G. MARKS.

LEATHER-PUNCHING MACHINE.

No. 185,938. Patented Jan. 2, 1877.

Fig. 1.

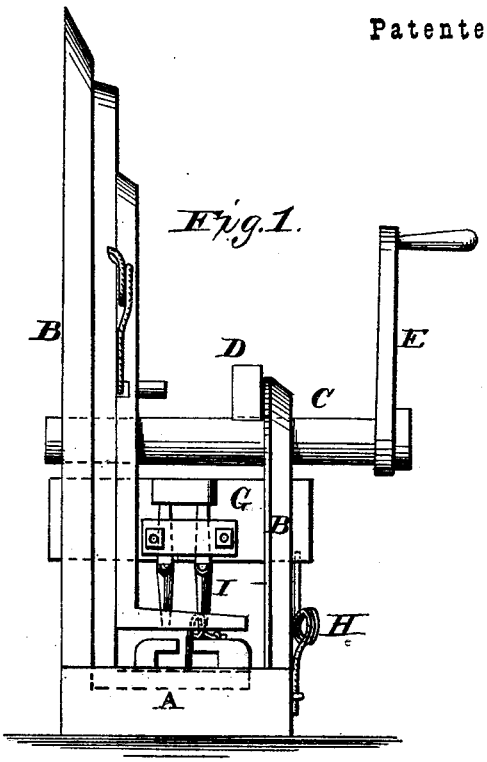
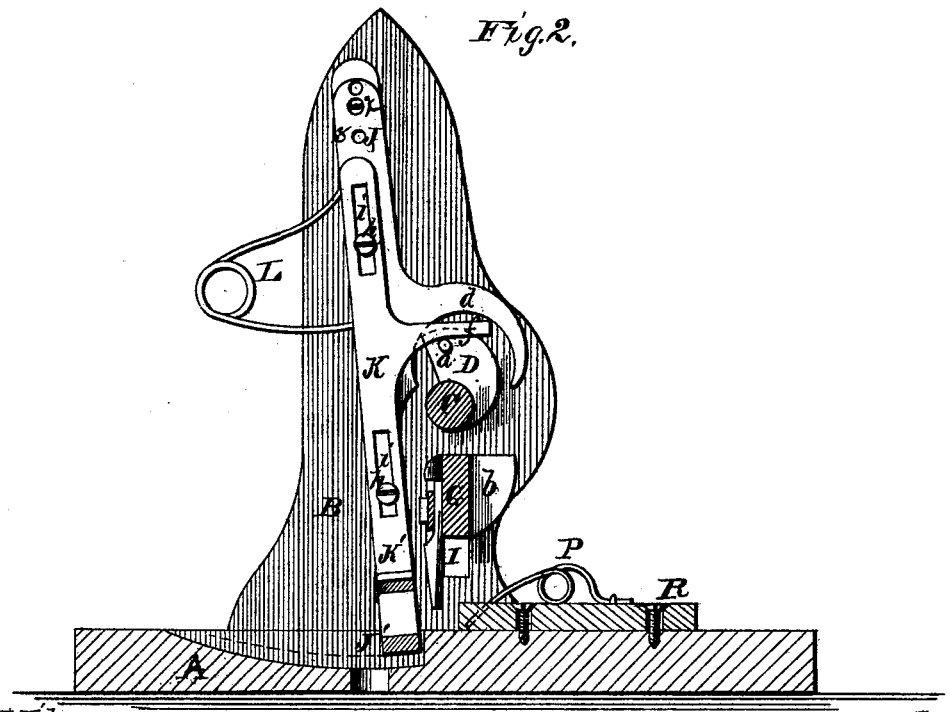


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE MARKS, OF ACKLEY, IOWA.

IMPROVEMENT IN LEATHER-PUNCHING MACHINES.

Specification forming part of Letters Patent No. **185,938**, dated January 2, 1877; application filed November 27, 1876.

To all whom it may concern:

Be it known that I, GEORGE MARKS, of Ackley, in the county of Hardin and State of Iowa, have invented certain new and useful Improvements in Machines for Punching Leather; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in the construction and arrangement of a machine for punching leather, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is an end elevation of my leather-punching machine; and Fig. 2 is a longitudinal section of the same.

A represents the bed-plate of my machine, upon which are two standards, B B. In these standards the horizontal shaft C has its bearings, which shaft is on one end provided with a crank, E, for rotating the same. On the shaft C, between the standards, are two cams, D D, of any suitable form and size. Below the shaft C, in the standards B B, are vertical slots, in which is placed the cross-head or gate G. To this cross-head or gate are fastened the punches I I, and the gate is held up by means of a spring, H, at each end. From one of the cams D, on the shaft C, projects a pin, *a*, as shown. The gate G is provided with projections *b*, upon which the cams D are to act.

On the inner side of one of the standards B is pivoted a bar, J, provided at its lower end with a foot, J′, and on the front edge with a projecting curved arm, *d*. To the bar J is connected another bar, K, provided at its lower end with a foot, K′. This bar K has two longitudinal slots, *i i*, through which are passed screws *h h*, for holding said bar K to the bar J, and allowing it to move up and down, it being held down by means of a spring, L. The bar K is further provided with a projecting arm, *f*.

For every revolution that the shaft C makes, the cams or eccentrics D force down the cross-head or gate G, so as to press the punches I I through the leather. After the shoulders of the cams have passed the gate, the springs H elevate the gate, and one of the cams strikes the foot-bar J, and carries both bars J and K backward, thereby moving the strap as far as desired. When the foot-bars are at their farthest point from the punches, the pin *a* on the cam D strikes the arm *f* and raises the bar K, holding the same raised until the cam, operating on the curved arm *d*, carries both bars forward to the same point where they started from, when the spring L forces the top foot K′ down on the leather, which is then held firmly between the feet J′ and K′, until another revolution of the shaft C is made.

The leather is held from slipping back, when the bars J K move toward the punches, by means of a spring, P, and grooved adjustable gages R R hold the leather strap in its proper place. These gages may be set for any size or width of strap. In the upper end of the bar J are several holes, *x*, through either one of which the bar may be pivoted, and thus regulate the feed so as to punch the holes in the leather strap closer together or farther apart, as may be desired.

This machine is especially intended for punching holes in the cross-bars of leather fly-nets.

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

1. The gate G, with projections and punches, the gate held up by means of springs, in combination with the gages R R and foot-bars J K, substantially as and for the purposes herein set forth.

2. The combination of the adjustably-pivoted foot-bar J with curved arm *d*, the sliding foot-bar K with arm *f*, the spring L, and the pin *a*, projecting from the rotating cam D, substantially as and for the purposes herein set forth.

3. The grooved adjustable gages R R and spring P, in combination with the foot-bars J K and punches I I, for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

GEORGE MARKS.

Witnesses:
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