

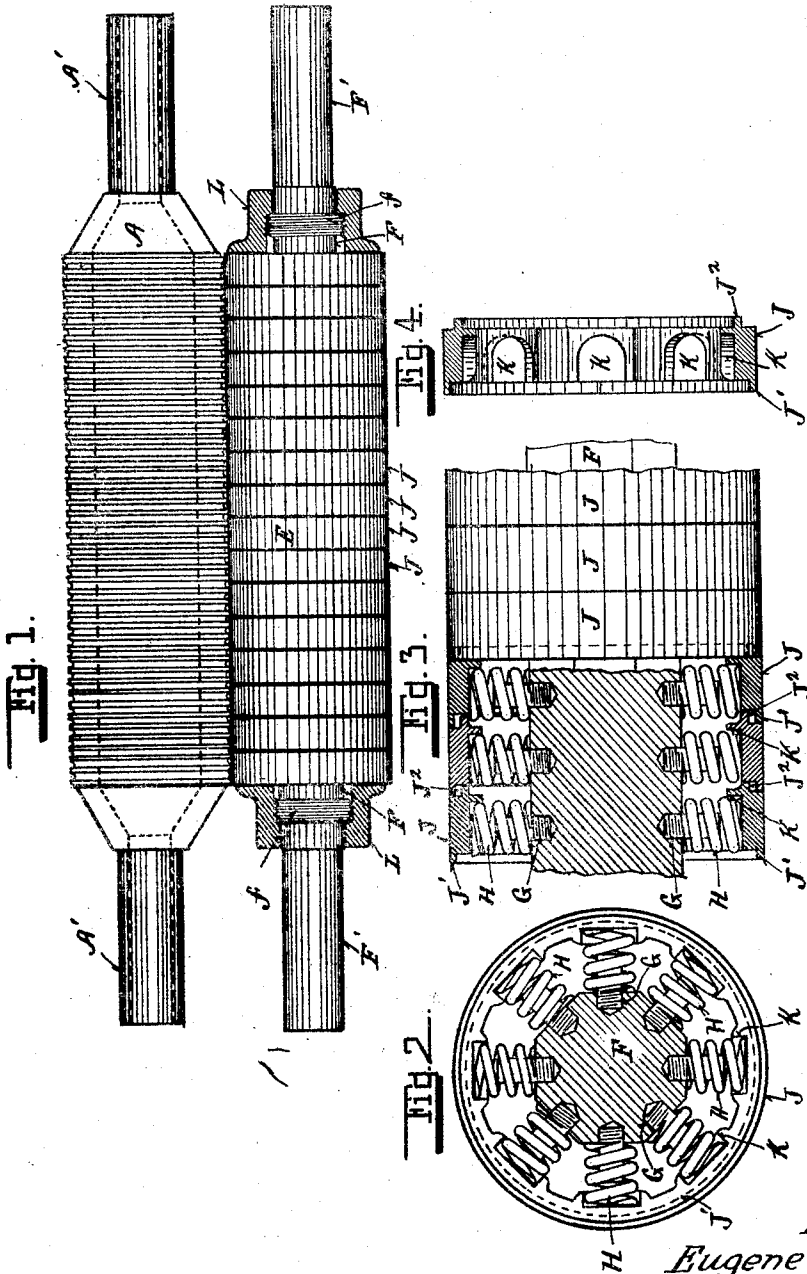
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EMBOSSING ROLLER

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UNITED STATES PATENT OFFICE.

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EMBOSSING ROLLER.

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To all whom it may concern:

Be it known that we, EUGENE C. AMIDON and JOSEPH J. DESMOND, citizens of the United States, residing at Corry, in the county of Erie and State of Pennsylvania, have jointly invented certain new and useful Improvements in Embossing Rollers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

This invention relates to embossing machines, and particularly to such machines adapted for embossing leather.

As is well known, skins, from which leather is made, are not of uniform thickness, varying slightly at different points through their expanse, so that it is exceedingly difficult, if not impossible to obtain a perfect imprint of the embossing roller at all points throughout the length and breadth of the piece of leather.

To overcome this inequality in the thickness of the leather, I have designed a platen roller, having a flexible surface, to hold the sheet of leather against the embossing roller, with equal pressure throughout the length of said rollers.

The features of my invention will appear hereinafter, and are illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of upper and lower embossing rollers embodying my invention.

Figure 2 is a transverse section of the lower roller shown in Fig. 1, on an enlarged scale.

Figure 3 is a side view of a fragment of said lower roller, partially in central section and partially in elevation.

Figure 4 is a vertical central section of one of the rings of said lower roller.

In these drawings A indicates a hollow roller which is provided with hollow journal bearings at each end thereof, by means of which said roller is mounted in a suitable supporting frame, (not shown). Steam or other suitable heating medium is supplied to said hollow roller through said hollow journal bearings by means of which the characters suitable formed on the surface of said hollow roller A will be sufficiently

heated to properly perform their function, as hereinafter described.

The lower, or platen roller E consists of a shaft F which is provided with journal bearings on the ends thereof by means of which the shaft F is mounted in the supporting frame, (not shown). The intermediate portion of said shaft is provided with a plurality of flat surfaces preferably eight in number. In these flat surfaces are placed top-bolt-stud posts G, see Figs. 2 and 3.

Embracing said stud posts G are springs H, and embracing the outer ends of said springs H are rings J, which rings J constitute the cylindrical surface of the lower, or platen roller, which is adapted to press the material to be embossed against the upper roller A.

The rings J are provided with overlapping flanges J' and J², the flange J² having the diameter thereof reduced sufficiently to provide an annular clearance space between it and the associate flange J'.

Each ring J has provided on its inner curved surface, open sided recesses K adapted to receive the outer ends of the spring H for the purpose of preventing the rings J from rotating on the springs H.

For the purpose of securing the rings J longitudinally on the shaft F, screw threads f are provided thereon, upon which collars L are screwed, so that said rings J can be maintained in close frictional contact with each other.

The springs H are each tested to resist the required embossing pressure exactly, and are each subjected to a slight initial compression when in place as shown in Figs. 2 and 3.

The lower or platen roller, when constructed as shown in the drawings and above described, has sufficient longitudinal flexibility, to cause all points of the expanse of a side of leather or other material to be pressed against the embossing roller A with equal pressure, so that there will be no portions of the embossed surface which are not clear and distinct.

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

1. In a machine of the class described, a platen roller comprising a shaft, radial stud posts on said shaft, radial springs on said stud posts, a series of rings enclosing and sup-

ported upon said springs, overlapping annular flanges on said rings adapted to provide an annular clearance space between said flanges, and recesses on the inner curved surfaces to receive the outer ends of said springs.

2. A pressure roller comprising a shaft, stud posts on said shaft, springs on said posts, a series of rings enclosing and supported on said springs, semi cylindrical recesses on the inner surface of said rings to receive the outer ends of said springs, and overlapping cylindrical flanges on the adjacent edges of said rings.

3. A pressure roller comprising a shaft,

radial stud posts on said shaft, springs on said stud posts, a ring enclosing and compressing said springs, an axial annular flange extending from the outer circumference at one edge of said ring, and a cylindrical flange on the opposite edge of said ring of less diameter than the inner diameter of said annular flange, whereby when a series of said rings are in place a clearance between said overlapping flanges will be provided.

In testimony whereof we affix our signatures.

EUGENE C. AMIDON.
JOSEPH J. DESMOND.