A. W. PERRIN.

Machine for Pebbling, Graining, and Embossing Leather.

No. 161,269. Patented March 23, 1875.

Fig. 1.

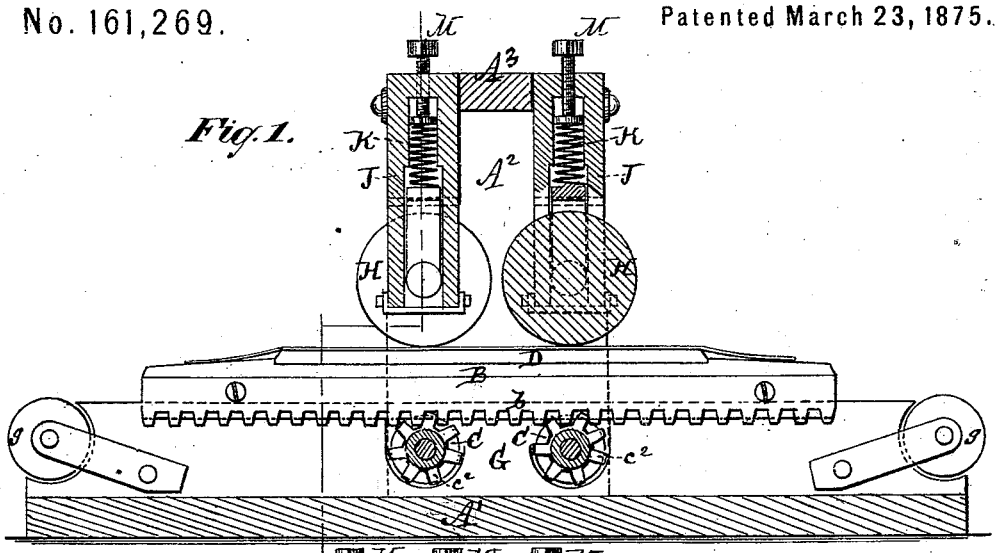


Fig. 2.

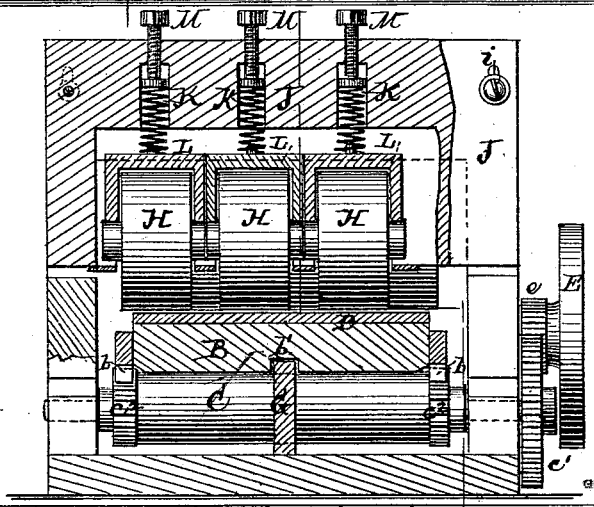
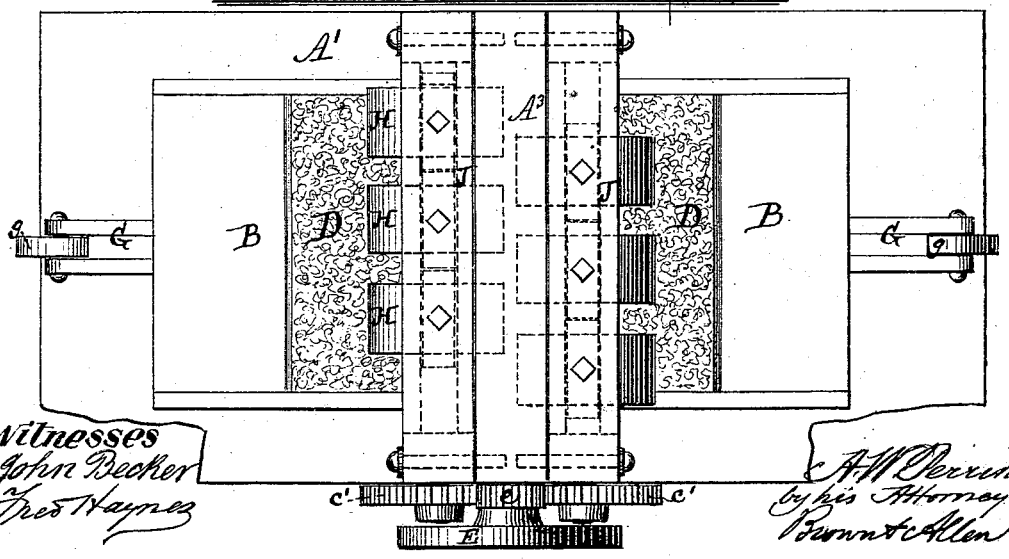


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

ADELBERT W. PERRIN, OF NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO JAMES H. FERGUSON, OF BROOKLYN, N. Y.

IMPROVEMENT IN MACHINES FOR PEBBLING, GRAINING, AND EMBOSSING LEATHER.

Specification forming part of Letters Patent No. **161,269**, dated March 23, 1875; application filed February 18, 1875.

To all whom it may concern:

Be it known that I, ADELBERT W. PERRIN, of New York, in the county and State of New York, have invented an Improved Machine for Pebbling, Graining, or Embossing Leather and other materials; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification.

The object of my invention is to overcome a difficulty which has heretofore been experienced in consequence of the difference in thickness of different portions of the leather, it being customary to use a single pressure-roller for the purpose of pressing the leather upon the pattern, the result of which has been a lack of uniformity of pressure upon all portions of the leather.

My invention consists in a novel arrangement of two or more sets or series of pressure-rollers, journaled independently of each other and operating in connection with the bed or roller carrying the embossing plate or pattern, whereby a more nearly equal and uniform pressure is imparted to all portions of the leather, and the work is performed in a more perfect manner than in cases where a single roller is employed. The invention consists, further, in means for vertically adjusting each set of rollers to adapt it to leather of different thicknesses.

In the accompanying drawing, Figure 1 is a longitudinal vertical section of a machine constructed according to my invention. Fig. 2 is a transverse vertical section. Fig. 3 is a top view.

The main frame, which supports the working parts of the machine, consists of the base A^1, from which rise two standards or side pieces, A^2, connected at their upper ends by a cross-bar, A^3. In the standards or side pieces A^2 are journaled two rollers, C, upon which rests the reciprocating bed B, carrying the embossing plate or pattern D. On one end of the shaft of each roller, outside of the journal-bearing, is a toothed wheel, c^1, and between these wheels is journaled a driving-wheel, E, carrying a pinion, *e*, which meshes into the wheels c^1, by which means motion is imparted to the rollers C simultaneously in the same direction. On the shafts of the rollers C, between the journal-bearings and the ends of the rollers, are pinions c^2, which engage with racks *b* on the under side of the bed B, by which means a rectilinear motion is imparted to the bed when the rollers are turned. The bed is guided by the engagement of a groove, *b'*, on its under side with a stationary guide, G, attached to the base A^1 and having rollers *g* at its ends. The pressure-rollers H, between which and the pattern the leather passes, are arranged in two or more series or sets, with two or more rollers in each set, and with each roller journaled elastically and independently of the others. When made as shown herein the machine is provided with two sets of the rollers, each of which sets is arranged in a frame, J, attached to the standards or side pieces A^2 by means of screws passing through slots *i*, so that the frame may be adjusted vertically to adapt it to different thicknesses of leather. Each roller H is journaled in a yoke, L, on the top of which bears a spring, K, working in a guiding-recess in the cross-bar A^3, and provided with a screw, M, for regulating its tension, the screw passing through the bar A^3 and bearing upon the upper end of the spring. One of the frames, J, is attached to the standards or side pieces A^2 on one side and a similar one on the other side, in such relation to each other that the surfaces of the rollers of one set are opposite the spaces between the rollers of the other set, as shown in Fig. 4.

The leather or other material to be embossed is placed upon the plate or pattern D, and motion is imparted to the bed so as to cause it to pass under the rollers H. The rollers being independently journaled and the springs being adjusted to the proper tension, each roller is enabled to rise and fall and adjust itself to any inequality or lack of uniformity in the thickness of the material. As the bed moves along under the rollers the portions of the material which have passed under the spaces between the rollers of one set are then passed under the surfaces of the rollers in the next set. Thus the material is submitted to a uniform pressure upon all portions of its surface, and the work is performed in a more perfect manner than if submitted to pressure from a single

roller of a length equal to the width of the pattern. Where more than two sets of rollers are employed they are arranged in the same general position with relation to each other as that described with relation to those herein shown.

This improved system of pressure-rollers is applicable not only in machines in which the embossing-surface is flat, but in those in which said surface is on a roller or cylinder.

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

1. In a machine for pebbling, graining, or embossing leather or other materials, two or more sets or series of pressure-rollers, journaled independently, arranged with the rollers of one set in rear of and opposite the spaces between those of the adjacent set, substantially as and for the purpose shown and described.

2. The combination of the yokes L, carrying the rollers H, the springs K, screws M, and vertically-adjustable frames J, substantially as shown and described.

ADELBERT W. PERRIN.

Witnesses:
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