J. Reed,

Leather Machine,

No. 20,819. Patented July 6, 1858.

Fig. 1.

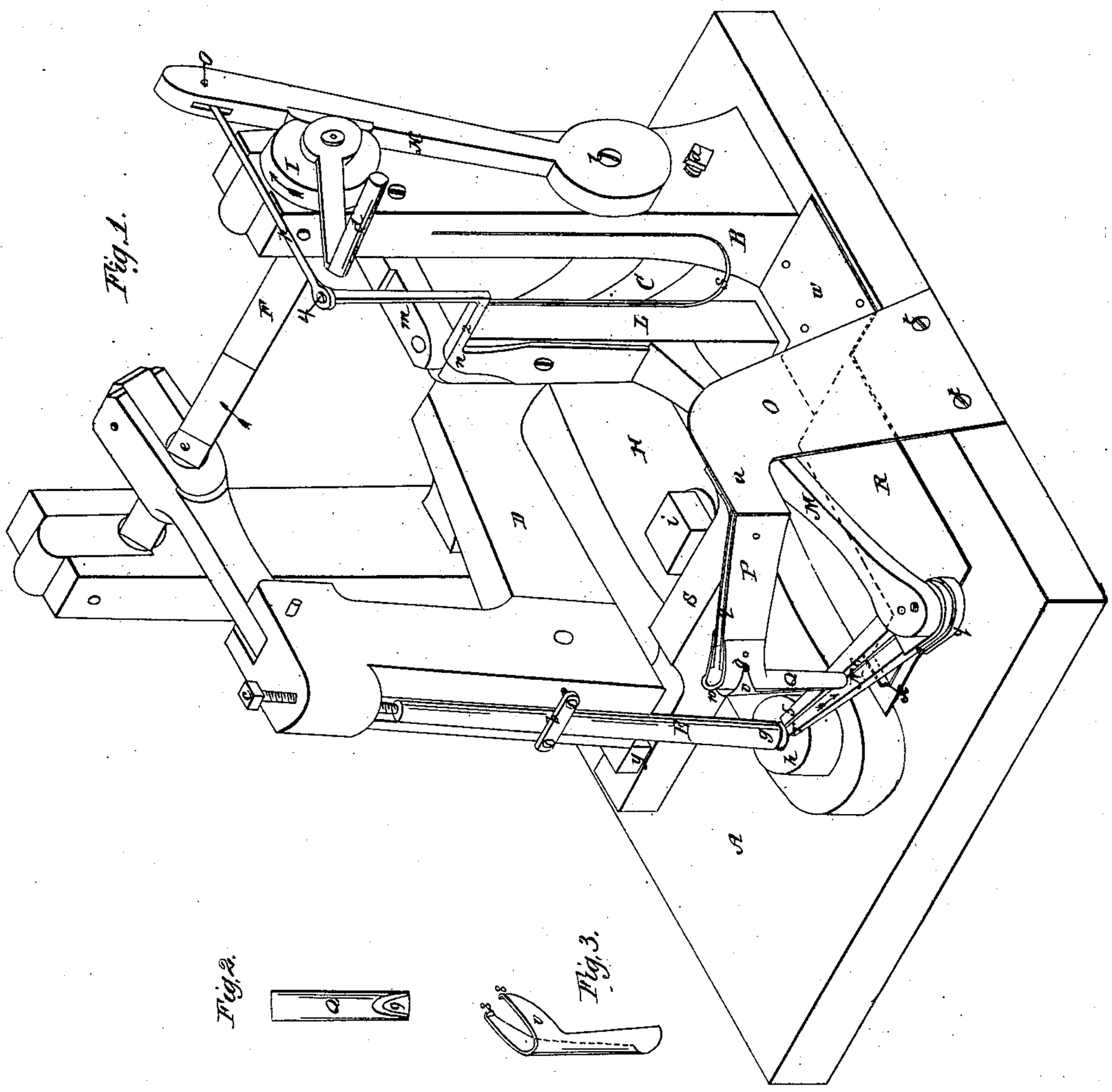

Fig. 2.

Fig. 3.

UNITED STATES PATENT OFFICE.

J. REED, OF MARSHFIELD, MASSACHUSETTS.

MACHINE FOR LEATHERING TACKS.

Specification of Letters Patent No. 20,819, dated July 6, 1858.

To all whom it may concern:

Be it known that I, JESSE REED, of Marshfield, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Machines for Leathering Tacks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my machine. Figs. 2 and 3, details to be referred to hereafter.

That others skilled in the art may understand and use my invention I will proceed to describe the manner in which I have carried it out.

In the drawings A, is the bed of the machine from which rise the standards B. A crooked beam C, is supported between the standards B, on screws *a*, which enter the ends of the beam, and on which it vibrates; to the top of this beam is attached a bent arm D, which projects toward the front of the machine, and carries at its outer end a punch E, which is clamped to the arm at *b*, and is adjusted by the screw *c*, above it. The standards B, also carry in suitable bearings near their upper ends a shaft F, to which power is applied by means of the handle *d* or in any other suitable manner. To a crank *e*, on this shaft is attached a pitman G, the other end of which is pivoted at *f*, to the head of the arm D, so that as the shaft F, is revolved the arm D, is vibrated up and down around the pivots *a*. The lower end of the punch E, at *g*, which is made smooth and flat, enters a socket or hollow die *h*, attached to a block H, which is secured to the bed A, by a bolt and nut *i*.

A cam I, on the shaft F, gives motion to a vibrating arm K, which is pivoted at *l*, to the outside of one of the standards B.

A vertical post L, is pivoted at its lower end to the bed A, and at the top to a brace *m* projecting from the inner side of the standard B. To one side of this post is attached a bent arm *n*, which extends out a short distance from the post horizontally at 2 and then rises vertically at 3, and has attached to its upper end at 4, a connecting rod *p*, which is pivoted at *o*, to the vibrating arm K. This rod also pivots on the top of the arm *n*, at 4. Thus as the shaft F, is revolved, the post L, is vibrated on its pivots a portion of a revolution in one direction by the cam I, and is thrown back in the opposite direction by a spring *s* secured to the front of the standard B, and pressing against the part 2, of the arm *n*. From the post L, projects horizontally toward the front of the machine an arm M, to the outer end of which is secured a pair of nippers N, the jaws of which are pressed together by a spring *q*, which embraces them at their rear ends. These jaws do not come together throughout their entire length, but only at the joint where they are hinged and at their outer ends at *r*, where a notch 5, is cut in the face of one jaw to receive a tack as will be hereafter described, thus leaving a space 6 between the jaws for the greater part of their length when they are pressed together by the spring *q*.

A metal standard O, is attached at *t*, to the side of the bed A, and rises vertically from it. To the upper bent portion *u* of this standard is secured a trough P, formed of two strips of sheet metal, having a narrow space 7 between them, and having secured to their outer ends a tube Q, which hangs vertically with its lower end nearly in contact with the nippers N, which are vibrated horizontally beneath it.

To the front of the tube Q, on the side next to the die *h*, is hung a cap or shield *v*, (Fig. 3) which is pivoted loosely at 8, to each side of the upper part of the tube, and hangs down against the front side of it. The lower end of this tube is cut away at 9, (Fig. 2) and the end of the shield *v*, is allowed to project into the interior of the tube and obstruct the descent of the tacks as they drop down the tube.

A broad sheet metal spring R, is secured at *w*, to the bed A, and projects toward the front of the machine, where it has attached to its upper surface immediately beneath the nippers N, a stop *x*, which extends across beneath the opening 6 between the jaws of the nippers as they are vibrated over it.

An adjustable stop S, is secured by a screw and slot at *y* to the bed A. It has a shoulder at 10, which bears against the side of the block H, and keeps it in position so that the die *h*, shall be directly beneath the punch E, while the outer end of this shaft S, serves to arrest the swing of the horizontal arm M. The punch E, is round and the lower end or face of it is made flat or in a plane at right angles to the axis of the punch, and the hole in the die into which it descends being but a little larger than the punch and having

well defined edges, a piece of the required shape and size will be punched out of a strip or sheet of leather placed on the die *h*, at each descent of the punch. Any other shaped piece of leather may be punched out by using a different shaped punch, and having the hole in the die *h*, to correspond.

The operation of this machine is as follows: As the shaft F, is revolved in the direction of the arrows Fig. 1, the arm D, is vibrated up and down and the punch E, strikes into the hole in the die *h*. This hole is continued down through the block H, and bed A, to allow the leathered tacks to drop out of the machine. The operator stands in front of the machine and passes the strip or sheet of leather from which the small circular pieces are to be cut, along over and in contact with the upper surface of the die *h*.

The tacks to be leathered are fed into the trough P, their points hanging down in the space 7 and their heads resting on the edges of the trough, thence they are dropped one by one into the tube Q, (this may be done by hand or by any suitable mechanical device), but as the method of doing this forms no part of my present invention, it need not be here described.

As each tack drops down the tube Q, it is arrested at the bottom of it, by the shield *v*, the end of which as before described hangs within the opening 9, cut in the tube (see Fig. 2) and catches the head of the tack, while the point of it hangs down below the end of the tube into the space 6 between the jaws of the nippers N; then as the nippers are drawn back in the direction of their arrow, the head of the tack being still in the tube and the point of it in front of the stop *x*, it is prevented from being drawn back by the nippers, and they are forced apart by the body of the tack itself which is received in the notch 5, near the outer end of one of the jaws, and is there held by the jaws (which are pressed together by the spring *q*. At the next vibration of the arm M, the tack is carried by the nippers N, under the punch E, (the shield *v*, swinging loosely on its pivots 8, and allowing the head of the tack to be carried out of the tube Q through the opening 9.

The throw of the arms D, and M, is so adjusted with respect to each other that when the tack is carried under the punch E, and over the surface of the leather (or other material) through which it is to be pushed, the punch shall descend onto the head of the tack and thrust its point through the leather, before the nippers N, begin to withdraw. This holds the tack sufficiently firm to pull it out from the notch 5, and from between the jaws as the nippers are carried back again to receive another tack. While the nippers are returning another tack is dropped down the tube Q, the punch descends the balance of its stroke, drives the tack through the leather, and punches out a piece of leather from the strip or sheet, which is fed along by the operator as required. The leathered tack then falls down through the hole in the die *h*, and drops out of the machine.

What I claim as my invention in machines for leathering tacks and desire to secure by Letters Patent is—

1. Driving the tack and cutting out the piece of leather by a solid punch operating in the manner substantially as herein set forth.

2. I claim the nippers N, in combination with the rest *x*, and tube Q, operating as described for the purpose specified.

JESSE REED.

Witnesses:
JOHN FORD,
WELTHEU L. FORD.