

(No Model.)

J. A. ENOS.

LEATHER SPLITTING MACHINE.

No. 277,413.

Patented May 8, 1883.

Fig. 1.

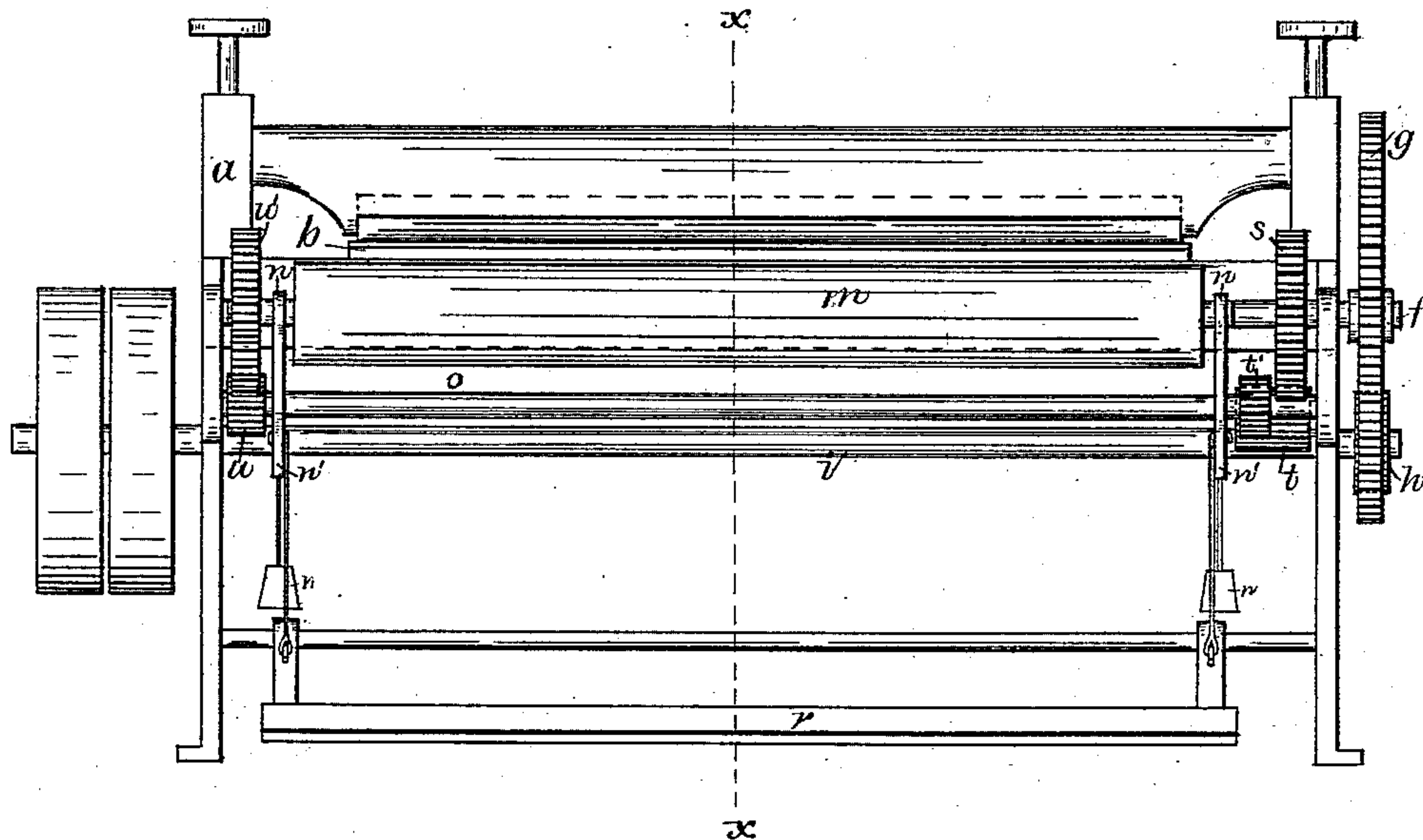


Fig. 2.

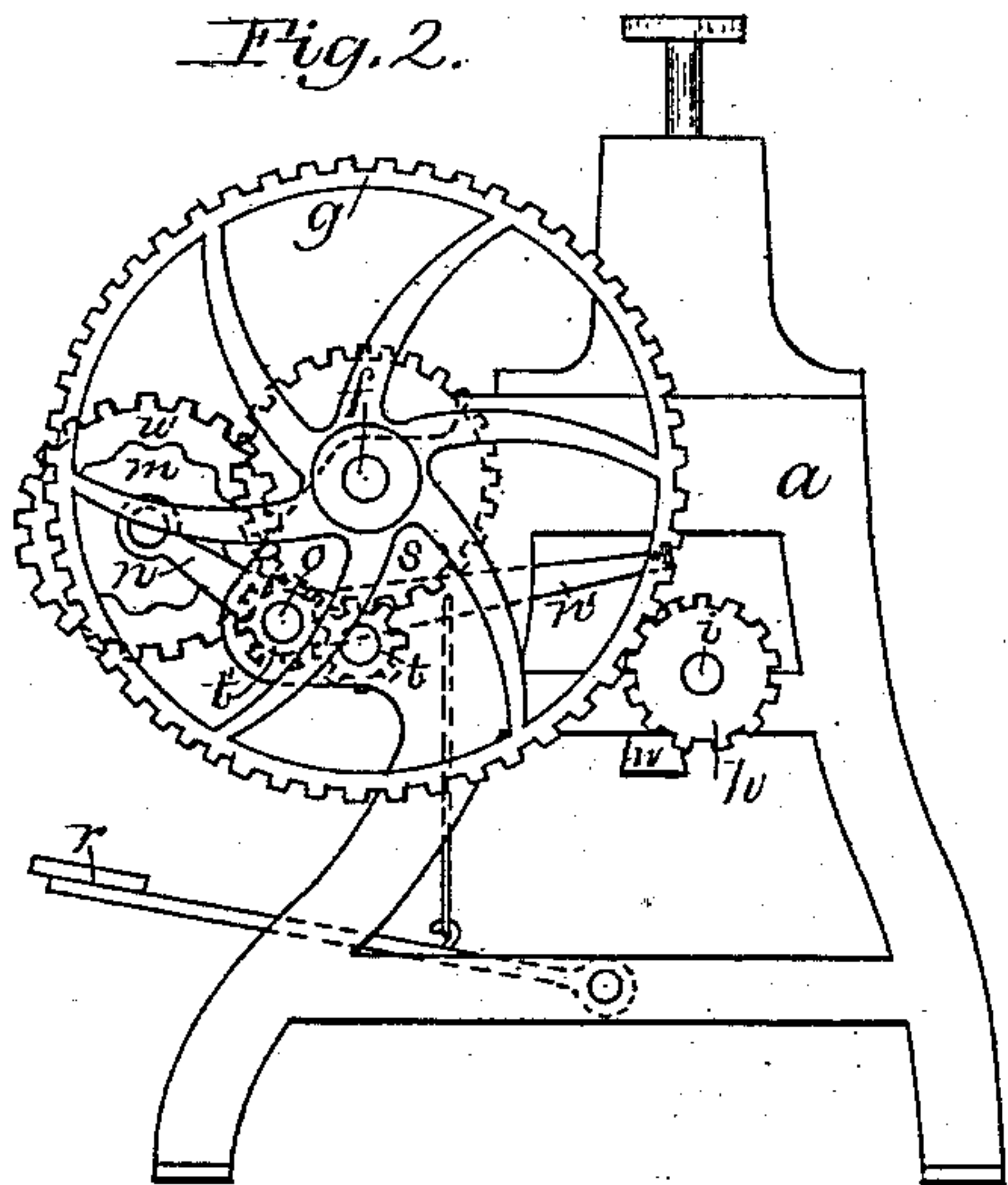
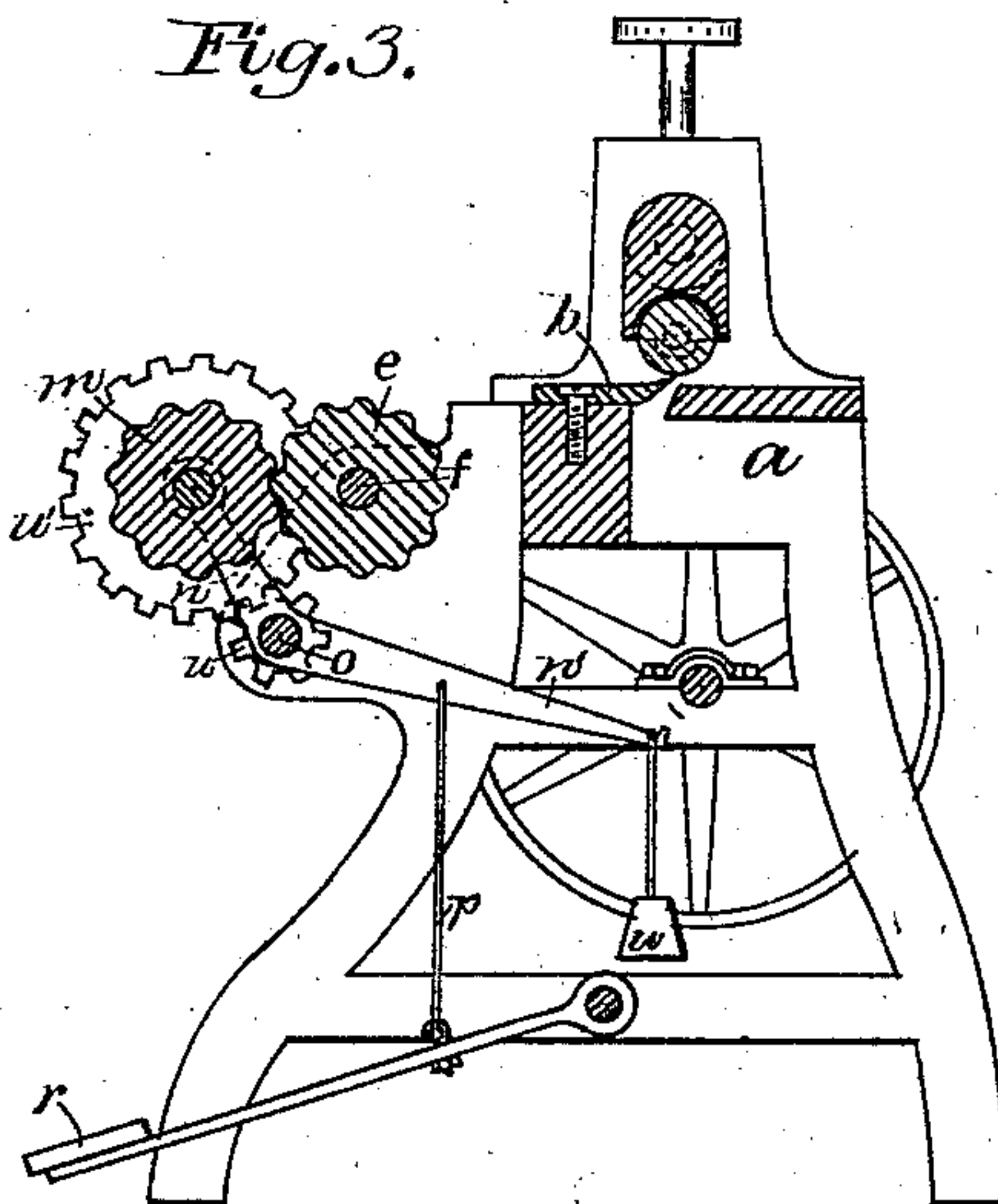


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN A. ENOS, OF PEABODY, MASSACHUSETTS, ASSIGNOR TO RUFUS H. BROWN AND FRANK E. FARNHAM, OF SAME PLACE.

LEATHER-SPLITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 277,413, dated May 8, 1883.

Application filed February 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. ENOS, of Peabody, county of Essex, State of Massachusetts, have invented an Improvement in Leather-Splitting Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention, relating to leather-splitting machines, is embodied in a machine of that class in which the leather to be split is drawn against the edge of the splitting-knife by its friction with a power-actuated drawing-roller.

As generally practiced in the factories of New England, where leather-splitting is carried on largely, the leather is held pressed against and wrapped around the drawing-roller by the hands of the operator, who is in great danger of being caught and having his arms broken, such accidents being of very frequent occurrence.

Machines have also been made in which the leather has been drawn or fed against the edge of the knife or cutter by a pair of cylindrical rolls which act upon the opposite surfaces of the leather, pinching it between them; but when a stationary knife or cutter is employed it has been found impracticable to use such a pair of feeding-rollers, as their holding-power is not sufficient to draw the leather uniformly against the edge of the cutter. I have discovered that by fluting or corrugating the surfaces of the drawing or feeding rollers, and preferably also gearing them together, so that the projections or convex portions of one roller will fall within the recesses or concave portions of the other roller, it is possible to obtain sufficient holding-power upon the leather to draw it properly against the edge of the knife and split the leather.

My invention consists, essentially, in the combination, with the usual splitting-knife and parts co-operating therewith to present the leather properly to its edge, of a fluted or corrugated drawing-roller and a corrugated or fluted auxiliary or gripping roller, and mechanism by which the operation can force the said rollers against the leather between them.

In the present embodiment of my invention the gripping-roller is mounted in bearings upon pivoted arms which are acted upon by an actuating-treadle to draw the said gripping-roller

toward the drawing-roller; and the said gripping-roller is drawn back or retracted by its own weight or other suitable retractor, so that the operator by merely raising his foot can at once relieve the pressure on the leather, which will cease to be drawn.

Figure 1 is a front elevation of a leather-splitting machine embodying this invention; Fig. 2, an end elevation thereof; and Fig. 3, a vertical section on line *x x*, Fig. 1.

The frame-work *a*, knife *b*, and mechanism for presenting the leather to be split to the knife-edge may all be of any usual construction, these parts not constituting the present invention. The leather presented to the knife at a short distance from the end of the piece or hide has its end carried over the corrugated or fluted drawing-roller *e*, mounted on a shaft, *f*, shown as actuated by a gear, *g*, meshing with a pinion, *h*, on a shaft, *i*, having the usual fast and loose pulleys for the driving-belt. Thus by wrapping the leather around the said roller *e*, or pressing it against the surface thereof, the said leather will be drawn against the edge of the knife and split by the power by which the roller is rotated, although it is necessary, in addition to the said power, to provide means for holding the leather upon the surface of the drawing-roller. This is accomplished in accordance with the present invention by the auxiliary or gripping roller *m*, having its bearings in carrying-arms *n*, pivoted upon the shaft *o*, so that the said roller can be swung or oscillated upon the said arms toward and from the roller *e*. The arms *n* have extensions *n'*, forming therewith a bent actuating-lever for moving the roller *m* toward the roller *e*, the said extensions or arms *n'* being provided with counterbalance-weights *w* for partly balancing the weight of the roller *m*. The said arms *n'* are connected by links or rods *p* with the actuating-treadle *r*, so that the operator, by depressing the said treadle, forces the roller *m* toward the roller *e* to grip the leather between them. The roller *m* is corrugated or fluted to correspond with the roller *e*, as shown in Fig. 3, and the roller *e* is provided at one end with a gear, *s*, meshing with an intermediate, *t*, that meshes with a pinion, *t'*, fixed upon the shaft *o*, which has at its other end a pinion, *u*, meshing with a gear, *u'*, connected with the roller *m*. The gears *s* and *u'* are of the same size and the

pinions t t' u are of uniform size, so that the rollers m and e rotate in unison in opposite directions and the projections of the one roller fall into the recesses of the other. The two rollers thus co-operate to grip and draw the leather, which passes down between the rollers instead of being wrapped around one roller, as in the machines heretofore employed. By the employment, in connection with a fluted drawing-roller actuated by power in the usual manner, of a corresponding fluted auxiliary roller—or, in other words, a co-operating pair of fluting, gripping, and drawing rollers—the danger to the operator is removed, and the operation and capacity of the machine for splitting the leather are improved and increased.

In the old machines employing but a single roller, the leather, when wrapped around it, frequently forms bunches, causing inequality in the tension of the leather, and consequent inequality in the thickness of the split material.

The invention is not limited to the particular mechanism herein shown for actuating the auxiliary roller in its movement toward and from the usual drawing-roller or one mounted in fixed bearings, as it is obvious that the said mechanism can be greatly varied.

I claim—

1. In a leather-splitting machine, the combination, with the knife, of the drawing-roller and an auxiliary gripping-roller, both fluted as described, and means to force the gripping-roller toward the drawing-roller to grip and draw the leather, substantially as described.

2. The combination, with the knife, of the fluted drawing and gripping rollers provided with gearing for rotating them in unison, and mechanism to move one of the said rollers toward and from the other, substantially as described.

3. The knife and drawing-roller, combined with the auxiliary gripping-roller, its carrying-arms n , their extensions or arms n' , and the actuating-treadle connected therewith, substantially as described.

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

JOHN AUGUSTUS ENOS.

Witnesses:

JOS. P. LIVERMORE,
W. H. SIGSTON.