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Patented Sept. 30, 1902.

A. F. JONES.

OPERATING ROLL FOR LEATHER WORKING MACHINES.

(Application filed Jan. 9, 1902.)

(No Model.)

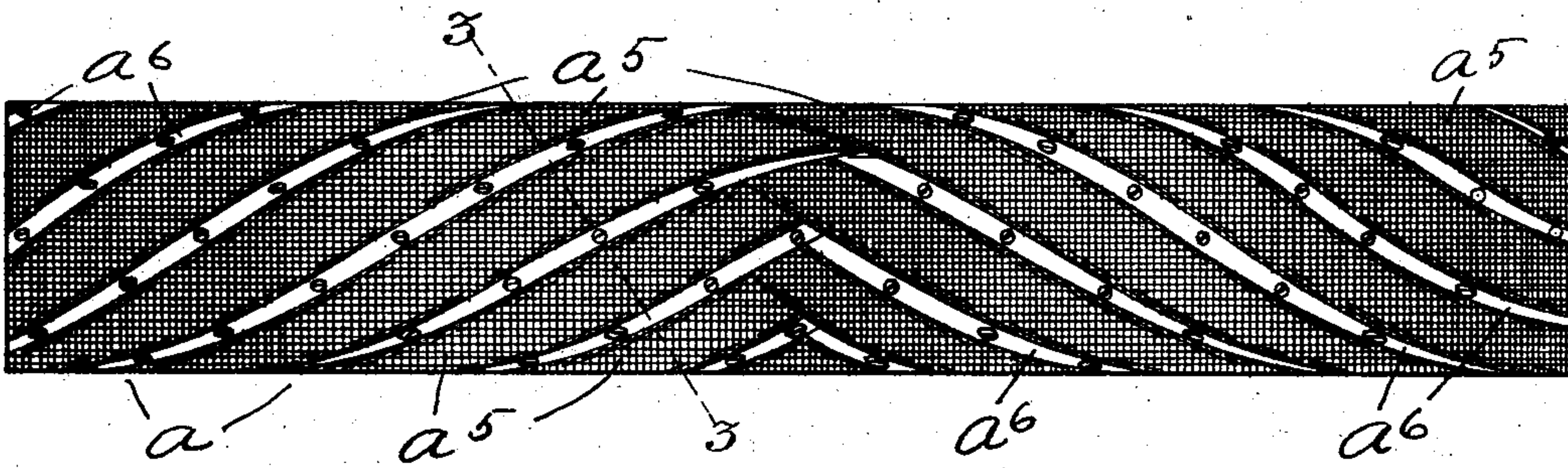


Fig. 1.

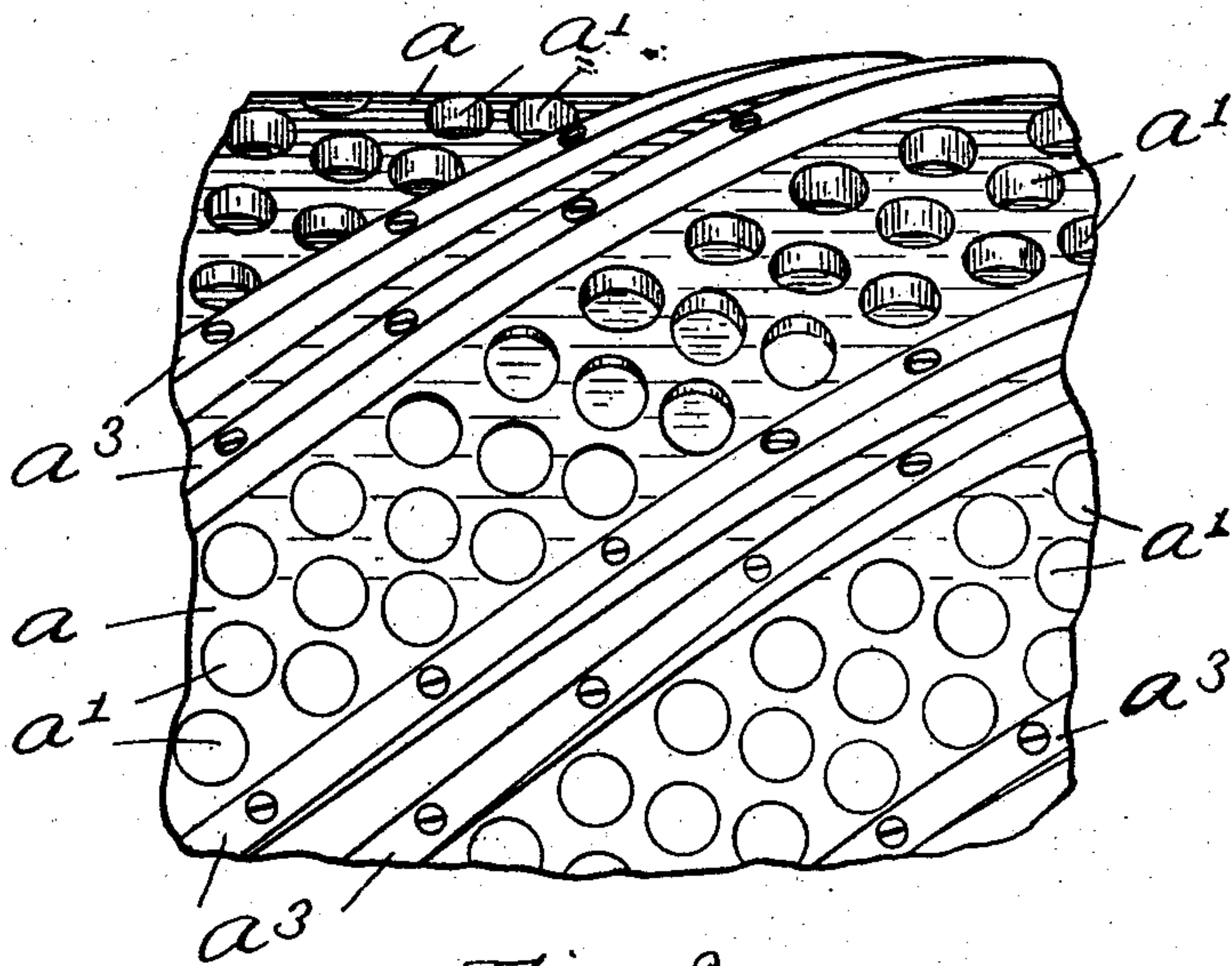


Fig. 2.

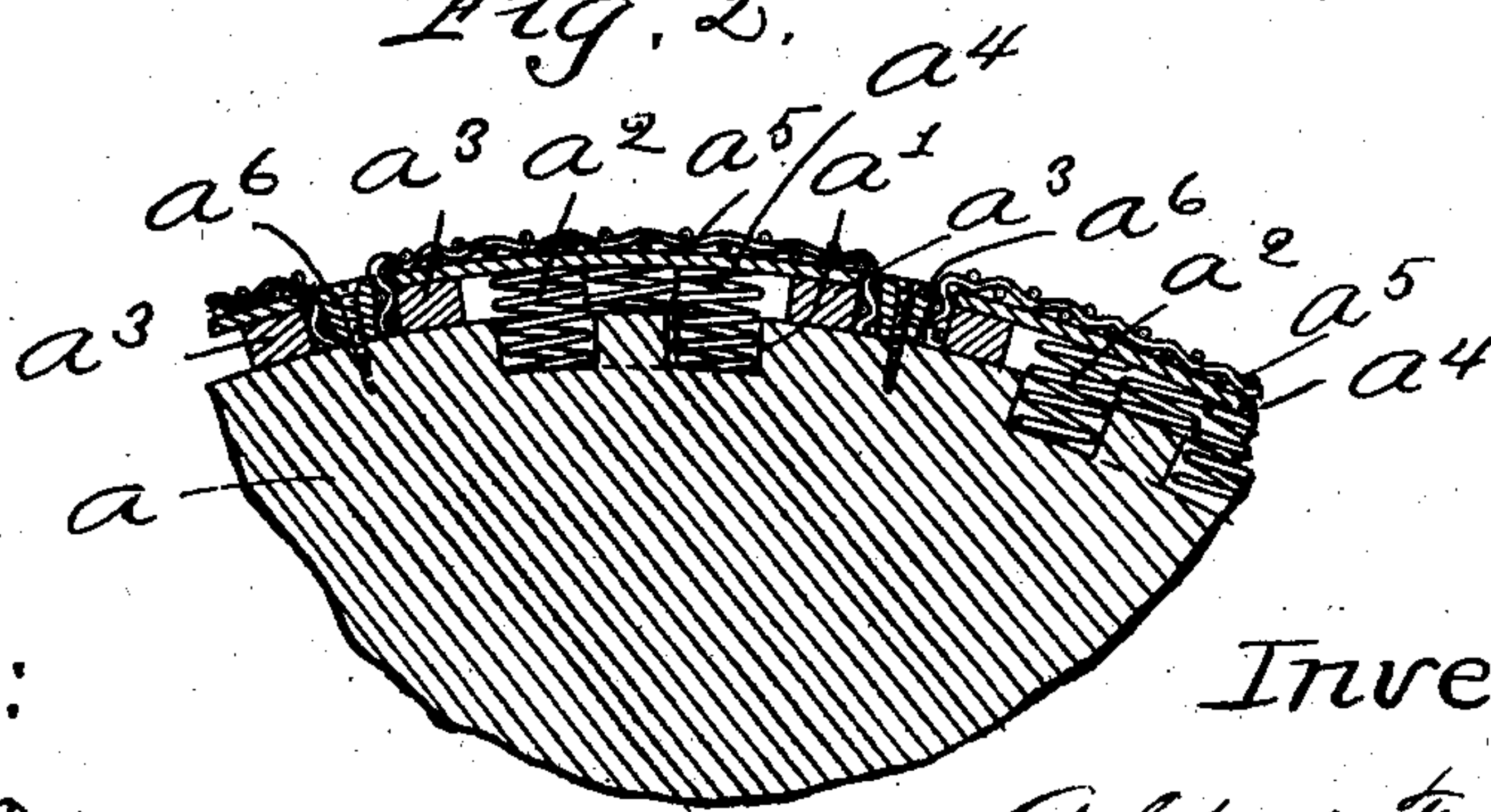


Fig. 3.

Witnesses:
H. B. Davis
C. H. Wade.

Inventor:
Albert F. Jones.
by B. J. Hayes
att'y

UNITED STATES PATENT OFFICE.

ALBERT F. JONES, OF SALEM, MASSACHUSETTS.

OPERATING-ROLL FOR LEATHER-WORKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 710,102, dated September 30, 1902.

Application filed January 9, 1902. Serial No. 89,016. (No model.)

To all whom it may concern:

Be it known that I, ALBERT F. JONES, a subject of the King of Great Britain, and a resident of Salem, county of Essex, State of Massachusetts, have invented an Improvement in Operating-Rolls for Leather-Working Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to operating-rolls for leather-working machines; and has for its object to improve the construction of such rolls whereby they are especially adapted for applying liquid material to or working the same into a skin—such, for instance, as a coloring or seasoning material or glycerin or oil.

The operating-roll embodying this invention has helically-arranged yielding ribs, the contact-faces of which are composed of felt or any equivalent material adapted for conveying liquid material to and depositing it upon or working it into a skin, and said ribs are preferably made quite wide and disposed on the roll with narrow spaces between them. There will be two sets of these helically-arranged ribs on the roll which extend in opposite ways from a transverse plane through the roll. The helical ribs each comprise, essentially, a set of springs—such, for instance, as spiral springs—disposed on the roll approximately radial to its axis and projecting a short distance and a felt or equivalent covering for said springs. Suitable means will be provided for confining the springs and for holding them relatively disposed, and suitable means will also be provided for holding the felt covering in proper position.

Herein the term "felt covering" is used to designate a covering for the springs having the capability of conveying liquid material to and depositing it upon or working it into a skin.

Figure 1 shows in front elevation an operating-roll for leather-working machines embodying this invention. Fig. 2 is an enlarged detail of a portion of the roll, the parts comprising the helical ribs being removed; and Fig. 3 is a cross-section of a portion of the operating-roll, taken on the dotted line 3 3, Fig. 1.

In the manufacture of the operating-roll,

which is herein shown for the purpose of illustrating this invention, a cylindrical body or roll a of wood or other suitable material is employed, which will be made of any suitable length and diameter. The cylindrical body or roll a is provided with a number of sockets a' , which are formed therein of any desirable depth and preferably directed in a line approximately radial to the axis of the roll. The sockets a' will be arranged in sets helically arranged around the roll, and there may be one or a number of rows of sockets in each helically-arranged set, and said sockets will be located very close together. As herein shown, each set has three rows of sockets. Short spiral springs a^2 are placed in these sockets, said springs being made long enough to project a short distance beyond the face of the roll a , so that there will be provided a number of sets of springs, each arranged helically around the roll. These springs serve as and constitute a yielding foundation for the ribs. Edge strips $a^3 a^3$ are provided at each side of each set of helically-arranged springs, which will be composed of narrow strips of wood or other material and which will be secured to the roll a by any suitable means. These edge strips will project a short distance beyond the face of the roll a , and as they are disposed at opposite sides of each set of springs they will likewise be helically arranged around or about the roll. The springs of each set will be confined and held relatively disposed by a strip a^4 of leather or canvas or any other suitable flexible material which overlies the springs and edge strips and which is preferably attached at its edges to said edge strips $a^3 a^3$. These helically-arranged sets of springs properly confined and held relatively disposed are covered by means of a felt covering a^5 , and herein a strip of felt is shown as said covering, which is made wider than the strip a^4 , so as to cover said strip and furnish edge portions which are turned down over the edge strips $a^3 a^3$. As a means of detachably securing said felt coverings in proper position a wedge-shaped strip a^6 is wedged into the narrow space between the overturned edges of two of the adjacent felt coverings—i. e., between two adjacent edge strips $a^3 a^3$ —and said strips a^6 will be screwed or otherwise attached to the roll a .

It is obvious that other means may be employed for confining the springs and holding them relatively disposed and also other means may be employed for detachably securing the felt coverings in place without departing from the spirit and scope of this invention.

I claim—

1. In a leather-working machine, an operating-roll having helically-arranged yielding ribs, each comprising a set of springs projecting from the roll and a "felt covering" therefor, substantially as described.

2. In a leather-working machine, an operating-roll having helically-arranged yielding ribs, each comprising a set of springs seated in sockets in the roll and projecting therefrom, and a "felt covering" therefor, substantially as described.

3. In a leather-working machine, an operating-roll having helically-arranged yielding ribs, each comprising a set of springs projecting from a roll, means for confining said springs and for holding them relatively disposed, and a "felt covering" therefor, substantially as described.

4. In a leather-working machine, an operating-roll having helically-arranged yielding

ribs, each comprising a set of springs projecting from the roll, edge strips for said set of springs, and a "felt covering" inclosing said springs and edge strips, substantially as described.

5. In a leather-working machine, an operating-roll having helically-arranged ribs, each comprising a set of springs projecting therefrom and a "felt covering" therefor and means for detachably securing said "felt covering," substantially as described.

6. In a leather-working machine, an operating-roll having helically-arranged yielding ribs, each comprising a set of springs projecting from a roll, edge strips for said set of springs, a flexible strip superimposed on said springs and edge strips for confining said springs and holding them relatively disposed, and a "felt covering," substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT F. JONES.

Witnesses:

B. J. NOYES,

H. B. DAVIS.