To all whom it may concern:

Be it known that we, WILLIAM HENRY STIMPSON, of Winthrop, and FRANK ALLEN BRADFORD, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Leather-Rolling Machines, of which the following is a specification.

This invention relates to a leather rolling machine, in which an operating roll jour-\n
nelled in bearings on a reciprocating carrier, runs forward and backward on a sheet of \n
leather supported by a bed which is opposed to the roll, means being provided for exert-\n
ing pressure on the bed to cause variable compression of the leather between the bed \n
and roll.

The invention has for its objects to provide certain improvements relating to the con-\n
struction of the supporting frame of the machine, to the means for movably supporting \n
the bed and to the means for supporting and guiding the roll, and further to enable the \n
roll to be raised by the operator from the bed without stopping the machine.

The invention consists in the several improvements which we will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification,—Figure 1 rep-\n
resents a side elevation of a leather rolling machine embodying our invention, a portion \n
of the frame being broken away and shown in section. Fig. 2 represents a section on \n
line 2—2 of Fig. 1.

The same letters of reference indicate the same parts in all the figures.

The supporting frame of the machine is preferably constructed of metal, such as cast \n
iron, and includes an elongated base 13 and an elongated arm 15 connected with the base \n
by a neck 14, and overhanging the base, the said arm and base being separated by an \n
elongated throat 15 which is closed at one end by the neck 14.

16 represents a bed which is associated with the base, and is movably supported rela-\n
tively thereto by a spring board 17, one end of which is rigidly attached to the neck \n
portion of the frame, the other end portion being free to rise and fall. The spring \n
board is a strip or plank of suitably tough and elastic wood, such as oak. The bed 16 \n
is rigidly attached to the free end portion of the spring board, and is therefore capable \n
of moving vertically to a limited extent so that it may be raised toward the roll here-\n
inafter described, to increase the compres-\n
sion of a sheet of leather interposed \n
between the roll and bed. Means are provided where-\n
by the operator is enabled to exert the de-\n
sired upward pressure on the bed, said means \n
preferably comprising two bell crank levers \n
having upright shorter arms pivoted at \n
19 to ears on the spring board, and oppo-\n
sitely-extending longer arms, two links or \n
struts 30 pivoted at 21 to the said levers \n
and at 22 to supports on the base, said links \n
and the shorter arms of the levers constitut-\n
ing toggle joints, and a treadle lever 26 ful-\n
crumbed at 24 and connected by links 25 with \n
The depression of the treadle lever by the \n
operator straightens the said toggle joints, \n
and forces the bed upwardly.

To the overhanging arm are affixed hori-\n
zontal guides 26, supporting a carrier 27, \n
which is reciprocated on said guides by suit-\n
able means, such as an eccentric wrist pin \n
28 on a wheel on a power driven shaft 29 \n
and a pitman 30 connecting said wrist pin \n
with the carrier. Projections 31, which are \n
preferably grooved lugs, on opposite sides \n
of the carrier, engage the upper edges of the \n
guides 26, and support the weight of the \n
carrier.

32 represents an operating roll which is \n
mounted on a shaft 33, the end portions of \n
which are contained in bearings 34 sup-\n
ported by the carrier. The roll is opposed \n
to the bed 16 so that a sheet of leather on \n
the bed is rolled and compressed by the con-\n
joint action of the bed and roll. The up-\n
ward thrust or pressure of the roll is sup-\n
ported by wheels 35, which are journaled \n
on the carrier, and run on the lower edges \n
of the guides. When the carrier is recipro-\n
cated the roll runs forward and backward \n
over the leather on the bed, and rolls and \n
compacts the same, aided by such upward \n
pressure as may be exerted on the bed by \n
the operator. The roll 32 is preferably pro-\n
vided with anti-friction bearings, which, as \n
here shown, comprise rolls 36 interposed be-\n
tween the shaft 33, and enlargements of the \n
bore in the hub of the roll. The shaft 33 \n
may be either stationary, or adapted to ro-\n
rotate in the bearings 34. Said bearings are \n
preferably adapted to be raised and de-
pressed by the operator while the machine is running, to remove the roll quickly from the leather, and restore it to its operative position. The preferred means for accomplishing this result are as follows: The bearings are vertically movable in openings in the sides of the carrier, and are normally pressed upwardly to raise the roll, by springs 38 seated on bearings in the carrier, and exerting upward pressure on collars affixed to struts 39, which are attached to the bearings 34. 40 represents a bar which is movable crosswise of the carrier in guides 41, affixed thereto, and is provided with enlargements having inclined faces 42, the end portions of which constitute stops against which the struts 39 are held by the springs. When the bar 40 is in the position shown in Fig. 2, the lower ends of the inclined faces are over the struts, and hold the roll bearings depressed to the maximum extent, the roll being in its operative position. When the bar 40 is moved to the left from the position shown in Fig. 2, the higher ends of the inclined faces are over the struts, so that the springs are permitted to raise the roll out of contact with the leather on the bed.

44 represents an operating rod, which extends parallel with the path of movement of the carrier, and is supported by the arm 13 in such manner that it is adapted to be moved sidewise toward and from the arm, the ends of the rod being attached to links 45, which are pivoted at 47 to fixed arms 46. The bar 44 has a sliding engagement with the rod 44, the latter passing through an orifice in the outer end of said bar, so that the bar slides on the rod when the carrier is in motion.

49 represents an elongated handle which is attached to the links 45, and extends beside the rod 44, and is separated from the latter sufficiently to enable the operator to grasp the handle while the machine is running, and move the rod sidewise, either toward or from the arm 13. A movement of the rod in one direction causes the elevation of the roll, while a movement of the rod in the opposite direction causes the depression of the roll.

It is obvious that various modifications of the described mechanism for raising and depressing the roll may be adopted, the essential feature being the laterally movable operating rod 44 and the bar 40, or an equivalent member slidingly engaged with the operating rod, and movable by the latter on the carrier, to cause the elevation and depression of the roll, the operating rod being normally stationary, so that the operator can move it while the machine is running.

The frame is provided with tension rods or members 50, which are engaged with ears 51 on the base 12 and arm 13, and reinforce the neck portion 14, said members reducing upward displacement or springing of the arm to the minimum.

The described construction of the frame is compact and strong, and provides for the treatment by the machine of the largest sheets of leather, the throat 15 having an ample depth between the bed and the neck 14.

It will be seen that the resilience of the springboard permits the bed 16 to be raised without being inclined relatively to the path of the roll 32, so that the bed is always kept parallel with said path and all parts of the leather are uniformly pressed by the roll.

We claim:

1. A leather rolling machine, comprising a metal frame having an elongated base and an elongated arm overhanging the base and a neck connecting the base and arm, a spring-board rigidly attached at its inner end to the neck portion of the frame, and extending outwardly therefrom under the arm, its outer end portion being adapted to rise and fall by the resilience of the board, a bed mounted on the outer portion of the springboard, means for exerting upward pressure on the springboard to raise the bed, a reciprocating carrier on the overhanging arm, and a roll mounted on the carrier and opposed to the bed, the resilience of the board enabling the bed to be kept parallel with the path of the roll.

2. A leather rolling machine, comprising a frame having a base, a bed associated therewith, an arm overhanging the base and bed, and provided with guides, a carrier movable on said guides, bearings which are movable on the carrier toward and from the bed, a roll journaled in said bearings, and opposed to the bed, and mechanism for raising and depressing the said bearings and said roll, said mechanism including a laterally movable operating rod supported by the arm, and extending parallel with the path of movement of the carrier, and means operated by lateral movements of said rod for raising and lowering the roll.

3. A leather rolling machine, comprising a frame having a base, a bed associated therewith, an arm overhanging the base and bed, and provided with guides, a carrier movable on said guides, bearings which are movable on the carrier toward and from the bed, a roll journaled in said bearings and opposed to the bed, an operating rod which is laterally movable on the arm, and constituting a part of a roll-raising and depressing mechanism, which includes a member moving with the carrier, and slidingly engaged with the rod, and connections between said member and the roll bearings.

4. A leather rolling machine, comprising a frame having a base, a bed associated therewith, an arm overhanging the base and bed, and provided with guides, a carrier movable on said guides, bearings which are
movable on the carrier toward and from the bed, a roll journaled in said bearings and opposed to the bed, an operating rod which is laterally movable on the arm, and constitutes a part of a roll-raising and depressing mechanism, which includes a member moving with the carrier, and slidingly engaged with the rod, and connections between said member and the roll bearings, the said rod having an elongated handle located outside the sliding member whereby the rod may be moved while the machine is in operation.

5. A leather rolling machine, comprising a frame having a base, a bed associated therewith, an arm overhanging the base and bed, and provided with guides, a carrier movable on said guides, bearings which are movable on the carrier toward and from the bed, a roll journaled in said bearings, and opposed to the bed, and mechanism for raising and depressing the said bearings and roll, said mechanism including a laterally movable operating rod supported by the arm and extending parallel with the path of movement of the carrier, a bar engaged with and movable crosswise of the carrier, said bar having inclined faces, and being slidingly engaged with the operating rod, struts attached to the roll bearings, and springs which press said struts yieldingly against the inclined faces.

In testimony whereof we have affixed our signatures, in presence of two witnesses.

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Witnesses:

P. W. PEZZETTI,
ARTHUR H. BROWN.