

J. A. J. SHULTZ.

LEATHER STUFFING AND FULLING MACHINE.

No. 177,576.

Patented May 16, 1876.

Fig. 1.

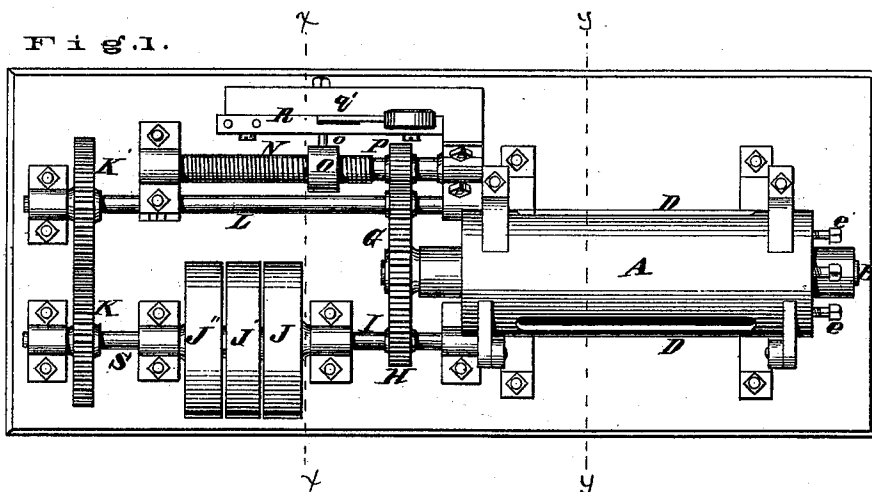


Fig. 2.

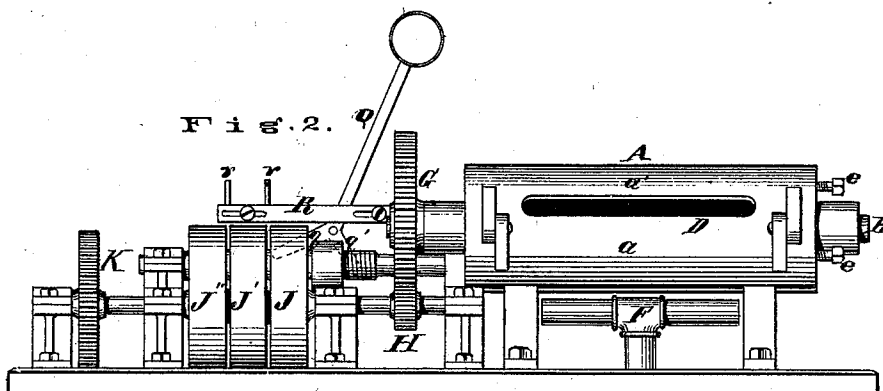


Fig. 5.

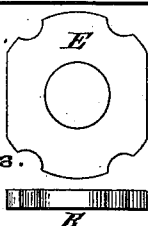


Fig. 3.

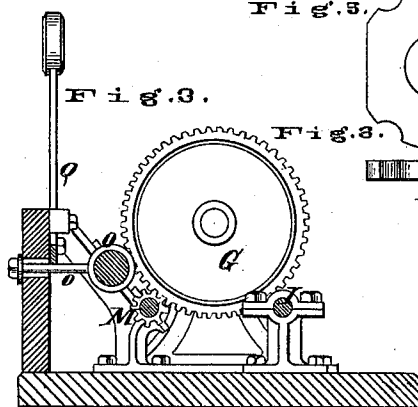
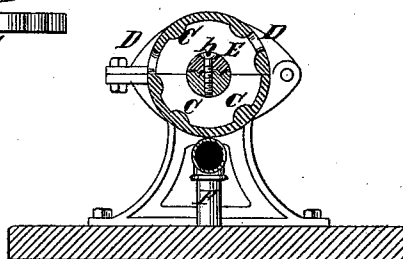


Fig. 4.



WITNESSES.

Charles Pickles

Saml. S. Boyd

INVENTOR.

John A. J. Shultz
by Chas. D. Moody
atty:

UNITED STATES PATENT OFFICE.

JOHN A. J. SHULTZ, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN LEATHER STUFFING AND FULLING MACHINES.

Specification forming part of Letters Patent No. **177,576**, dated May 16, 1876; application filed April 19, 1876.

To all whom it may concern :

Be it known that I, JOHN A. J. SHULTZ, a resident of the city of St. Louis, State of Missouri, have invented a new and useful Improvement in Leather Stuffing and Fulling Machines, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, making part of this specification, in which—

Figure 1 is a plan of the invention; Fig. 2, a side elevation; Fig. 3, a vertical cross-section on the line *x x*, Fig. 1; Fig. 4, a similar section on the line *y y*, Fig. 1; and Figs. 5 and 6, a side and top view, respectively, of the follower.

Like letters indicate like parts.

The present invention relates to an improved construction for stuffing and fulling leather, the principal feature of which is a trough or cylinder arranged horizontally, and containing the stuffing compound in a liquid state, and in which the leather is worked by being attached to a horizontal shaft journaled in the ends of the trough, and having a reciprocating rotary movement therein. Another feature of the invention is the provision for warming the trough. It further relates to the means employed in reversing the movement of the trough-shaft. It also relates to the interior construction of the trough, by means whereof the leather is more effectually manipulated, and brought in contact with the stuffing.

Referring to the annexed drawing, A represents a trough, preferably of a cylindrical form, and of a size sufficient to receive leather in the condition in which it is usually dressed. It is arranged horizontally, and is supported in any suitable manner. It is, preferably, made in two parts, a lower part, *a*, which is the trough proper, and an upper part or cover, *a'*. B represents a shaft arranged horizontally in the trough, and journaled in the ends thereof, and, preferably, as shown. The shaft is provided with a clamp, *b*, by means of which the piece of leather is fastened to the shaft. C C, &c., represent ribs arranged longitudinally in the shell of the trough, and also in the cover. They form projections for the leather to rub against as it is carried around by the shaft, and thus facilitate the operation. They are, preferably, removable, in order that when

worn out these parts can be easily renewed; and they are, preferably, made of wood, or a material unaffected by the tannin in the leather. The cover is hinged to the trough, and, after the leather is attached to the shaft, it can be closed. There are openings D D, &c., in the cover, through which the operation can be viewed, and through them, also, the stuffing can be introduced. If desired, the trough can be made in one part, and in such case the sides of the trough can be carried up higher than as when a cover is used, and the leather can be inserted through the opening in the top, and where the cover now is. E represents a follower, movable on the shaft B, and held at any point by means of the screws *e e*, &c., and by means of the follower the leather can be pressed laterally. F represents a steam-pipe arranged beneath the trough, by means of which heat is supplied to the bottom of the trough, and to keep the stuffing ingredients, which are of the usual kind, in a liquid condition.

The leather being attached to the shaft, and the stuffing being in the trough, and the cylinder closed, the operation is effected by means of the system of mechanism shown at the left in Figs. 1 and 2, and as follows: Let a belt be running on a pulley, J, which is arranged on a shaft, I, upon the inner end of which is a pinion, H, engaging with a spur-wheel, G, upon an extension of the shaft B. This causes the shaft B to revolve a certain number, say, eight or ten times, and sufficiently to wrap the leather entirely around the shaft. At this time a nut, O, which is arranged on a screw-shaft, N, and which shaft is provided with a pinion, P, engaging with the wheel G, has been caused to travel on the shaft N sufficiently to move a weighted lever, Q, that is pivoted in a standard, *q'*, and in moving it to move a slide, R, and, by means of the guides *r r* to shift the belt onto a pulley, J'. The motion is then transmitted through the shaft S, gear-wheels K K', shaft L, and pinion M, to the wheel G, causing the latter to rotate in the opposite direction, and until the lever Q has been reversed, when the above movement is repeated, and so on. To operate the lever the nut O is provided with a projection, *o*, which passes between the forked end *q q* of the lever. As the

nut moves, the projection strikes first one fork and then the other, and, moving the lever in this manner, the leather is thoroughly worked and kneaded in the stuffing, and the operation is effected in a much shorter time than heretofore has been necessary. By means of the device for warming the trough, the trough and its contents are kept in such a condition as to greatly facilitate the operation.

What I claim is—

1. The combination of the trough A, shaft B, and clamp *b*, arranged and operating substantially as described.

2. The combination of the trough *a*, cover *a'*, shaft B, and clamp *b*, arranged and operating substantially as described.

3. The combination of the trough A, shaft B, follower E, and screws *e e*, &c., substantially as described.

4. The combination of the trough *a* and

pipe F, arranged outside and independent of the trough, substantially as and for the purpose set forth.

5. The combination of the trough A, shaft B, wheel G, pinion H, shaft I, and pulley J, substantially as described.

6. The combination of the lever Q, forks *q q*, slide R, nut O, and projection *o*, substantially as described.

7. The combination of the wheel G, pinion P, shaft N, nut O, projection *o*, lever Q, and forks *q q*, substantially as described.

8. The combination of the cylinder A, shaft B, clamp *b*, and ribs C C, &c., substantially as described.

JOHN A. J. SHULTZ.

Witnesses:

CHAS. D. MOODY,
SAML. S. BOYD.