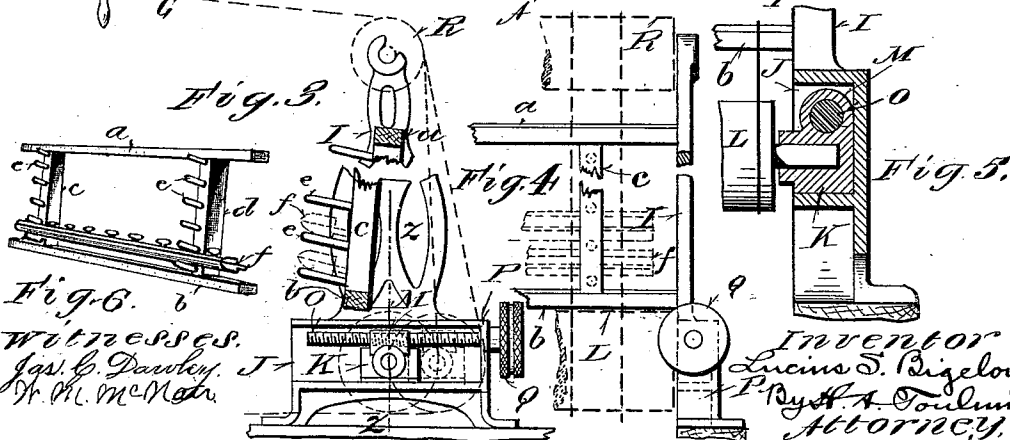
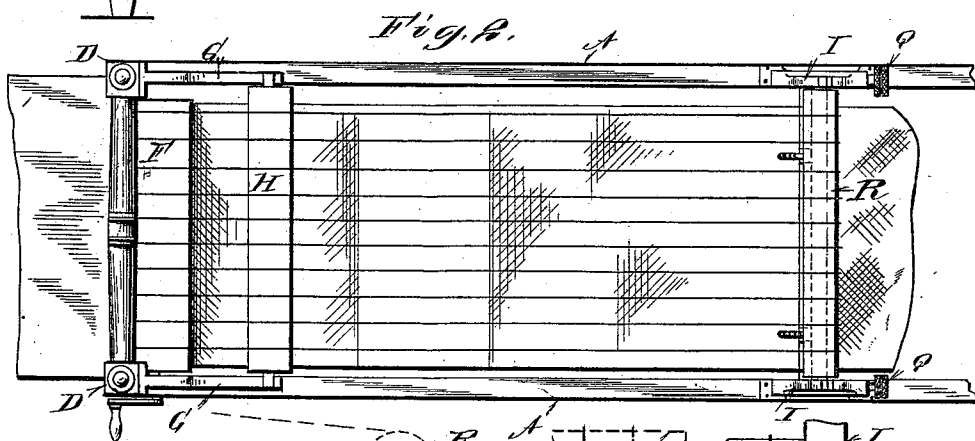
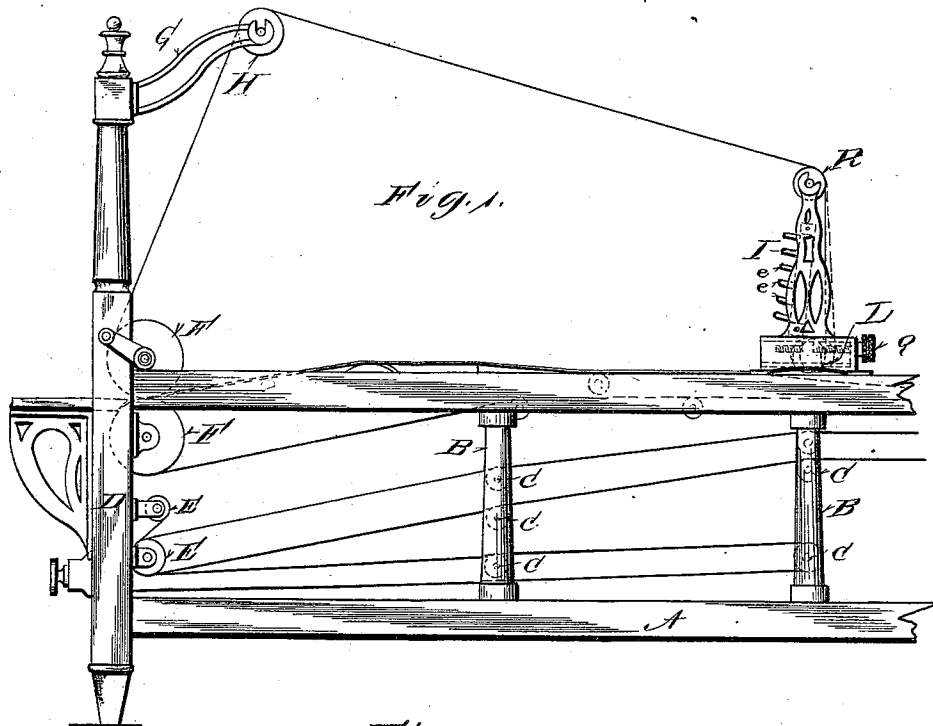


(No Model.)

L. S. BIGELOW.
RULING MACHINE.

No. 554,976.

Patented Feb. 18, 1896.



WITNESSES.
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UNITED STATES PATENT OFFICE.

LUCIUS S. BIGELOW, OF HARRISBURG, PENNSYLVANIA, ASSIGNOR TO THE
W. O. HICKOK MANUFACTURING COMPANY, OF SAME PLACE.

RULING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 554,976, dated February 18, 1896.

Application filed July 2, 1894. Renewed January 6, 1896. Serial No. 574,558. (No model.)

To all whom it may concern:

Be it known that I, LUCIUS S. BIGELOW, a citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Ruling-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in ruling-machines of that class employed in describing lines on sheets of paper.

My invention has reference to an attachment to ruling-machines for accomplishing three things: first, the keeping of the cords which operate in conjunction with aprons to maintain the paper in the proper place out of the way of the operator when he reaches across the machine in adjusting and setting the pens and other parts of the machine; second, to adjust the tension of the cords without changing their altitude, and, third, to provide a pen-clamp rack and combine it with the roller-standards, where it is easily accessible but always entirely out of the operator's way, all of which will be hereinafter fully described and pointed out in the claims.

30 In the accompanying drawings, on which like reference-letters indicate corresponding parts, Figure 1 represents a side elevation of a ruling-machine of any approved type, say that known on the market as the "Pennsylvania Ruling-Machine," a portion of the frame being broken away and the mechanism not necessary to an understanding of this invention being omitted. Fig. 2 is a plan view of the same parts. Fig. 3 is an enlarged detail view looking from the inside of the roller-standard; Fig. 4, an edge view of the same, showing a portion of two cord-rollers; Fig. 5, a vertical sectional view on the line $z z$ of Fig. 3, and Fig. 6 a detail perspective view of the pen-clamp rack detached.

45 The letter A designates the frame of a ruling-machine of any of the known types, say that known on the market as the "Pennsylvania Ruling-Machine." In the posts B of the frame are mounted a number of rolls C, as shown in dotted lines in Fig. 1. To the head-
50 posts D are attached the bearings which sup-

port their rolls E and also the feed-rolls F. Brackets G are also carried by these head-posts and in them is mounted a roller H.

On either upper side piece of the frame A 55 is secured an upright standard I, the lower portion of which is fashioned with a groove or recess J, in which is slidably mounted the journal-block K, in which is fitted the spindle of an adjustable cord-roller L. This bearing- 60 block K also has a screw-threaded boss M, into which screws the screw O, which passes through the end wall P of the bracket I and has a head or hand-wheel Q. The upper end of the bracket I forms a bearing for another 65 cord-roller R.

In ruling-machines it is well known that cords are employed to maintain the sheets of paper in place upon the aprons which carry the sheets through the machine. In order to 70 keep the cords under proper tension and in order to maintain those particular cords that are above the mechanism of the machine entirely out of the way of the operator, so that he will not strike his head against and break 75 them or otherwise be annoyed by them, I have provided for the adjustment of the roller L by the screw O and block K in the groove J, and support the roller R in the upper end of the standards I. By adjusting the bearing K 80 toward the rear of the machine—the right, as viewed in Figs. 1 and 2—the roller L is moved and the tension of the cords passing about it increased and properly set. These cords extend thence up to and over the roller R, and 85 thence to the roller H and the roller F, and then through the machine and over the various rollers, according to the way the manufacturer prefers. It will be seen that an operator working at the side of the machine and 90 reaching across it to adjust his pens, &c., will not find the upward stretch of the cords in his way. Thus the tension may be adjusted while the upper stretch or section is always out of the way. Between and connected to 95 these standards are the bars $a b$, to which, in turn, are connected uprights c and d , which latter carry pins or projections e . Thus the remainder of my improvement constitutes a rack for pen-clamps, a specimen of which is 100 indicated at f in Fig. 6 and by dotted lines in Figs. 3 and 4 as in place on the rack. This

position of the rack is convenient and space-economizing and does not in any way interfere with the adjustment of the string-roller nor encumber the machine by being in the ruler's way while standing working with his inks and pens. Nor does this pen-clamp rack, so arranged, interfere with the ruler in removing sheets from the upper cloth after they have passed by the adjustable string-roll, an act which is very frequently necessary, that the sheets may be inspected and any spoiled ones removed before they reach the lay-boy. Again this rack does not obstruct the view from the ruler to the feeder. It is desirable that the feeder should be able to look over the large cylinder of the machine, to which the hand-crank is attached, and to be able to view the work as it is passing the gate and under the pens, and this combining of the pen-clamp rack with the standards leaves this view clear and unobstructed to the feeder or operator who feeds the paper. Thus my improved adjustable roller-standard and combined rack attachment is of practical value in the daily use of these ruling-machines. This has been ascertained by experience in their manufacture and sale on an extensive scale.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. An attachment for ruling-machines consisting of bases adapted to be placed upon the side rails of the machine, a standard on each base, a screw working through each base, a groove in each base, a block in each groove into which the adjacent screw works, a lower roller having its bearings mounted in said blocks and an upper roller mounted in the upper portions of said standards.

2. An attachment for ruling-machines consisting of two upright standards, cross-bars connecting the standards together, uprights between the cross-bars and pins projecting from the uprights, a groove in each standard, a block in each groove, a screw carried by each standard and respectively engaging with the adjacent block, a roller mounted in said blocks and another roller mounted in said standards at their upper ends whereby a combination attachment is constituted.

In testimony whereof I affix my signature in presence of two witnesses.

LUCIUS S. BIGELOW.

Witnesses:

R. H. VANCE,

S. W. FLEMING.