H. O'NEILL.

Machine for Shearing, Punching and Stamping Metal.

No. 207,619. Patented Sept. 3, 1878.

Fig. 2.

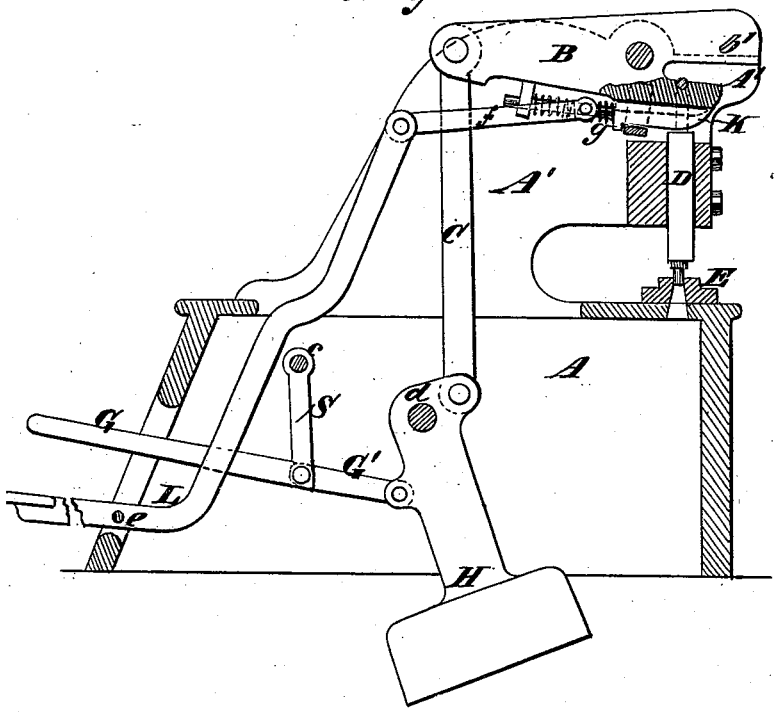


Fig. 1.

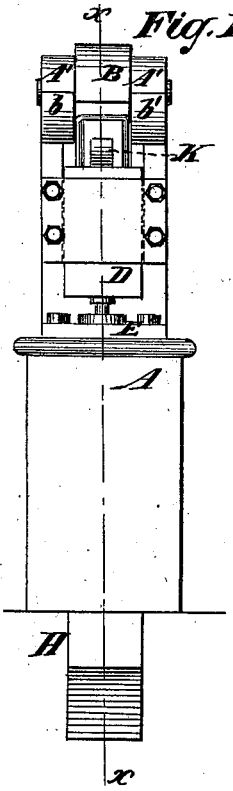
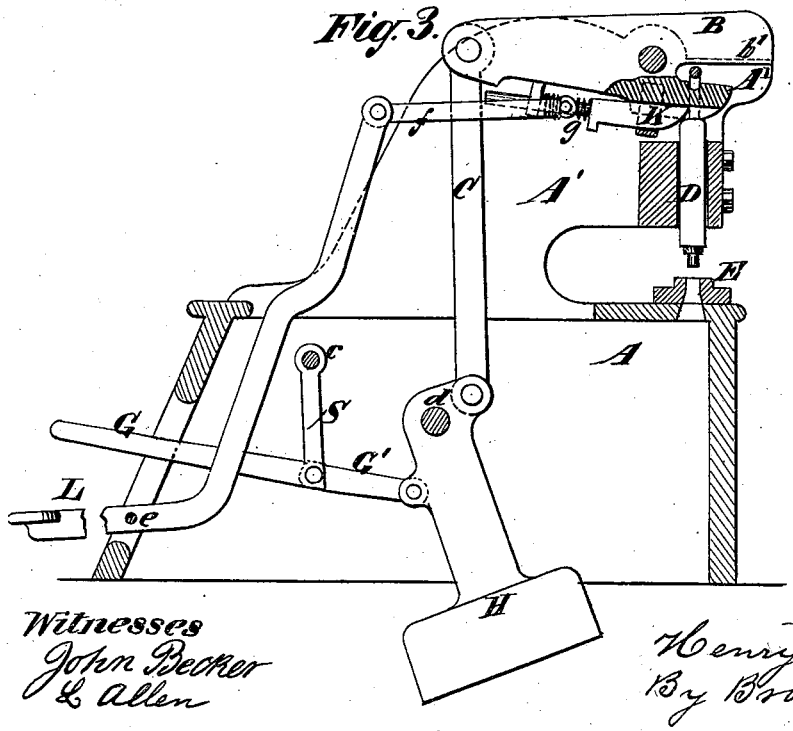


Fig. 3.



Witnesses
John Becker
L. Allen

Inventor
Henry O'Neill
By Brown + Allen
Atty

UNITED STATES PATENT OFFICE.

HENRY O'NEILL, OF NEW YORK, N. Y., ASSIGNOR OF ONE-THIRD HIS RIGHT TO NETTIE HERZBERG, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR SHEARING, PUNCHING, AND STAMPING METALS.

Specification forming part of Letters Patent No. **207,619**, dated September 3, 1878; application filed January 21, 1878.

To all whom it may concern:

Be it known that I, HENRY O'NEILL, of the city and State of New York, have invented a certain new and useful Improvement in Machines for Shearing, Punching, and Stamping Metals, of which the following is a description, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to machines for punching, shearing, and stamping purposes, designed to be operated by hand or by treadle, and in which the working blade of the shears or main beam has combined with it a pendulous lever or vibrating weight, which serves to give a lively and effective action to the machine.

The invention consists in a combination of a treadle, and engaging and disengaging wedge or device controlled by said treadle, with the mandrel which carries the punch or stamp, a main or working beam constructed to operate as a shears-blade as well as to actuate the punch or stamp through the intervention of the wedge, and a pendent vibrating weight with attached hand-lever for operating the main or working beam, substantially as hereinafter described.

Figure 1 represents a front-end view of a combined hand shearing and punching machine having the invention applied; and Figs. 2 and 3 longitudinal sections of the same on the line *x x*, Fig. 1, with the devices for engaging and disengaging the punch in different positions.

A is the base portion of the main frame, made hollow to receive the working mechanism, and supporting on it a slotted goose-neck or upper portion, A′, of the frame. This upper frame portion A′ is suitably constructed to carry and receive within it the working beam or blade B of the shears, and rod C connecting said beam with its operating mechanism below; and it furthermore is constructed to form the stationary cutting-blade *b* or *b′* of the shears, also to steady and guide the punch or mandrel D of the punch or stamp, as the case may be.

The die E, in which the punch works, is secured on the lower portion, A, of the main frame by bolts of smaller diameter than the holes through which they pass in said die, so that, on loosening said bolts, the die may be readily adjusted in different directions to bring it in central position with the punch.

G S is a bent hand-lever, by which the machine is worked. This hand-lever, the fulcrum of which is at *c*, may be arranged to project from either end of the machine, and has pivoted to its angular end a connecting-rod or link-bar, G′, which connects said lever with a vibrating or swinging pendent weight, H. This swinging or vibrating weight has its fulcrum or center of motion at *d*, and is connected by the rod C with the working beam or blade B. Said vibrating weight serves to give a lively and effective action to the machine, and to keep the latter running with sufficient force to perform a certain amount of work after the operator has ceased to actuate the machine by the hand-lever G S, and also to keep up a lively and effective action of the machine after the punch or its mandrel has been disengaged from operation by the beam B, to afford opportunity for entering, removing, or adjusting the work relatively to the punch.

To provide for the engagement and disengagement of the punch or its mandrel D with the working-beam B and its attached vibrating weight H, without interfering with the motion of the beam B or its attached pendent weight H, the working-beam B has connected with or applied to its under side a sliding wedge, K, which, when thrust forward, as shown in Fig. 2, enters between the lower front portion of the beam B and the top of the punch-mandrel D, so that, as said beam B is rocked in connection or concert with the vibrating weight H, it communicates an up or down or working motion to the mandrel D, but so that when the wedge K is adjusted in a reverse direction, as shown in Fig. 3, the working beam or shears B, when rocking, fails to communicate any motion to the mandrel D.

This engaging and disengaging device or wedge K may be adjusted as described by any suitable means; but it is preferred to control it by means of a treadle, L, having its pivot at *e*, and connected by a rod or strap, *f*, with the sliding wedge, and so that the weight of the arm of the treadle L and its strap or rod *f*

serves to keep the wedge K pressed forward or into engaging position with the beam B and mandrel D. This adjustment of the wedge K may likewise, if desired, be assisted by a spring, *g*, applied either directly or indirectly to said wedge, or by an additional weight.

When it is desired to disengage the wedge K for the purpose of arresting the motion of the punch without interfering with the rocking action of the beam B and vibration of the weight H, the foot of the operator is applied to the treadle L to draw out the wedge from between the lower front portion of the beam B and the top of the mandrel D.

I claim—

The combination of the treadle L, the engaging and disengaging device or wedge K, the mandrel D, the working-beam B, and the pendent vibrating weight H with its attached hand-lever G S, substantially as specified.

HENRY O'NEILL.

Witnesses:

VERNON H. HARRIS,

GEO. WILLIAMS.