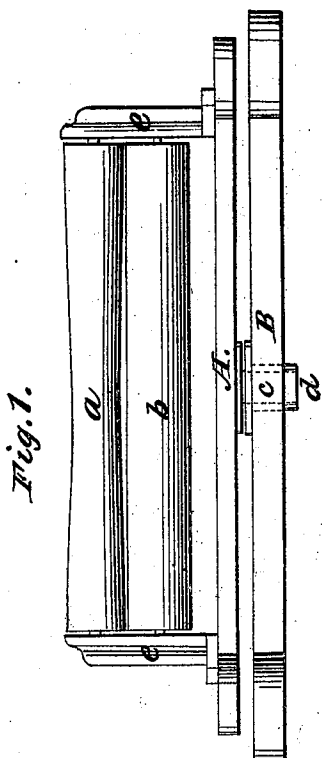
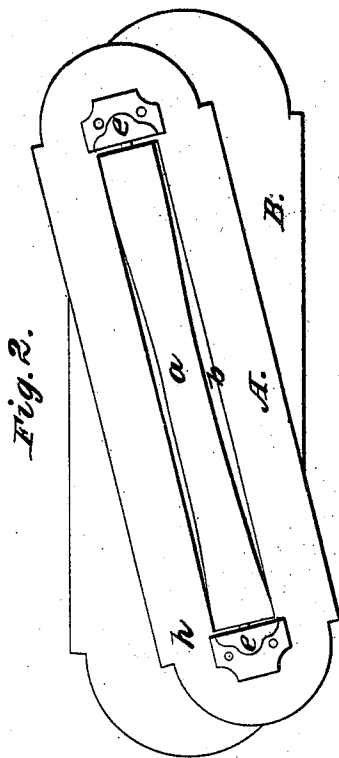
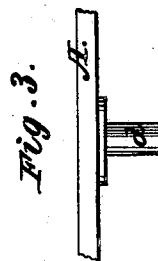
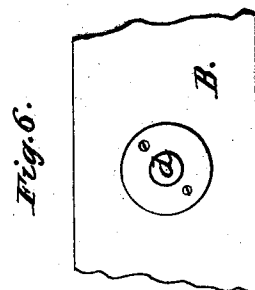
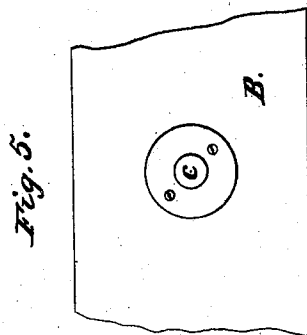


R. L. Howe.
Paper Mach.
Nº 62,958. Patented Mar. 19, 1867.



Witnesses.
William Henry Clifton
Henry C. Houston.

Inventor.
Robert L. Howe

United States Patent Office.

ROBERT L. HOWE, OF WESTBROOK, MAINE.

Letters Patent No. 62,958, dated March 19, 1867.

IMPROVEMENT IN SELF-ADJUSTING GUIDE-ROLL FOR PAPER-MILLS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ROBERT L. HOWE, of Westbrook, in the county of Cumberland, and State of Maine, have invented a new and improved Self-Adjusting Guide-Roll for Paper-Mills; and I hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to construct the same, reference being made to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows a side elevation of my invention.

Figure 2, a top plan of the same, which illustrates the method of operation.

Figure 3, a side view of the pivot on which the roll frame swings.

Figure 4, a vertical section of the socket for the pivot.

Figures 5 and 6, top and bottom plans of the same.

My invention has for its object the production of a self-adjusting guide-roll for paper-mills, by which the paper, when passing over the rolls, shall be less liable to accident than formerly, and by which the movement of the paper over the roll is made even and regular.

My invention consists of two rollers turning upon shafts or pivots, which shafts are set in uprights or supports. The upper of these two rollers is so constructed as to touch or come in contact with the lower roller only, at or near the ends thereof. It consists, secondly, of a bed or bottom upon which the frame supporting the rollers rests or is attached, and which swings and can revolve upon a pivot fitting a socket set into another base immediately beneath the swinging or turning bed.

Particular reference to the drawings will illustrate the character and structure of my invention.

a b show the rollers respectively; *e* their supports on the swinging base *A*; *B* illustrates the stationary base, having the socket *c* for the admission of the pivot *d*. My invention is intended more particularly for the passage over it of the "dry felt," so called. Heretofore a single roller has been employed, over which the felt passes. In the form thus used inconveniences have been experienced, which it is the object of my invention to obviate, viz: In thus passing over the roller the felt sometimes moves with greater ease or rapidity upon one side than upon the other; this causes an uneven passage, more to one side than the other, so that unless regulated by the operator, the felt would be torn; thus the attention of the operative is necessary to prevent such an accident. Hitherto, also, there have been constructed upon one end of the base, upon which the rollers are located, a slot and set-screw, for instance, as at *h*, in order that the operative, loosening the screw, could turn the rollers so as to restore the felt to an even motion in its passage over the roll.

My invention operates as follows: The rollers *a b* are made enough longer than the width of the felt to allow the same to pass between them, between their ends, or where they are not in contact with each other. As long as the paper moves evenly, at both sides, over the roller *b*, the upper or swinging base remains as seen in fig. 1; but when, as is often the case, the felt slides to either side, and passes from the roller unevenly, then, touching the upper roller at the ends, where it touches, or is quite near the under roller, the swinging base or bed is swung around, as seen in fig. 2, thus delivering the felt evenly from the roller and saving the paper from any liability to accident by being torn. Thus, whenever the paper is passing unevenly over the roller, the swinging of the base or bed *A* will correct the unevenness, and this is effected without the superintendence of the operative for such purpose.

I do not propose to limit myself to the exact form of socket herein illustrated, for various well-known devices may be here usefully and conveniently employed. The upper roller may be made as seen in the drawing, or, instead of concave, having trucks on short rollers at its ends.

What I claim as my invention, and desire to secure by Letters Patent, is—

The swinging base *A*, set upon the stationary base *B*, as described, and having the two rollers *a b*, all constructed, arranged, and operating as set forth and for the purposes specified.

ROBERT L. HOWE.

Witnesses:

WILLIAM HENRY CLIFFORD,

HENRY C. HOUSTON.