

No. 12,832.

PATENTED MAY 8, 1855.

M. M. & J. C. RHODES.
MACHINE FOR LEATHERING TACKS.

Fig. 1.

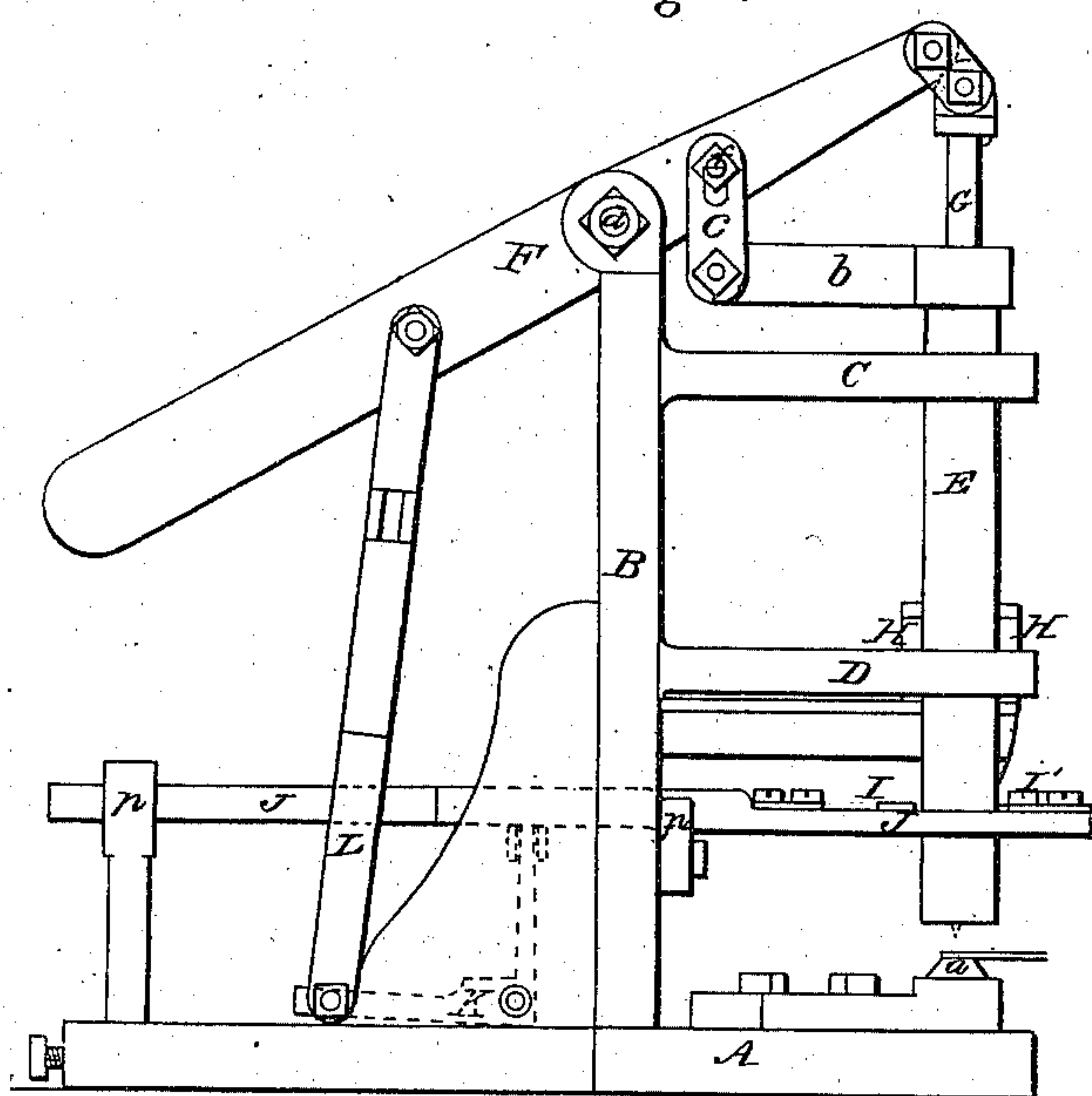


Fig. 2.

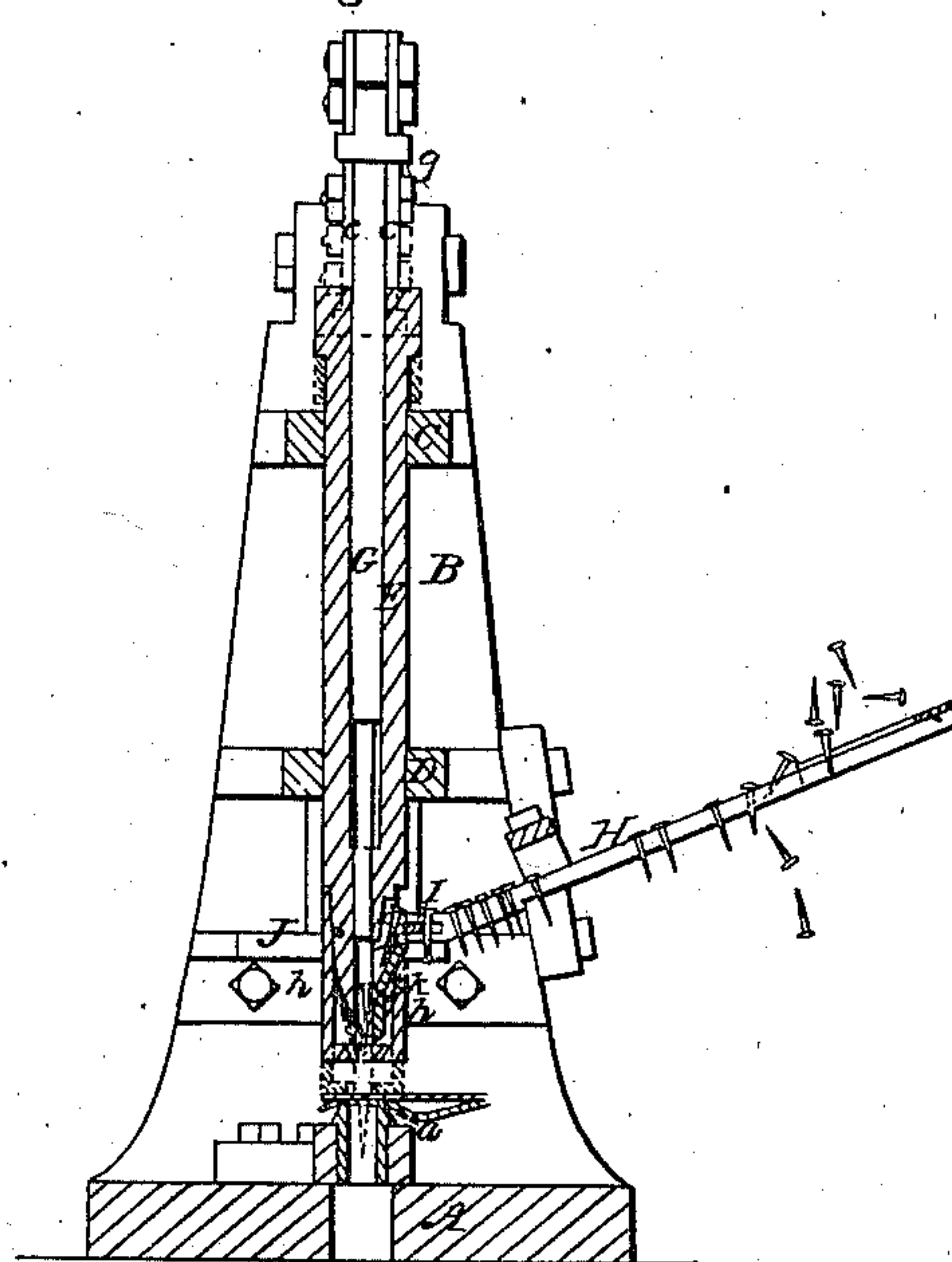


Fig. 3.

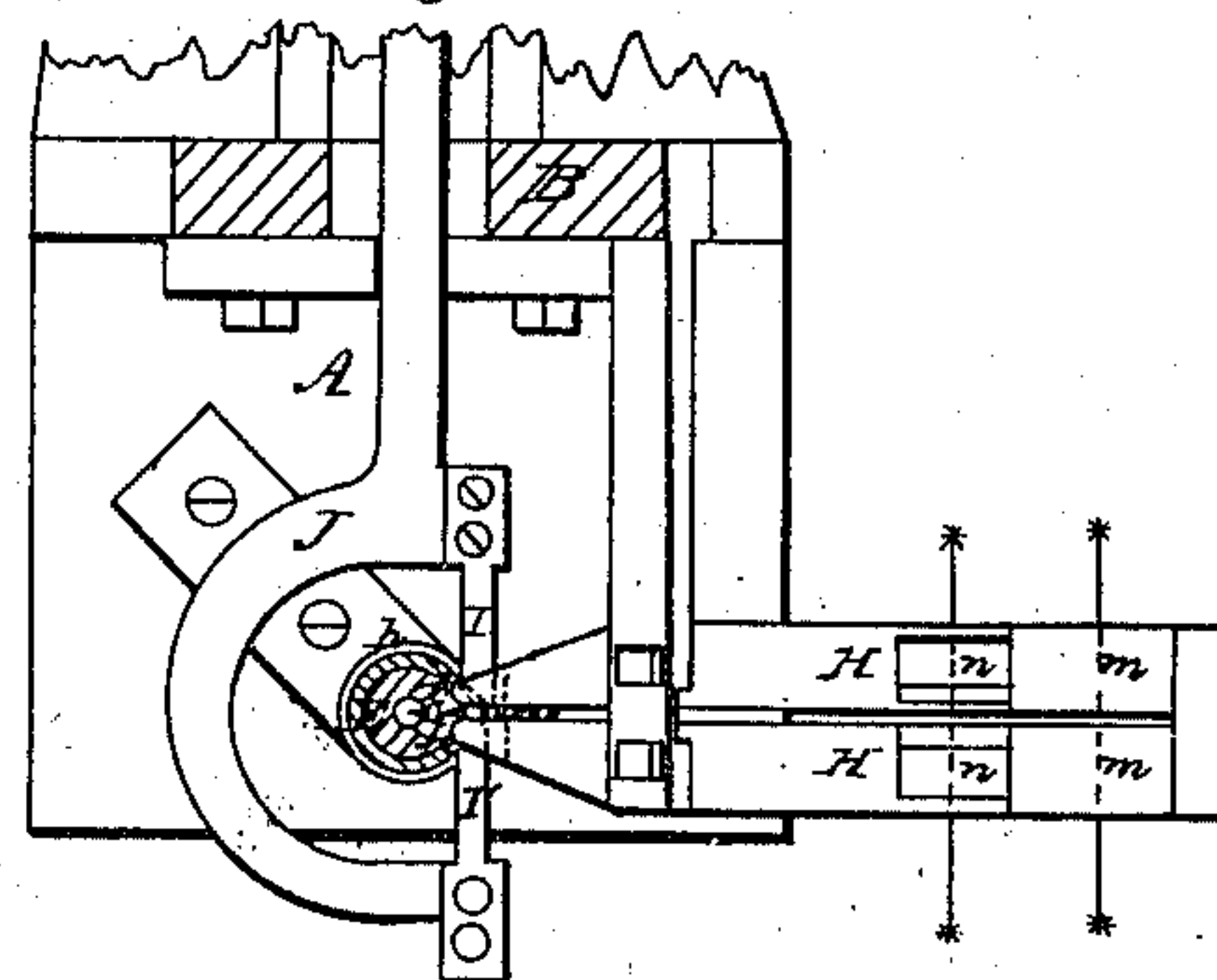
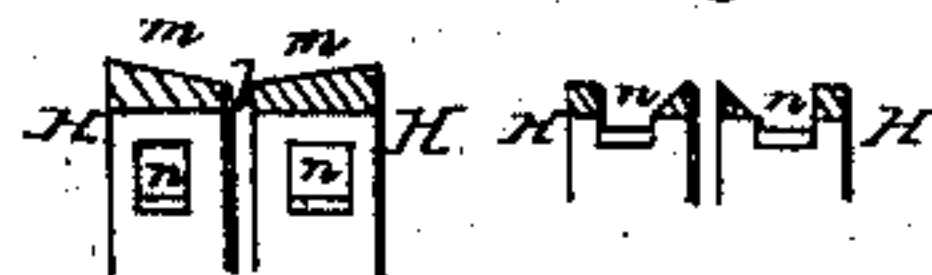


Fig. 4. Fig. 5.



UNITED STATES PATENT OFFICE.

M. M. RHODES AND J. C. RHODES, OF TAUNTON, MASSACHUSETTS.

MACHINE FOR LEATHERING TACKS.

Specification of Letters Patent No. 12,832, dated May 8, 1855.

To all whom it may concern:

Be it known that we, M. M. RHODES and J. C. RHODES, of Taunton, in the county of Bristol and State of Massachusetts, have invented a new and useful Machine for Leathering Tacks; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a side view of the machine; Fig. 2, a transverse vertical section of the same; Fig. 3, a plan, partly sectional, of the principal parts of the same; Fig. 4, a vertical section of the feeder in the line $x x$ of Fig. 3, and Fig. 5, a vertical section of the same in the line $* *$ of Fig. 3.

Similar letters of reference indicate corresponding parts in the several figures.

A, B, C, D, is the framing of the machine consisting of a bed plate A, a standard B, and two guides C, D, to receive a vertical sliding cylinder E. This vertical sliding cylinder is placed over a stationary ring punch a , such as is commonly used for cutting leather, which is secured to the bed plate A; and it has an arm b , which is rigidly secured to its upper end and connected by links c, c , to a lever F, which works on a fulcrum d , at the top of the standard B. This lever is intended to receive an oscillating motion which gives the cylinder a reciprocating motion brings its lower end in contact with the edge of the punch and lifts it therefrom for the purpose of cutting the circular pieces of leather for the tacks, from strips which are fed by hand across or over the punch. The cylinder E, is made hollow throughout for the purposes of receiving the tacks near its bottom, and of containing a driver G, to drive the tacks through the leather as soon as the latter is cut. The driver G, consists of a cylindrical iron or steel rod, the lower part of which is made of a diameter little greater than the heads of the tacks, but the upper part is made larger for the sake of greater stiffness. The cylinder is bored to allow the driver to slide easily within it. The driver is attached to the front extremity of the lever F, and as the cylinder is connected much nearer the fulcrum, the driver receives a movement of much greater length than the cylinder.

The tacks enter the cylinder in an upright position or nearly so through an opening or mouth o , in one side, as shown in Fig.

2, of the drawing and drop down on a light steel spring or valve e , which when free, closes the cylinder near the bottom. The tacks enter singly one every time the driver is raised, and when the driver descends upon them they are caused to push aside the spring or valve e , and are driven through the leather which is placed upon the punch ready to receive them, the tack always being driven through the leather before the latter is cut. In order to insure the proper operation of the driver and the cylinder, the links c, c , which attach the cylinder to the lever, have the holes which receive the pin f , connecting them with the lever, elongated to leave some free play for the pin and to allow the final action of the cylinder in driving the leather down upon the punch, to be effected by a shoulder g , at the top of the driver striking it on the head. This—the driver being of proper length—causes the leather not to be cut till the tack is driven right through it, which is necessary, for if the leather were cut first there would be nothing to hold it during the driving of the tack through it, as there is an opening through the punch and bed plate for the leathered tacks to drop through.

The cylinder could not so well be constructed all in one piece, owing to the difficulty of giving the opening or mouth to receive the tack the proper form and of inserting the spring or valve e ; it is therefore made in two parts. The principal part E, being turned down smaller at the lower part to receive a shoe or foot piece h , which is bored to fit snugly over it and secured to it by a pin i , passing through both. This enables the bottom part of E, to be made inclined on one side to receive the spring or valve e , which consists of a piece of thin flat spring secured at its upper end to E, and also enables the opening or mouth o in the side, to be made of proper form to receive a conductor j , having a lip k , projecting slightly beyond the face of the cylinder.

The tacks are supplied to the cylinder by means of an inclined feeder H, H, and a divided I, I'. The feeder consists of two parallel bars placed at a distance apart sufficient to allow a tack to move freely between them without its head passing through and at an inclination downward toward the mouth o , in the side of the cylinder. This feeder may be of any length desired (say one or two feet). The lower

parts of the bars are flat transversely on their upper sides, but the higher parts *m, m*, of them are inclined downward toward the channel *l*, between them, as shown in Fig. 4, 5 for the purpose when a handful of tacks is thrown carelessly upon them, of causing their points to fall into the channel. Below this upper inclined part *m, m*, are two openings *n, n*. The sides of these openings next the channel *l*, are inclined upward toward the edges of the channel as shown in Fig. 5, for the purpose of causing all those tacks which fail to fall into the channel *l*, before they reach the said openings to fall through the said openings, and thus allow only those which fall into the channel to pass to the lower part of the feeder. The downward inclination of the feeder toward the cylinder terminates at a distance from the cylinder about equal to the width or diameter of the head of a tack and the remainder which extends so as to nearly touch the cylinder is horizontal in order that when the tack arrives close to the cylinder it may be upright. 25 The face of the cylinder is filed away flat around the mouth *o*, as shown in Fig. 3 where the section is taken through the mouth. The divider consists of two flat straight edged metal tongues *I, I'*, attached 30 by screw bolts or otherwise to a horizontal bar *J*, which receives a reciprocating motion in guides *p, p*, by means of a bell crank lever *K*, which is actuated by a rod *L*, connecting it with the lever *F*. The tongues *I, I'*, work 35 in a slot in the bottom of the feeder and very near the face of the cylinder and the opening between their ends forms an oblique passage just wide enough for a tack to pass, as shown in Fig. 3 in dotted outline. Both 40 ends are beveled on the side next the cylinder. Every time the divider moves forward, the point of the tongue *I*, passes behind the foremost tack and separating it from the rest moves it toward the cylinder, but does 45 not push it into the mouth *o*, as while the divider moves forward the cylinder moves downward and carries the mouth down too low. The tack is pushed into the mouth by the tongue *I'*, as the divider moves back 50 while the cylinder is rising. When the tongue *I'*, first begins to act upon the tack, the head of the tack is in contact with the face of the cylinder and the tongue acting near the point throws the point inward and 55 gives the tack a slanting direction. The point being thus carried in beyond the projecting lip *k*, is prevented slipping down outside the cylinder and the tack is compelled to enter the mouth *o*. 60 Two tongues *I, I'*, are not absolutely necessary to separate or divide the tacks and conduct them into the mouth of the cylinder. A single tongue arranged and having its point formed like the tongue *I*, would be

sufficient, if it were made of greater length 65 and the bar *J*, had a longer motion in order to allow it to remain in contact with the tack long enough.

The machine may be operated by an attendant working the lever *F*, with one hand 70 and feeding the leather or other material used in place thereof with the other. Or the lever may be connected with a crank driven by any convenient motive power, and thus the attendant will have both hands at 75 liberty to guide the material and perform such other manipulations as may be necessary.

Having thus fully described our invention we will proceed to point out what we claim 80 and desire to secure by Letters Patent.

We claim—

1. The employment substantially as herein described of a hollow cylinder with an opening in the side to receive the tacks 85 and a driver working within it in a suitable manner to expel the tacks at the end of the cylinder and drive them into the leather or any material serving the same purpose which is presented in a suitable manner to receive 90 them.

2. Operating the cylinder and driver substantially as described, so that the former may receive a short and the latter a long movement and that the final operation of the 95 former to cut the leather or other material on the punch may not take place till after the termination of the operation of the latter in driving the tack through the said leather or material as herein fully set forth, 100 but may be produced by a continued movement of the latter after it has driven the tack through.

3. The divider consisting of one or more tongues similar to *I, I'*, having a straight 105 edge working nearly close to and across the entrance of the receptacle into which the tacks are fed to be submitted to the operation of the driver, and having a beveled end terminating in a point to separate the tacks 110 one by one as they are brought by the feeder contiguous to the aforesaid receptacle, and to conduct and push them as required into the said receptacle substantially as herein described. 115

4. Forming the mouth *o*, of the barrel with a projecting lip (*k*) substantially as described for the purpose of passing outside the point of the tack as the barrel rises and the tack is entering the mouth, and thereby 120 preventing the point from going down the outside of the barrel and letting the tack fall head foremost into the barrel.

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Witnesses:

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