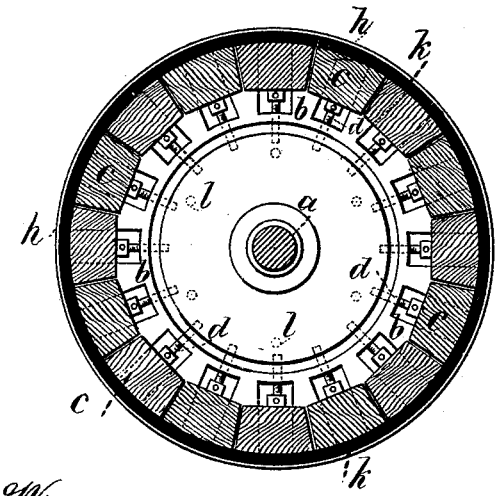
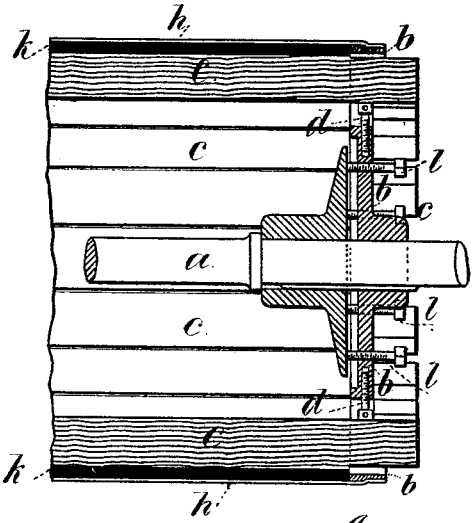


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT NEALE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN DEVICES FOR WIPING AND POLISHING ENGRAVED PLATES.

Specification forming part of Letters Patent No. **189,377**, dated April 10, 1877; application filed November 22, 1876.

To all whom it may concern:

Be it known that I, ROBERT NEALE, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Devices for Wiping and Polishing Engraved Plates, of which the following is a specification:

Engraved plates have been wiped and polished by a revolving cylinder covered with flexible material, such as leather. An instance of this is found in Letters Patent No. 162,677, granted to me April 27, 1875. In this patent a cylinder of leather is attached at its ends to heads that can be moved apart to strain the leather cylinder, and elastic material has been introduced between the leather and a rigid cylinder.

The ink employed in plate-printing is of such a tenacious character that the force required to wipe it from the engraved plate causes a strain on the leather cover of the wiping-cylinder and stretches it from a true cylindrical form. This difficulty is overcome in my present invention by making the wipers and polishers expansible from the axis of revolution.

My present invention relates to the wiping or polishing roller in a plate-printing press; and consists in a series of bars arranged in a cylindrical form, with their outer surfaces parallel, or nearly so, to the axis of the cylinder, in combination with adjusting-screws, occupying a radial position near each end of the bars, and an elastic and flexible covering to such bars, whereby the surface that acts to wipe or polish the plate is made adjustable nearer to or farther from the axis of revolution, so that the action of the wiping or polishing surface can, by this means, be made uniform and perfect.

In the drawing, Figure 1 is a partial longitudinal section, and Fig. 2 is a partial cross-section, of the cylinder fitted with my improvement in the form especially adapted to polishing the plate. Fig. 3 is a partial longitudinal section, and Fig. 4 is a cross-section, of the improvement in the form especially adapted for wiping the plate.

The shaft *a* is fitted with heads *b*, that are made with numerous radial slots for the reception of the parallel longitudinal presser-bars *c c*, and there are radial screws *d* in said heads that rest against the presser-bars, near their ends, by means of which the bars are adjusted to a greater or less distance from the axis of the cylinder, and I remark that the heads *b* may be more or less open, as in Fig. 2, to lessen the weight.

The wiping or polishing surfaces *h* are, preferably, of leather, with felt or other elastic material between such leather and the surfaces of the presser-bars *c*, as seen at *k*.

When the wiping-surface is a complete cylinder of leather, as in Figs. 3 and 4, the ends are to be connected to the edges of the heads in any convenient way, and one or both of the heads may be movable endwise of the shaft, as in aforesaid patent, in order that the screws *l* may be used to tighten the cylinder of leather endwise, in the direction of the axis; but the presser-bars *c c* set out the leather so as to make it operate with a uniform pressure upon the engraved plate and wipe or polish all parts alike; but when the wiping-surface is in segments then each bar *c* has its own covering, as seen in Figs. 1 and 2, and the covering of felt or other elastic material is clamped fast to the presser-bar, but each leather surface is attached at one edge to the cross-bar *n*, that is bolted at its ends to the heads *b*, and the other edge is drawn upon by contractile, helical, or other springs *m*, to keep it under the proper tension.

The reason that the cylinder shown in Figs. 3 and 4 is preferable for wiping the plate is because, the cylindrical surface being continuous, the larger portion of the ink is wiped off from the engraved plate, and it can be scraped off the surface of the leather and used again.

In polishing the plate, the separate surfaces, Figs. 1 and 2, are preferable, because they are made more elastic than the wiper, and bear very lightly, and pass rapidly over the plate, at the same time revolving in contact with a belt that takes off the ink and keeps them perfectly smooth and clean for constant use.

In place of radial screws, to set out the presser-bars, there may be cams or wedges arranged to effect the same object.

It is generally preferable to apply to the shaft of the cylinder a cam or cam-wheel, *t*, acting against a stationary stud, so as to give an end movement to the shaft *a* and cylinder, and wipe the ink with uniformity; and the surface of the wiping or polishing cylinder is preferably moved in the opposite direction to the plate with which it is in contact.

I am aware that an endwise movement has been given to a belt in a plate printing press, and, also, that ink-working rollers have been moved endwise.

I claim as my invention—

The plate wiping or polishing cylinder, having heads *b*, presser-bars *c*, and radial screws, separately adjustable to adjust and sustain the bars *c* at the desired distance from the axis of the cylinder, in combination with the elastic material *k* and covering *h*, for the purposes and as set forth.

Signed by me this 21st day of November, A. D. 1876.

ROBERT NEALE.

Witnesses:

GEO. D. WALKER,

GEO. T. PINCKNEY.