

(No Model.)

A. M. PARKS.
PUNCHING MACHINE.

No. 509,761.

Patented Nov: 28, 1893.

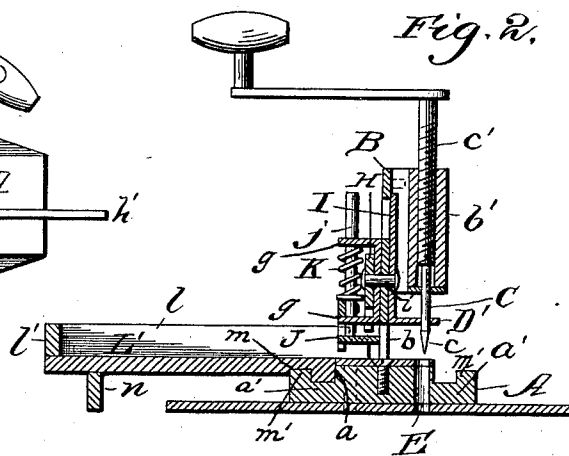
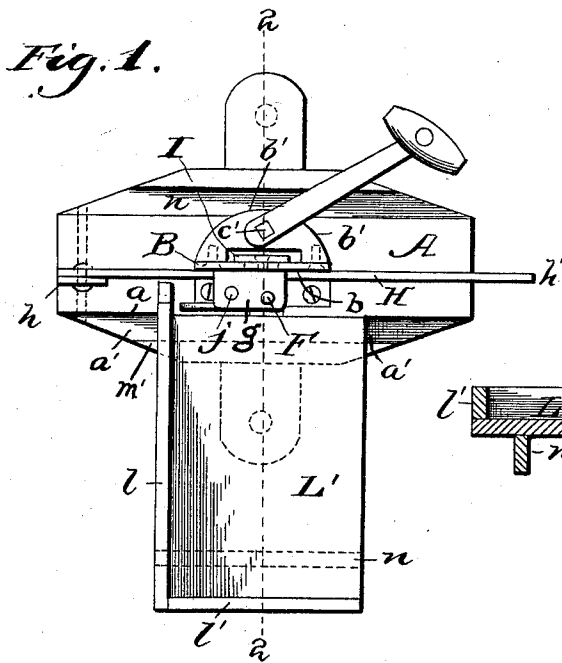


Fig. 3.

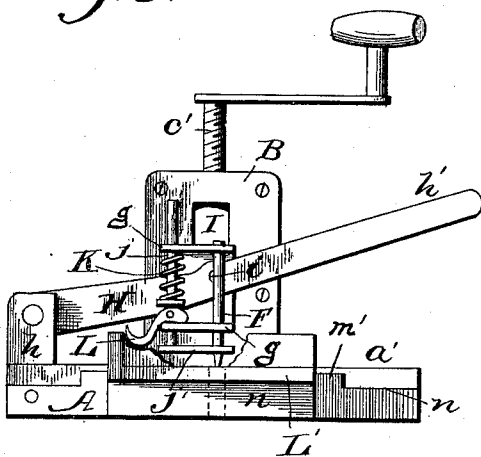
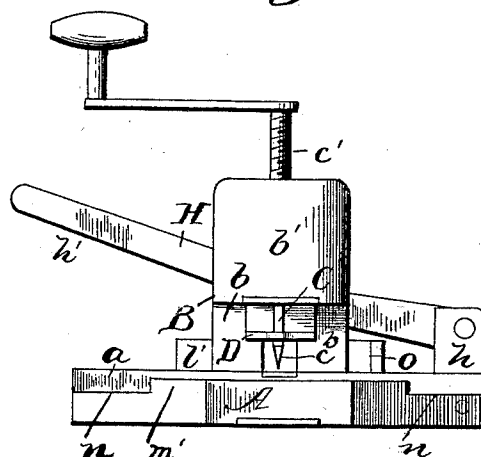


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

ANNA M. PARKS, OF ALBANY, NEW YORK.

PUNCHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 509,761, dated November 28, 1893.

Application filed April 4, 1893. Serial No. 469,013. (No model.)

To all whom it may concern:

Be it known that I, ANNA M. PARKS, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Punching-Machines, of which the following is a specification.

My invention has for its object to produce a machine for punching or perforating papers which shall be adapted for both heavy and light work; and further to produce a paper holding tray which is adapted to be combined with the punching apparatus, and by means of which the loose sheets of paper which are used by type-writers and other copyists, can be quickly and properly arranged relative to each other.

With these objects in view the invention consists in improvements in the punching apparatus and in the said paper-holding tray.

In the drawings I have illustrated my invention, and, referring to them, Figure 1 is a plan view showing my improvements. Fig. 2 is a cross-sectional view, taken on the line 2—2, of Fig. 1. Fig. 3 is an elevation of one side of the apparatus. Fig. 4 is an elevation of the opposite side.

In the drawings, A designates the base of the machine or apparatus which may be of wood, metal or other suitable material, and may be provided with means for securing it to a table or other support. A standard or support B rises from the base and in it is mounted a punch or perforator C. This punch has a solid, cylindrical sharp-pointed end *c*, which is adapted to be driven through a mass of papers, placed upon the base A, and has also a screw-threaded shank or stem portion, *c'*, mounted in a portion, *b'*, of the standard B which overhangs the base A. To the upper end of the shank of the punch is secured a handle by which the punch is rotated so as to cause the screw thereon to move it toward or from the base A. The part *b'* of the standard B which is between the overhanging portion, *b*, thereof and the base, is flat faced, and is adapted to serve as an abutment against which the ends of the sheets of paper to be punched can be placed in order to cause them to lie properly one on the top of the other so as to bring their upper edges into proper relative position to the punch.

D is a clamp or presser foot adapted to be manually operated and arranged between the portion *b* of the standard and the base, whereby it can be brought down upon the top of the mass of papers to hold them between itself and the base while the punch is being forced through them.

E represents a hole in the base opposite the pointed end of the punch, and into which it is adapted to enter when it has been forced through the mass of papers.

A punch or perforator such as I have described is especially adapted for punching through large masses of papers, that is, where the thickness is an inch or more. The screw gives the necessary power to force the punch point through any number of sheets of paper, and by causing the punch to rotate I find that the hole produced is smoother and the paper is less torn than when it is driven through the papers by a direct thrust. To facilitate the making of a clean cut hole I can if found desirable, make the punch point, *b*, with a cutting edge like a gimlet. I am aware that a hollow rotary punch for cutting holes in leather has been known. But my device makes a smaller hole, works more easily, does not become dull and therefore tear the paper when it is rotated, and does not become choked or plugged up with the bits of paper which it cuts or tears out.

While the punch which I have just described is particularly adapted for heavy work it may also be used upon any work however light. In order, however, to provide a punch which can be operated more quickly and is adapted for light work,—that is, for work less than an inch in thickness;—and thereby to increase the capabilities of the machine, I mount a direct-acting or reciprocating punch F at the side of the standard or support B opposite the punch C. This punch consists of a sharp-pointed rod carried by a sliding plate I which is provided with the brackets *g* in which the punch is mounted and which operate to set it out the proper distance from the flat portion, *b*, of the base B.

H is a lever, fulcrumed to a support, *h*, and connected pivotally with the plate I at *z*.

h' is the handle by which the lever, and through it, the punch G, are worked.

J is a presser foot or clamp carried by the

plate I, the spindle or rod *j* of the clamp being mounted in the flanges or brackets, *g*. A spring K surrounds the rod of the clamp and tends to force the foot, *j'*, thereof down so that it will engage with the papers placed upon the base below the punch F. A cam lever L is pivoted to the stem of the clamp, and is adapted to bear upon one of the flanges *g* and raise the foot to move it out of operative position.

It will be understood that when the presser foot is raised it is some distance above the point of the punch F.

As shown in the drawings the presser foot or clamp D for the punch C is connected with the plate I, and is therefore operated by the lever H. It will be understood that any other preferred form of clamp or presser might be used in combination with the punch C.

In combination with a punching machine such as shown I have shown a paper-holding tray or shallow box, L'. It has two sides, *l, l'*, only, and is preferably of a size to hold legal-cap paper. If the sheets of paper be laid in the tray with their edges in contact with the side, *l*, of the tray, and with their ends projecting the proper distance beyond the end of the tray, and the open end of the box or tray be brought against the edge *a* of the base, A, adjacent to one of the punches, a ready means is provided for insuring that the papers shall be kept in proper place and the holes shall all be punched the same distance from the top. I prefer that the base A should be formed with a sort of shelf *a'*, adjacent to its edge *a*, upon which the end of the tray can rest so that the bottom of the tray and the top of the base are flush with each other when the tray is in position to present the papers to the punch or perforator. In order to insure that the tray shall not be twisted, but shall move parallel to the edge *a* as it is moved to bring the papers into one position or another relative to the punch, I groove or channel the tray, as at *m*, and provide the ledge or shelf *a'* of the base with a rib, *m'*, parallel with the edge *a*, which fits the channel *m*. Other means for causing the tray to move in right lines can be adopted. The outer end of the tray, that is, the end opposite that which rests upon the shelf, *a'* is provided with a support, *n*, which holds up the tray and causes it to lie level when in use. The side, *l*, is extended so that it lies over the base, as shown at *o*. This extended part of the side is long enough to contact with the support *h*, when the tray is moved in one direction, and to contact with the presser foot J when moved in the opposite direction. These two stops serve to limit the movements of the tray in proper positions to bring the perforator at the right distance from each side of the sheets of paper.

It will be understood that in the machine shown, each side of the base is formed to be used in combination with the tray.

The tray which I have described is adapted

to be used for arranging loose sheets of paper for different purposes; as for arranging the carbon and plain sheets when manifolding is to be done by means upon a type-writer.

After the papers have been punched they can be removed from the machine without being disarranged by means of the tray, and while held therein the paper fasteners, tape or other device which may be used for permanently securing the sheets together can be easily inserted.

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

1. In a paper punching machine, the combination of the base, the standard B, having a screw-threaded portion *b'* overhanging the base a solid cylindrical, sharp-pointed punching tool having a screw-threaded stem mounted in the overhanging portion of the standard, the handle by which the said tool is rotated, and the manually operated presser foot or clamp arranged between the portion *b'* of the standard and the base, substantially as set forth.

2. A paper punching or perforating machine, having the base, the standard rising from the base, the screw punch C mounted at one side of the standard, and the reciprocating lever-operated punch mounted at the other side of the standard, substantially as set forth.

3. A paper punching machine, having the base, the standard B, a screw-operated punch at one side of the standard, a lever-operated punch at the opposite side of the standard, and the spring presser foot or clamp connected with the lever-operated punch adapted to be moved therewith, substantially as set forth.

4. In a paper punching machine, the combination of the base, the standard rising therefrom, the reciprocating plate connected with a lever mounted and arranged at one side of the standard, the punch F carried by brackets projecting from the said plate, and the spring-actuated presser foot also carried by the said brackets, substantially as set forth.

5. In combination with a punching or perforating machine, a paper holder having a flange or side along one edge, the frame or base of the punching machine being provided with a straight edge *a* against which the said paper holder is adapted to bear and by which it is guided, substantially as set forth.

6. In combination with a paper-punching machine, having a revoluble sharp-pointed punching tool the paper-holding tray adapted to rest upon a ledge or shelf projecting from the base of the paper punching machine, and to be situated below the said punching tool and the interlocking means between the said tray and the base, whereby the tray is caused to move in right lines upon the said ledge or shelf, substantially as set forth.

7. In combination with a punching machine, having a base and standard, and a revoluble sharp-pointed punching tool mounted in the

standard a paper holding tray having the two
sides or flanges, *l, l'*, the side or flange *l* being
extended beyond the end of the tray, and
there being provided stops upon the base of
5 the paper-punching machine between which
the said projecting portion of the flange of
the tray moves, substantially as set forth.

In testimony whereof I affix my signature in
the presence of two witnesses.

ANNA M. PARKS.

Witnesses:

J. S. BARKER,
C. E. MERRIAM.