

(No Model.)

W. WADSWORTH.

2 Sheets—Sheet 1.

MACHINE FOR PUNCHING LEATHER LOOM PICKERS.

No. 480,419.

Patented Aug. 9, 1892.

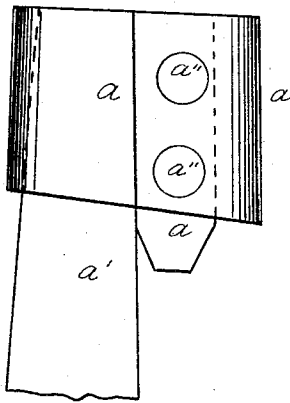


Fig. 7.

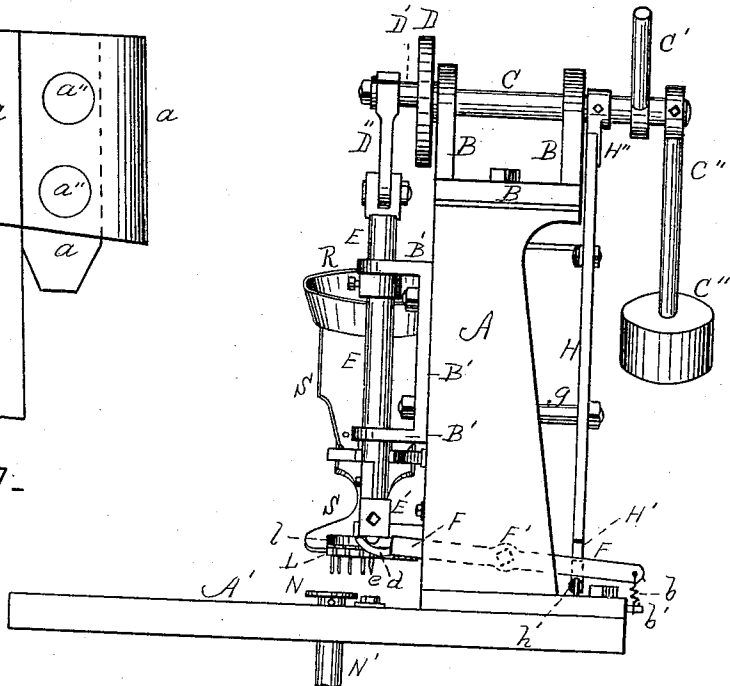


Fig. 1.

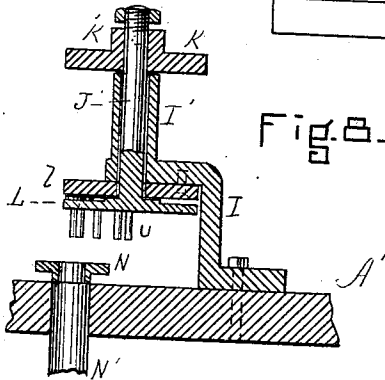


Fig. 2.

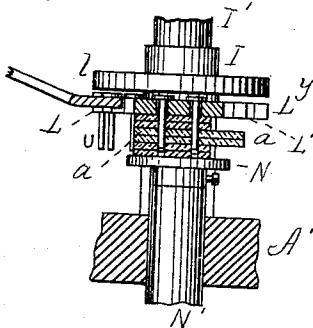


Fig. 3.

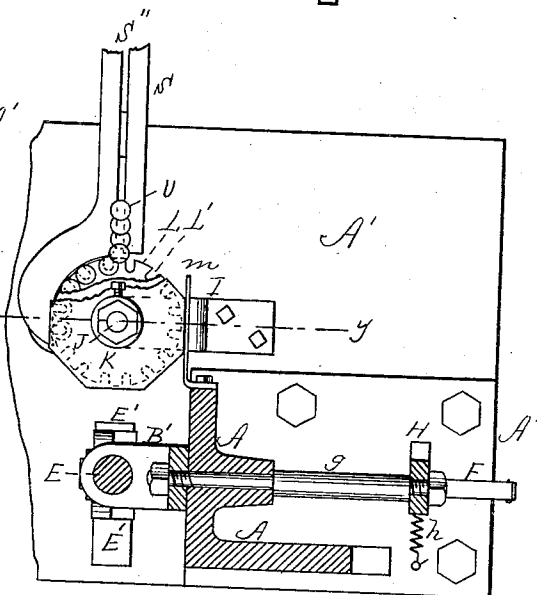


Fig. 4.

WITNESSES.

L. H. Smith.

A. S. Belcher.

INVENTOR.

William Wadsworth.

By his Atty.

J. W. Williams.

(No Model.)

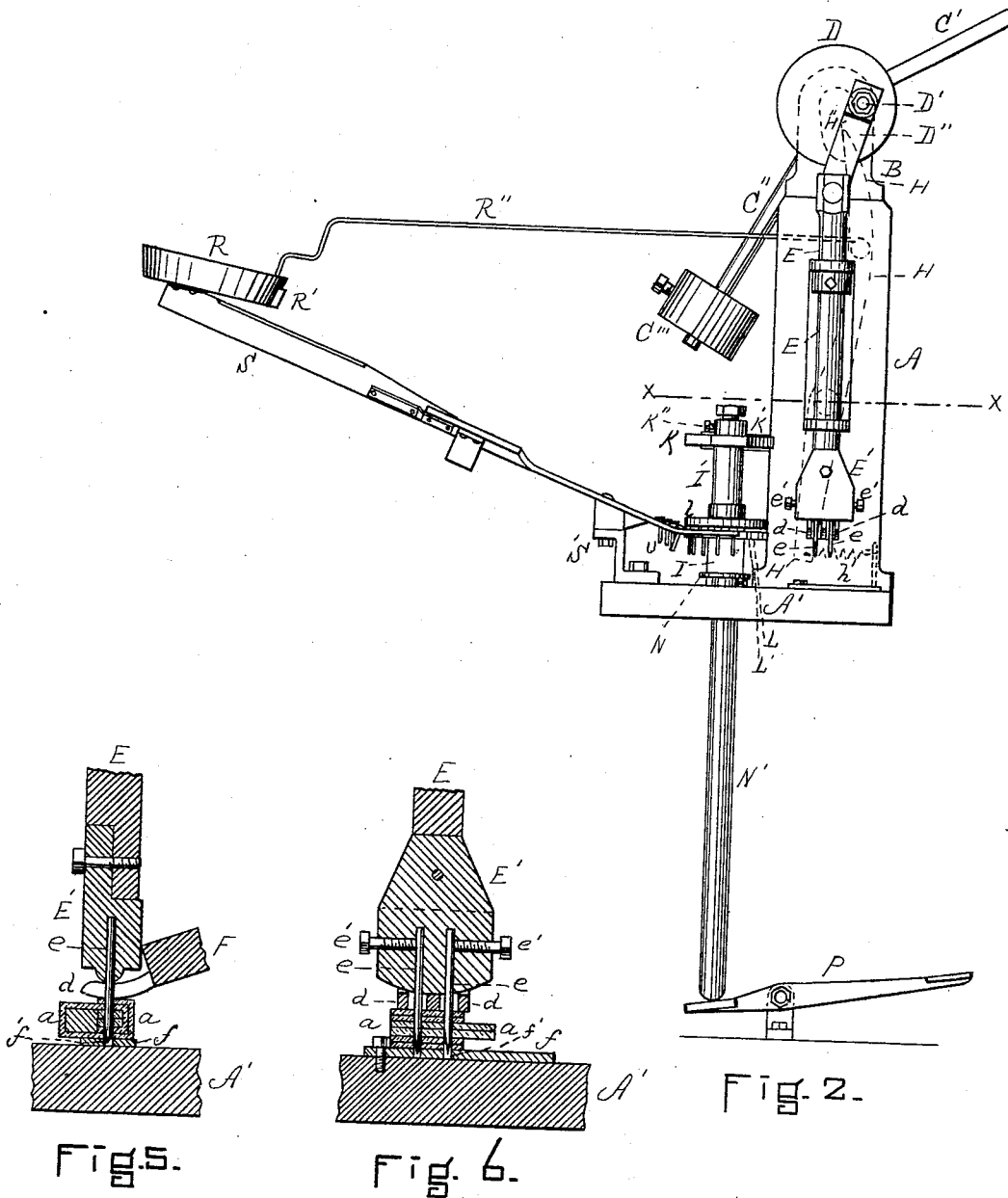
W. WADSWORTH.

2 Sheets—Sheet 2.

MACHINE FOR PUNCHING LEATHER LOOM PICKERS.

No. 480,419.

Patented Aug. 9, 1892.



WITNESSES.

L. H. Smith.

A. G. Belcher.

INVENTOR.

William Wadsworth.

By his Atty

Henry Williams.

UNITED STATES PATENT OFFICE.

WILLIAM WADSWORTH, OF FALL RIVER, MASSACHUSETTS.

MACHINE FOR PUNCHING LEATHER LOOM-PICKERS.

SPECIFICATION forming part of Letters Patent No. 480,419, dated August 9, 1892.

Application filed April 29, 1892. Serial No. 431,188. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WADSWORTH, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented a new and Improved Machine for Punching Leather Loom-Pickers, of which the following is a specification.

This is a machine for punching the holes and inserting the rivets in a leather loom-picker of the style illustrated in the drawings, after which the rivets are headed up by another operation or in another machine, which makes no part of this invention.

The invention consists in the novel construction and arrangement of parts whereby this result is accomplished, fully described below and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved machine. Fig. 2 is a front elevation of the same. Fig. 3 is a horizontal section taken on line *x*, Fig. 2. Fig. 4 is a part vertical section and part elevation in detail showing the rivets being inserted in the picker. Fig. 5 is an enlarged vertical section taken through the punch with the picker in position for being operated upon. Fig. 6 is a vertical section at right angles to that taken in Fig. 5. Fig. 7 is a side view of the completed leather-loop loom-picker, a portion of the staff being broken off, which is operated upon by this machine. Fig. 8 is a vertical section taken on line *y*, Fig. 3.

Similar letters of reference indicate like parts.

a is the head or striking portion, and *a'* the staff, of the picker, which is to be operated upon by this machine. The portion *a* is (with the exception of the rivets) composed entirely of leather and is what is termed a "leather-loop loom-picker" of a style well known in the market. This portion of the picker is illustrated in Figs. 4, 5, 6, and 7. The machine punches two holes in this picker and inserts two rivets *a''*, Fig. 7, said rivets being afterward headed by another operation or machine making no part of this invention. These rivets are inserted in the leather portion only of the picker and do not extend through the staff, which extends into the loop portion of the head *a*.

A is an upright frame bolted to and supported by the base A'. Bolted to the top of

this frame is a bracket B, which constitutes bearings for the shaft C, which has rigidly secured to it the handle C' and arm C'', which with said arm forms a counter-balance. Fast on the shaft C is the disk-wheel D, on the outer face of which is eccentrically placed a crank-pin D', upon which is loosely placed the upper end of the link D'', whose lower end is pivotally connected with the vertical rod or plunger E, which reciprocates in the bracket B', bolted to the front of the upright of frame A. The lower end of this plunger E has bolted to it a punch for making the rivet-holes, said punch consisting of the head E' and awls or punching-tools *e*, removably secured in said head by the set-screws *e'*. (See Figs. 1, 2, 3, 5, and 6.)

F, Figs. 1, 3, and 5, is a lever fulcrumed at F' within the upright A by means of a suitable slot therein. The rear end of this lever is held normally down by means of a spring *b*, secured at *b'* to the frame, and the front end of the lever is provided with prongs *d*, preferably curved, as shown, whose office is to clear the punching-tools *e* of the leather picker after the holes have been punched therein, Figs. 1, 2, 5, and 6. H is a lever fulcrumed on the horizontal rod *g*, extending from the frame A, Figs. 1 and 3. This lever is provided with a notch H', and its lower end is connected to the base of the machine by a spring *h*, while its upper end is held by said spring in engagement with a cam H'', rigidly secured to the shaft C. The shape of this lever, as well as that of the cam, is shown in broken lines in Fig. 2.

The machine is normally in the position shown in Figs. 1 and 2—i. e., with the punching-head E' raised and the clearing-fingers *d* held up against it between the awls *e* by means of the spring *b*. To punch the two holes required for the insertion of the rivets *a''*, Fig. 7, place the portion *a* of the picker beneath the punch E' and upon the bed-plate *f*, Figs. 5 and 6. Then depress the lever or handle C', thus rotating the shaft C and by means of the disk-wheel D crank-pin D' and link D'', forcing down the plunger E, and hence the punching-head E', thus forcing the awls *e* through the picker until their points lie in suitable perforations *f'* in the bed-plate *f*. Upon releasing the handle C' the counter-balance C''' causes the parts to resume their former position. When the head E' de-

scends, the fingers *d* descend with it and serve as stops, the rear end of the lever *F* being of course lifted and catching in the notch *H'* in the lever *H*, which is drawn toward the lever *F* by the spring *h*. The cam *H''* is so constructed and timed that the lever *H* remains in engagement with the lever *F* long enough to allow the clearers or fingers *d* to remain down and remove the picker from the awls while the punch rises, and then the cam releases the lever *H* from its engagement with the lever *F* and the spring *b* forces the fingers *d* up again into the position shown in Figs. 1 and 2.

15 The punching mechanism and operation having been described above, there remains the mechanism for inserting the rivets in the holes formed by the awls *e*.

1, Figs. 1, 3, and 8, is a bracket or frame provided with a vertical tube or sleeve *I'*. Within this sleeve is a vertical rod or shaft *J*. Upon this shaft, above the upper end of the tube *I'*, is an octagonal disk *K*, whose hub *K'* is rigidly secured to the shaft *J* by means of the set-screw *K''*. The lower end of the shaft *J* has rigidly secured to or integral with it the disk *L*, having sixteen peripheral indentations or slots *L'*, each pair of which slots correspond or coincide with one of the eight sides or edges of the octagonal disk *K*.

7 is a metallic washer or disk secured to the frame *I*, surrounding the shaft *J* and situated between the slotted disk *L* and said frame, said washer being of about the same size as said disk.

N is a bed-plate supported by a vertical rod *N'*, said rod extending through the base *A'* of the machine and adapted to be reciprocated vertically therein by an ordinary treadle *P*.

40 A horizontal spring *m*, Fig. 3, extends from the frame *A* and bears against one of the eight sides of the disk *K*.

R is a pan containing rivets, which are to be fed into the slots or indentations *L'* in the periphery of the disk *L*. This pan is provided with the usual opening *R'* and is supported by the chute or feed-trough *S*, which leads down to the slotted disk *L* and is itself supported by a bracket *S'*, secured to the base *A'*. A stirring-rod *R''* has its free end in the interior of the pan and extends from the lever *H*, so that whenever said lever vibrates the contents of the pan are stirred, thus preventing clogging. The pan, stirring-rod, and feeding-trough are not new in this invention and need no further description. The rivets *U* are fed from the pan down through the slot *S''* in the trough into the peripheral indentations or slots *L'* in the disk *L*, as shown in Figs. 2, 3, and 4.

After the picker has been punched, as described in detail above, it is laid upon the bed-plate *N* so that its rivet-holes coincide with the two first rivets—*i. e.*, the two rivets which are beneath the nearest of the eight edges of the disk *K*, said disks *K* and *L* being held stationary in position by the pressure of

the flat spring *m*, as above set forth. The rod *N'*, and hence the bed-plate *N* with the picker upon it, is then raised by means of the treadle *P* and the two rivets *U* pressed into the holes. When the picker is drawn away from its position on the bed-plate *N*, the two rivets which have just been inserted pull against the sides of the indentations *L'*, in which they lie, enough to rotate the disks *K* *L* one-eighth of a revolution, so that the spring *m* will bear against the next octagonal flat edge, thus bringing two more rivets into position for insertion in the rivet-holes in the next picker. The picker is then ready for the rivets to be headed, which can be done by hand or by another machine.

I do not confine myself to the specified number of sides of the disk *K* nor to the number of openings in the periphery of the disk *L*. The disk edges, however, and peripheral openings should correspond, the latter being just twice the number of the former.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a punching-machine, in combination, the punching-head *E'*, provided with the awls *e*, said punching-head being rigidly secured to the plunger *E*, to which vertical reciprocating motion is imparted by a crank actuated by the driving-shaft, the lever *F*, provided with the clearing-fingers *d* and held normally up by the spring *b*, the notched lever *H* *H'*, held normally in engagement with the lever *F* by the spring *h*, and the cam *H''*, fast on the shaft *C*, substantially as set forth.

2. In a punching-machine, the mechanism for inserting the rivets in the picker, comprising the polygonal disk *K* and disk *L*, the latter having openings, as *L'*, for holding rivets, said openings corresponding or coinciding with the sides of the disk *K* and both said disks being adapted to be rotated simultaneously, mechanism for feeding rivets into said openings, and mechanism, as the bed-plate *N* and vertically-reciprocating rod *N'*, for pressing said rivets into previously-prepared perforations in the picker, substantially as described.

3. In a punching-machine, the mechanism for inserting the rivets in the picker, comprising the polygonal disk *K* and disk *L*, the latter having openings, as *L'*, for holding rivets, said openings corresponding or coinciding with the sides of the disk *K* and both said disks being adapted to be rotated simultaneously, a spring secured to the frame and bearing against one of the flat surfaces of the disk *K*, mechanism for feeding rivets into said openings, and mechanism, as the bed-plate *N* and vertically-reciprocating rod *N'*, for pressing said rivets into previously-prepared perforations in the picker, substantially as set forth.

WILLIAM WADSWORTH.

Witnesses:

ALBERT DEARDEN,
ROBERT PHILLIPS.