

R. W. OWEN.
Leather Punching Machine.

No. 229,631.

Patented July 6, 1880.

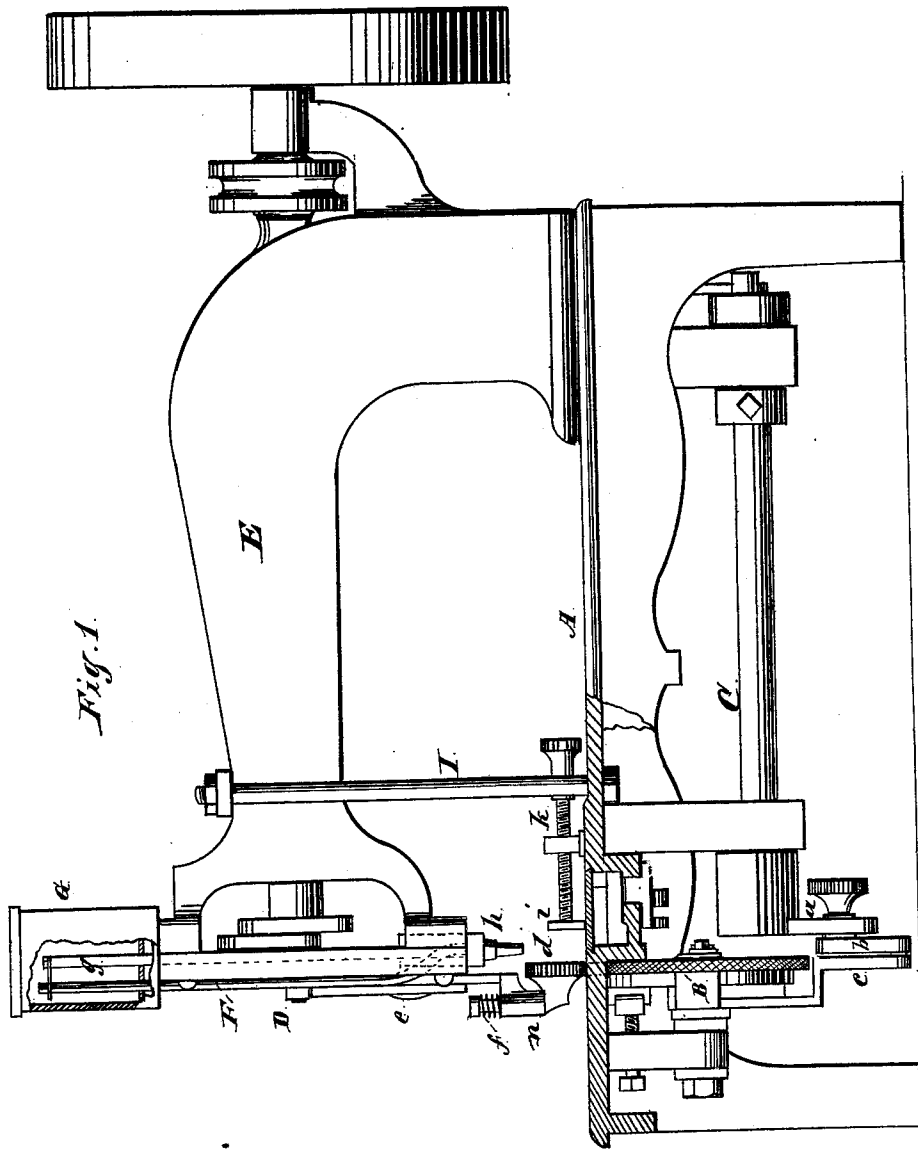


Fig. 1.

Witnesses:
Wm. Bond
A. H. Adams

Inventor:
Richard W. Owen
By Wm. Bond Atty

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Fig. 4.



Fig. 3.

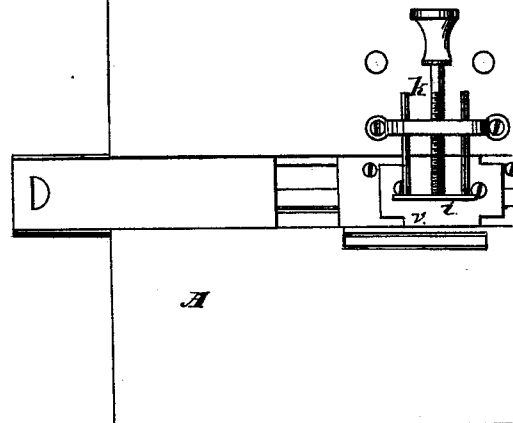
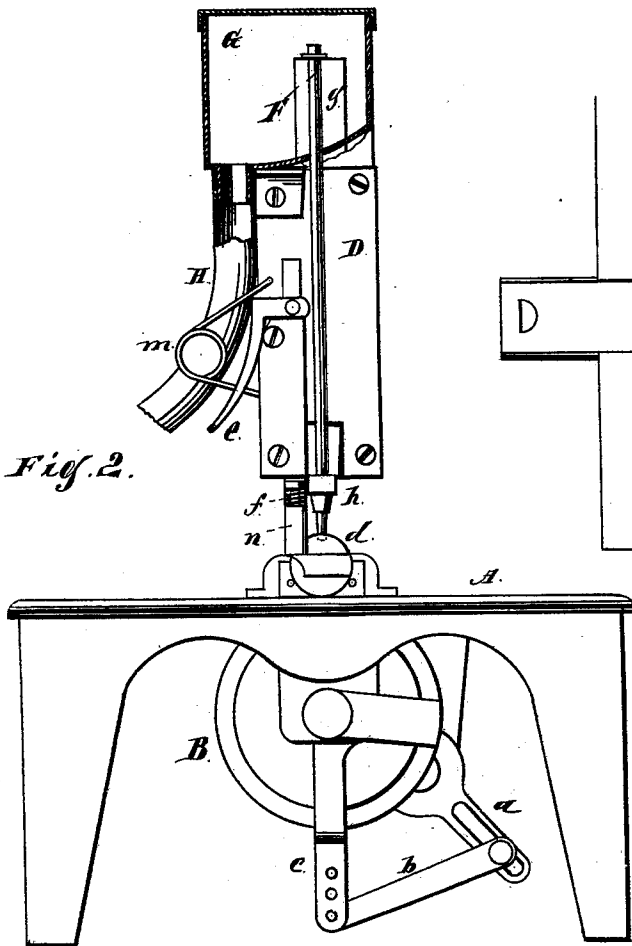


Fig. 2.



Witnesses:
A. Adams
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UNITED STATES PATENT OFFICE.

RICHARD W. OWEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF, GEORGE LANZ, AND CHAS. A. WHITNEY, OF SAME PLACE.

LEATHER-PUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 229,631, dated July 6, 1880.

Application filed May 17, 1880. (No model.)

To all whom it may concern :

Be it known that I, RICHARD W. OWEN, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Leather-Punching Machines, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is an end view; Fig. 3, a plan of the parts shown; Fig. 4, a detail.

The leading object of this invention is to provide a machine by the use of which holes can be rapidly punched in leather straps and at equal distances apart.

The invention consists in combining a hollow punch with the reciprocating bar of a machine constructed substantially like a sewing-machine, and with suitable feeding mechanism and a suitable plate for the cutting-edge of the punch to come in contact with; in providing such hollow punch with an extension leading into a receptacle, for the purpose of conveying the chips into such receptacle, and in providing a discharge-tube to carry away the chips.

The machine which I use is, for the most part, constructed like an ordinary sewing-machine designed for heavy work, the features which constitute my invention being combined therewith.

In the drawings, A represents the bed-plate. B is a feed-wheel, operated at intervals by means of the parts *a b c*, which are moved by the shaft C. These parts are such substantially as are now in use in sewing-machines, being enlarged and slightly modified to adapt them to this work. *d* is a small roller above the feed-wheel, and supported on the head D, which head is upon the end of the arm E. This roller takes the place of a presser-foot, and can be raised when desired by means of a lever, *e*. *f* is a spring which allows this roller *d* to yield a little.

g is a bar having a vertical reciprocating movement, corresponding with the needle-bar of a sewing-machine. *h* is a hollow punch of suitable size, secured to the lower end of the bar *g*. F is a tube leading from the punch to a box or receptacle, G, upon the top of the head

D. As shown, the upper end of this tube F is connected to the bar *g*. This tube F may be regarded as an extension of the punch, and it moves with the punch. H is a tube leading from the receptacle G to any suitable place for depositing the chips. This tube H may be flexible.

I is a strap or clip, which passes through holes in the bed-plate and over the arm E, for the purpose of holding the same steady and preventing vibration, and also for the purpose of allowing the end of the arm to be sprung down a little, if necessary. *i* is a guide and gage, which can be adjusted, by means of the screw *k*, for straps of different widths. *m* is a spring, which holds the roller *d* down, performing the same office as the spring in common use in connection with the presser-foot of a sewing-machine. This roller is supported in a socket, *n*, and the spring *m* permits a little vertical movement of this roller *d*. *v* is a brass plate to receive the cutting-edge of the punch in use.

The bar *g* is operated in the same manner as the needle-bar of a sewing-machine.

The operation is as follows: The strap which is to be punched is to be placed upon the bed-plate above the feed-wheel B and beneath the roller *d*, with one edge against the guide *i*, which is to be suitably adjusted according to the width of the strap or other piece to be punched and the desired position of the holes therein. The feeding devices are to be also adjusted so that the strap or piece to be punched will be fed forward the proper distance, depending on the distance which the holes are to be apart. Then the machine is to be put into operation; the strap or other piece will be fed forward under the punch, and with each downward movement of the punch a hole will be made. The chips will be forced up through the tube F, and will be delivered over the top thereof into the receptacle G, from which they will pass out through the tube H.

I have not described the devices for regulating the feed, nor the means used for operating the machine, because in these respects the machine is substantially the same as sewing-machines in common use.

The punch is to be secured to the bar *g* in

any known suitable manner, and so that it can be readily removed when desired.

Punches of different sizes may be used with the same machine.

5 I am aware that a solid punch has been used, in connection with a die in a sewing-machine, for the purpose of ornamenting leather, and I do not claim such construction. Such a machine could not be successfully used for punch-
10 ing heavy straps. A solid plate should be provided to receive the punch, which should be hollow.

By the use of this machine straps can be punched with great rapidity and uniformity.

15 What I claim as new, and desire to secure by Letters Patent, is as follows:

1. A hollow punch, *h*, in combination with a reciprocating bar, *g*, a feed-wheel, *B*, presser roller or foot *d*, and plate *r*, all constructed
20 and operating substantially as and for the purposes specified.

2. In a leather-punching machine, a hollow punch provided with an extension or tube, *F*, in combination with a reciprocating bar, *g*, feed-wheel *B*, and receptacle *G*, substantially
25 as and for the purposes specified.

3. In a punching-machine, a hollow punch provided with a tube or extension, *F*, in combination with a receptacle, *G*, provided with a discharge-tube, *H*, and a reciprocating bar, *g*,
30 substantially as and for the purposes specified.

4. In a punching-machine, a hollow punch provided with a tube or extension, *F*, to carry away the chips, in combination with a reciprocating bar, *g*, plate *v*, and a receptacle, *G*, sub-
35 stantially as and for the purposes set forth.

RICHARD W. OWEN.

Witnesses:

O. W. BOND,
A. H. ADAMS.