

(No Model.)

F. SOTTER.

PUNCHING MACHINE AND STRIPPER THEREFOR.

No. 528,039.

Patented Oct. 23, 1894.

fig. 1.

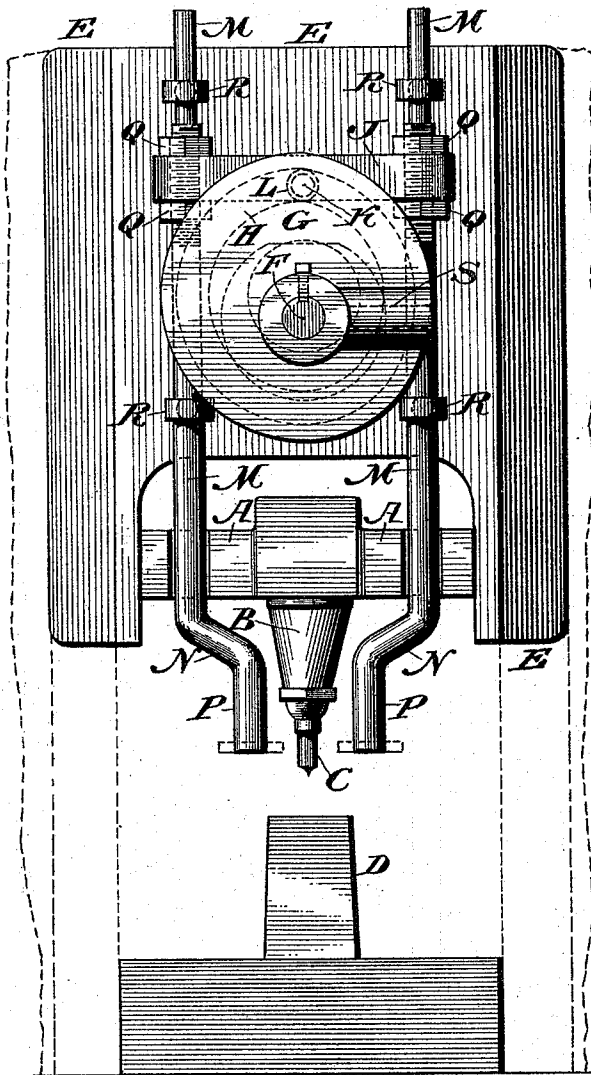
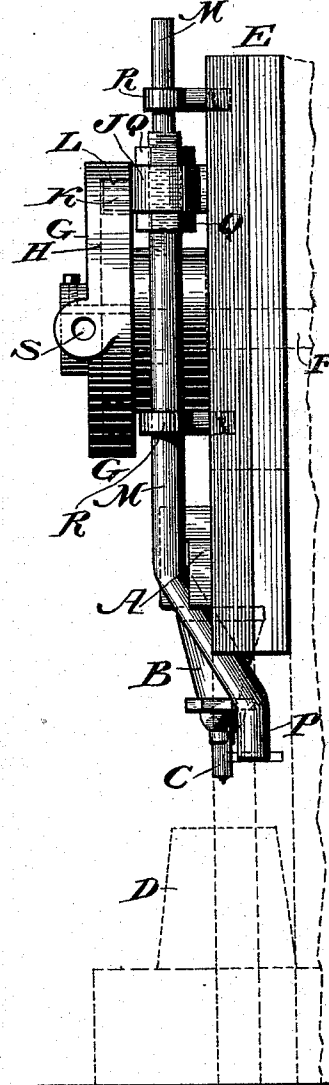


fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

FREDERICK SOTTER, OF COATESVILLE, PENNSYLVANIA.

PUNCHING-MACHINE AND STRIPPER THEREFOR.

SPECIFICATION forming part of Letters Patent No. 528,039, dated October 23, 1894.

Application filed June 22, 1894. Serial No. 515,528. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK SOTTER, a citizen of the United States, residing at Coatesville, in the county of Chester, State of Pennsylvania, have invented a new and useful Improvement in Punching-Machines and Strippers Therefor, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in punching machines, and consists of strippers therefor, which are so disposed that the punch when elevated is not obscured, and which are also adapted to be readily applied to existing punches, the novel features of which will be hereinafter set forth.

Figure 1 represents a front elevation of a stripper for a punching machine, embodying my invention. Fig. 2 represents a side elevation of the same.

Similar letters of reference indicate corresponding parts in the two figures.

Referring to the drawings: A designates the cross head; B, a chuck or holder for the punch C, which is suitably secured therein, and D designates a bed or anvil, the above parts being of ordinary construction, and forming no part of my invention.

E designates the frame of the punching machine. The cross head A and the punch C are reciprocated by suitable mechanism intermediate of the same and the shaft F. The said shaft F is provided with a suitable bearing and has attached thereto the disk G, which has on its face the cam or cam groove H, the contour of which is shown in dotted lines in Fig. 1, the depth being shown in Fig. 2.

J designates a cross bar, in the center of which is secured a stud K provided with a roller L, which latter is engaged by the said cam H, which gives a vertical movement to the stripping rods equal to the stroke of the punch.

Through each end of the cross bar J passes a vertical rod M, the lower extremity of each after passing through the cross head A being bent rearwardly at N, and downwardly at P, so that the operation of the punch will not be obscured. The lower ends of the stripping rods or holders may be provided with feet if

desired, as shown in dotted lines, when doing certain classes of work, as when the machine is used for punching flue-holes, &c. The vertical rods M are held in position relative to the cross head J by the nuts Q.

R designates guides for the strippers, which in the present instance are four in number, and are attached to the front of the frame.

The disk G is provided with the eye S, in which a bar may be inserted for moving said disk by hand, when the punch gets stuck, or stops on a dead center, or for any other reason.

The operation will now be apparent: When the punch is in its extreme up-stroke, the positions of the parts are as shown. The stripper bars start downward with the punch, and reach the bottom of the stroke at the same time, but the relation of the inside cam to the actuating mechanism of the punch is such that the punch makes a portion of its upward stroke sufficient to clear the plate, while the stripper rods remain stationary bearing against the same, whereupon the stripper rods by a quick motion, rise and reach the top of their stroke simultaneously with the punch, at which point they are always above the latter as shown, so that the view of the punch is not obstructed, and when the said punch is down, the hands of the operator are not liable to be caught by the stripper rods, since the latter are bent rearwardly and contact with the plate which is being punched, at a point behind the punch, so that a view of the latter from the front or either side is always unobstructed, when the punch is down as well as when it is up.

The above apparatus can be quickly and readily attached to or removed from an ordinary punching machine, as is evident.

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

1. A stripper for punching machines comprising two vertical rods having feet bent into proximity with the punch, a cross bar and guides therefor, the relation of the actuating parts being such that the punch and the feet of the stripper bars reach the plate which is to be punched at the same time, but the punch

clears the plate in its upward stroke before the stripper bars are removed from contact therewith, substantially as described.

2. The stripper rods M having their lower
5 extremities bent rearwardly as shown, and guides therefor, a cross bar J, means for securing said cross bar to the rods and a stud K engaging the cam H of the disk G, the latter being mounted on the punch actuating
10 shaft, and the above parts being combined substantially as described.

3. A frame, a reciprocating cross head with a punch guided on said frame, stripping rods having ends adjacent said punch, a cross
15 head to which said rods are adjustably secured, a shaft with a cam reciprocating said latter mentioned cross head, the movements of said cross heads being independent, and the above parts being combined substantially
20 as described.

4. In a punching machine, a punch, a stripper, adapted to be actuated by connections from the punch mechanism, said stripper having its lower extremities bent rearwardly and
25 downwardly whereby the view of the punch

at any point of its stroke, from the front or either side, is at all times unobstructed, substantially as described.

5. In a punching machine, a punch, a cam adapted to be actuated by connections from
30 the punch mechanism, stripper rods actuated by said cam and having their legs set back, said cam disk having an eye in its periphery for the insertion of a bar, whereby the machine can be moved by hand when
35 desired, the above parts being combined substantially as described.

6. A frame, a reciprocating cross head guided in said frame, and carrying a punch, stripping rods having guides on said frame,
40 said rods being adjustably secured to a cross head, a rotatable cam engaging said last mentioned cross head, said rods having their ends adjacent to said punch, and said cross heads being actuated by independent mechanism
45 substantially as described.

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Witnesses:

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