

R. H. LUFKIN.
Leather-Folding Machine.

No. 202,844.

Patented April 23, 1878.

FIG. 1.

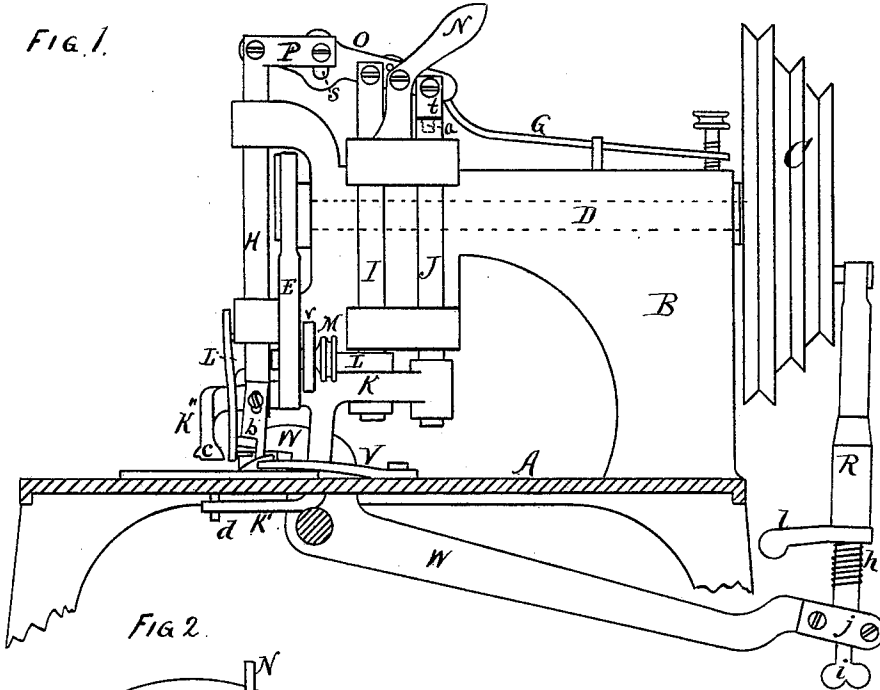


FIG. 2.

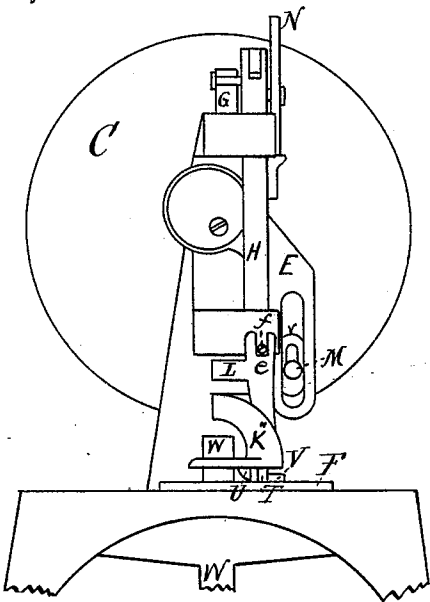
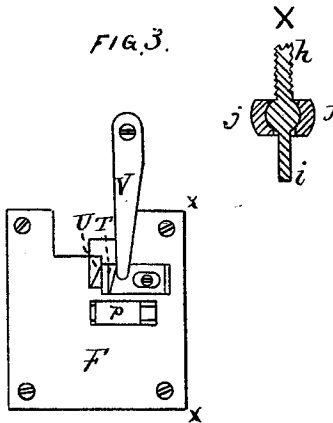


FIG. 3.



WITNESSES.
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UNITED STATES PATENT OFFICE.

RICHARD H. LUFKIN, OF CHELSEA, MASSACHUSETTS.

IMPROVEMENT IN LEATHER-FOLDING MACHINES.

Specification forming part of Letters Patent No. **202,844**, dated April 23, 1878; application filed January 15, 1878.

To all whom it may concern:

Be it known that I, RICHARD H. LUFKIN, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Machines for Folding Vamps, &c., which invention is fully set forth in the following specification, reference being had to the accompanying drawing.

My present invention is an improvement upon a machine patented by myself and John W. Lufkin, May 23, 1877, and numbered 191,006; and consists in certain details of construction, arrangement, and combination, as hereinafter claimed, of the several operative parts of the machine herein described.

In the accompanying drawings, Figure 1 is a side elevation of my improved machine, showing the table in section, on a line coincident with the front edge *xx* of the work-plate, and thus exhibiting the devices and their connections both above and below the table. Fig. 2 is an end elevation, viewed from the left of Fig. 1. Fig. 3 is a plan or top view of the work-plate and the parts connected therewith.

A is the table or work-supporting bed, upon which is mounted the standard or "goose-neck" B. Through standard B, and shown in dotted lines, extends the driving-shaft D, on one end of which is the belt or crank wheel C, and on the opposite end an eccentric, E. This eccentric-arm is connected with the cutter-bar H and feed-arm K, and imparts the requisite movements to both. The shaft J is drilled and internally threaded at its upper end, and thereby attached to the screw *a* on the lifting-stud *t*, pivoted to the connecting-bar O. Thus the shaft J is free to turn on said screw *a* sufficiently to permit the branching arm or lever K, when actuated by said eccentric, to impart the requisite horizontal movement to the foot *c* and feed-plate *p*. The under feed-plate *p* is fitted in a slot in the work-plate F, and has a pin, *d*, projecting from its under side down through a slot in the table. On arm K is a branch, K', which passes down through a slot in the table, and then extends parallel to the under side of the table, and receives said pin *d* in a slot in the end of said branch.

The shafts H I J are shown in the drawings as raised and held suspended above the work-plate by the lifter N. When said lifter is

turned down, spring G forces said shafts and their attachments down upon the work-plate. When the driving-shaft D is rotated it actuates the eccentric-arm E. This eccentric, as before stated, is connected with the cutter-bar H and the feed-arm K, the connection with the latter being by the screw-stud M, through the slotted member *v* of said arm. The stud is flat in *v* and round in E, and is secured in position in said slotted arms by the thumb-nut shown. When the eccentric moves the cutter-bar H downward, said bar rocks connector O over the pivot in the top of bar I, thus pressing the foot of bar L onto the work, and raises bar J, with its arm K and foot *c*, from the work, at which time the eccentric reaches its lowest movement, and, swinging around to the right, Fig. 2, imparts a horizontal backward movement to the feed-arm K with its foot *c*, and, through its branch K', to the sliding feed-plate P. Then, as the eccentric E moves upward with bar H, said bar, as it approaches its extreme upward movement, lifts connector O, turning it on the pivot in the top of bar J, and thereby raises bar I and its presser-foot L from the work, at which time the eccentric has reached its highest position, and, swinging over to the left, gives the forward horizontal movement to said feeding attachments, and thus causes the material to progress to the desired extent to receive the next cut from the descending knife. The extent of feed-movement is regulated by adjusting the stud M up or down in the slot *v*. The feed-plates, which come in contact with the material, may be rough or smooth, but preferably smooth. The work being securely clamped between them, and the two plates being positively moved simultaneously, the friction of smooth surfaces is sufficient to carry the work, and will not de-face or injure the goods. The branch K' engages the pin *d* at a sufficient distance below the table to allow the necessary vertical movement of the parts above and below the table to clear the work in retracting the feed, and also to operate lifter N.

The presser-foot L is steadied, and prevented from rotating on its shaft I (by reason of wear on said shaft, and consequent lost motion, which would be multiplied at foot L) by a slot, *e*, acting on a stud, *f*, in the head of the ma-

chine, Fig. 2; and the cutter-bar H is protected from a similar rotary movement, and consequent disarrangement of its knife relatively to the shearing-block, by a divided arm, P, which embraces the connector O, and, through a slot, s, in said connector is provided with a screw, as shown, for drawing together the sides of said arm as they become slack by wear.

I do not employ in my present machine a yielding or elastic fold-presser; but, in lieu thereof, I use an adjustable connector, R, Fig. 1, between the end of the long arm of the fold-presser W and the crank-wheel C. The rod R is internally threaded, so as to receive the screw h, which has at its lower extremity a thumb-piece, i, by which it is turned, and, behind cap J, is formed with an enlarged spherical body, which, with cap j and its corresponding part of the lever W, constitutes a ball-joint, which accommodates the connector to the movements of wheel C and presser-lever W, and is shown in the vertical section X. By this adjustable connector the distance between the forward end of the fold-presser W and the work-plate F, upon which it acts, may be regulated and adapted to goods of varying thick-

nesses, and made to act positively with the requisite degree of pressure, thereby securing better practical results than can be obtained with a yielding or elastic fold-presser.

I claim as my invention—

1. The feeding device, consisting of the shaft J, lever K, formed with the branches K' and K'', plate p, and eccentric E, combined and operated together as and for the purposes specified.

2. In a cutting and folding machine, the shafts H I J and arms K and L, constructed, combined, and arranged to operate together as and for the purposes specified.

3. The combination of shaft J, arm K, with its branches K' and K'', plate p, and spring G, operating together, substantially as and for the purposes specified.

4. The spring G, shafts H I J, and connector O, in combination with arms L and K, plate p, and eccentric E, as and for the purposes specified.

RICHARD H. LUFKIN.

Witnesses:

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