

H. WISLER.

PUNCHING, CUTTING AND SHEARING-MACHINE.

No. 172,840.

Patented Feb. 1, 1876.

Fig. 1.

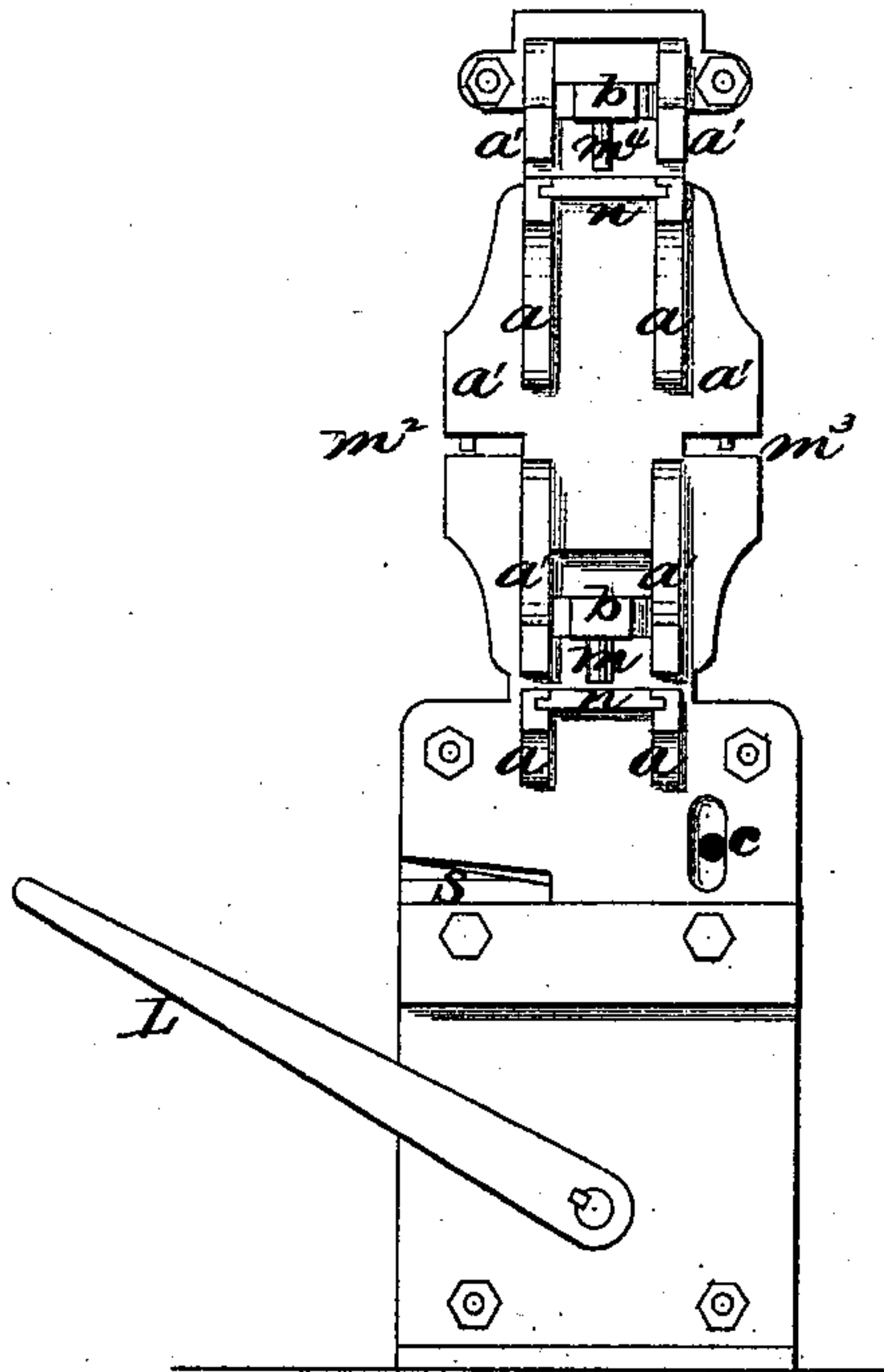


Fig. 2.

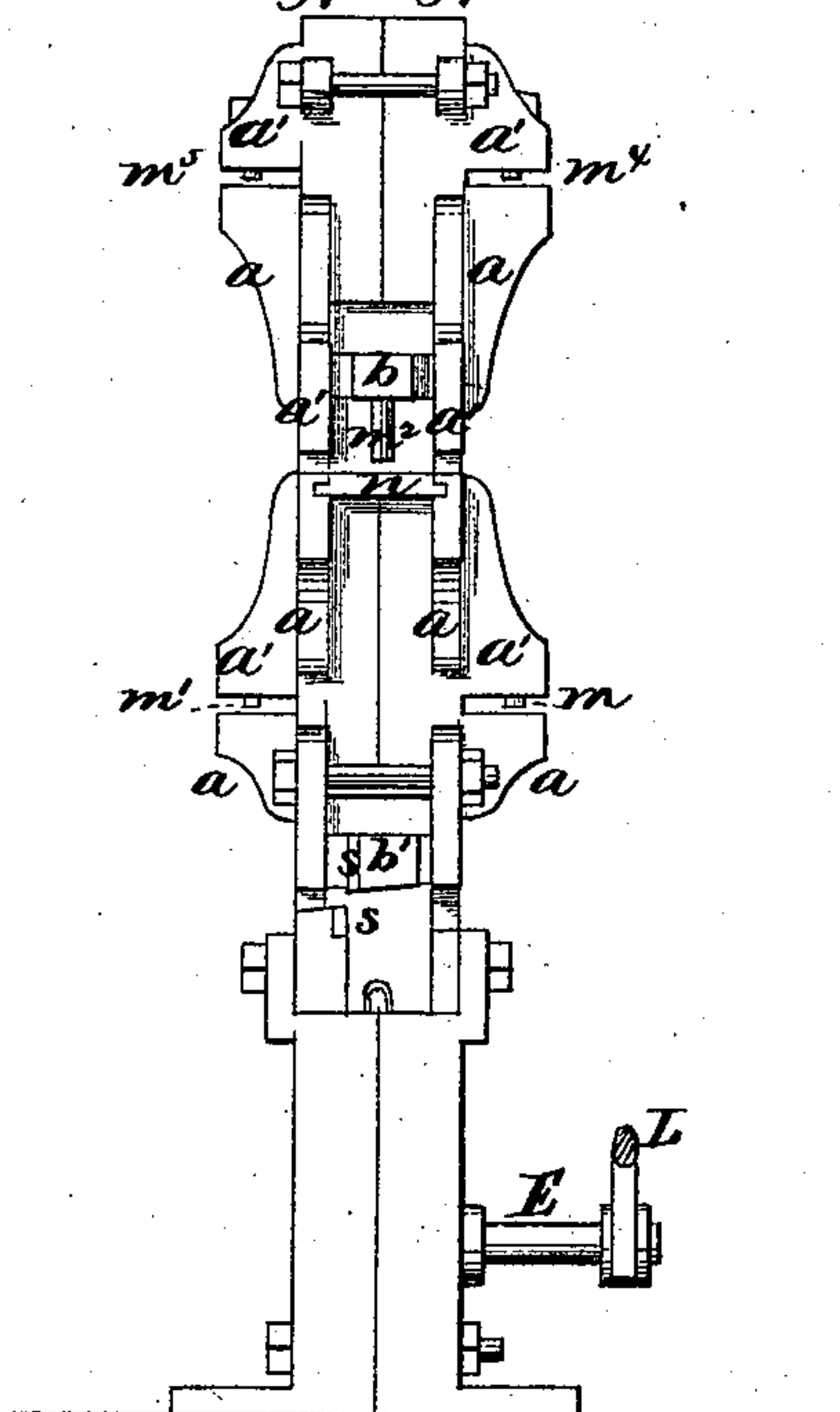
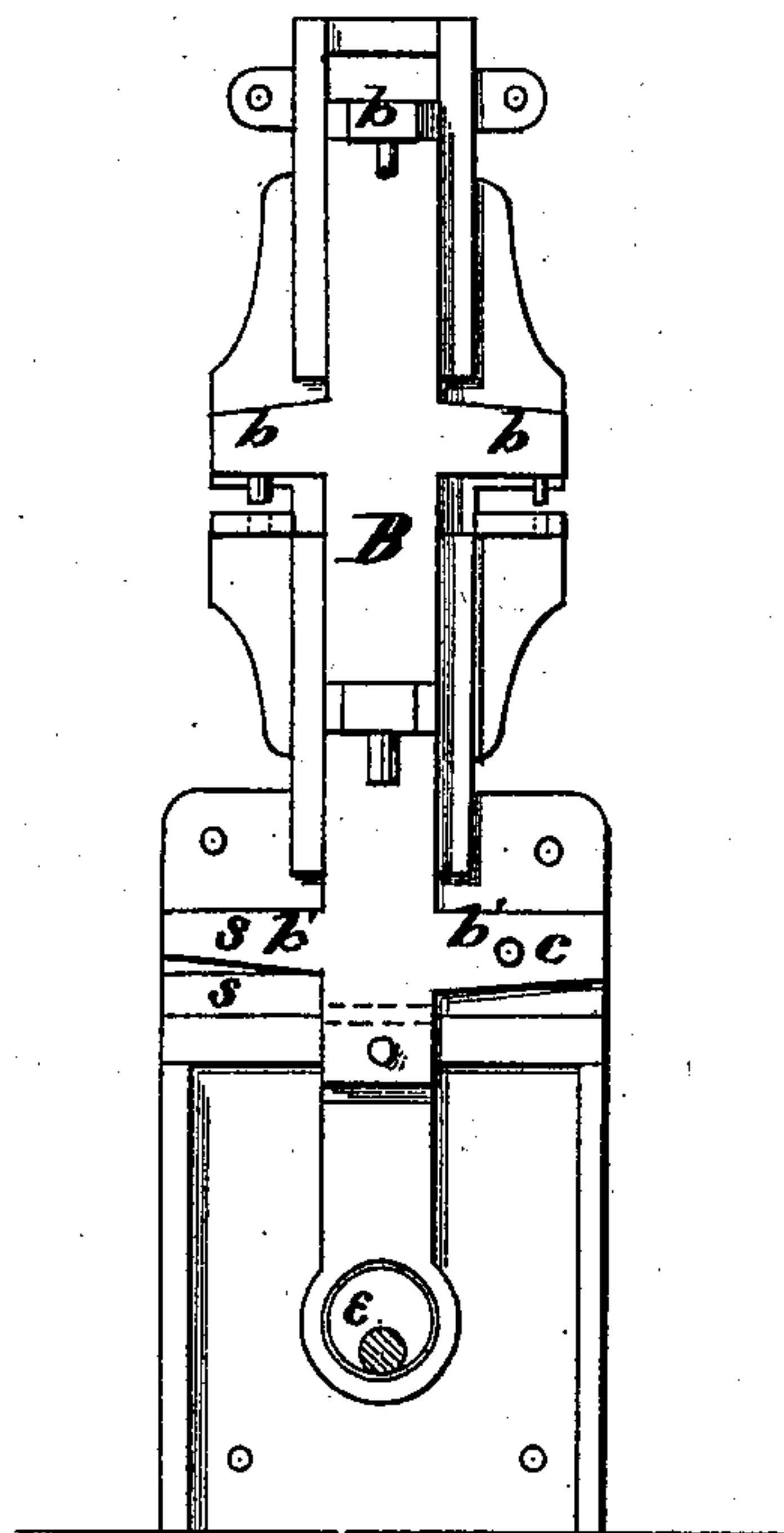


Fig. 3.



WITNESSES

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# UNITED STATES PATENT OFFICE.

HENRY WISLER, OF LIMA, INDIANA.

## IMPROVEMENT IN PUNCHING, CUTTING, AND SHEARING MACHINES.

Specification forming part of Letters Patent No. **172,840**, dated February 1, 1876; application filed March 26, 1875.

*To all whom it may concern:*

Be it known that I, HENRY WISLER, of Lima, in the county of La Grange and State of Indiana, have invented a new and Improved Punching, Cutting, and Shearing Machine; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a front elevation; Fig. 2, a side elevation; and Fig. 3, an elevation, showing one-half of the frame with the punching, cutting, and shearing apparatus attached, but without the other part of the frame.

Similar letters of reference in the drawings denote the same parts.

The object of this invention is to provide for public use a more convenient and efficient device than those heretofore known for cutting, shearing, and punching metal; and to this end my invention consists in the combination of a compact upright supporting frame with a system of punches of varying sizes, arranged on different sides of the frame at different heights, and a cutter and shears, all attached to a single plunger or sliding bar, by the tensile strength of which the power is applied.

In the drawings, A A' represent the upright frame, composed of two parts connected by bolts, which frame may be adapted for attachment to the floor, or to a block, bench, or other suitable support, and may be swiveled or otherwise adapted to be turned around, so as to present the different sides in front or at any angle required, for the purpose of facilitating the work, giving a better light, or accommodating the workmen. This frame is so constructed that a straight opening or chamber extends from at or near its upper end down to or near its lower end, in which opening or chamber works the sliding plunger or bar B, that operates the cutters *c*, shears *s*, and punches *m m<sup>1</sup> m<sup>2</sup> m<sup>3</sup> m<sup>4</sup> m<sup>5</sup>*. The power is applied by a shaft, E, and eccentric *e*, and a hand or foot lever, L, or belt-pulley, as circumstances may require.

The dies *n*, which are adjustable, removable, and changeable, as usual, are mounted in stout grooved brackets *a*, cast on or at-

tached to the frame, and the punches work between similar inverted brackets *a'*. The punches are preferably arranged opposite to each other, in pairs, each pair being at right angles to the next pair above or below, as shown in the drawings, so that all may be operated at once without wrenching or straining the frame. They are supported upon or in projecting arms or cross-heads *b b*, which constitute an integral part of or are attached to the sliding plunger B, and extend from the central chamber out through suitable slots in the walls of the frame, between the brackets *a' a'*. The arms *b b* are so constructed that the punches can be adjusted, changed, or removed in the usual manner. The shears and the cutter are of the usual form and construction, the latter being here represented as adapted to cutting off round metal bars or rods, and the cutting-blades of both being supported upon and operated by projecting arms *b'* of the plunger B. The punches are intended to vary in size, so that holes of different sizes may be readily made in a plate or bar of metal by simply changing it from one punch to another, which, owing to their convenient arrangement, can readily be done. Two or more workmen can use the same machine at the same time, for punching different-sized holes, without interfering with each other in the least; or one workman can cut or shear metal while others are punching.

The brackets *a' a'* strengthen the frame and enable it to be made comparatively light and portable, and the plunger B also assists in preventing it from getting wrenched or strained. The plunger may be made comparatively slender and light, since the application of the power depends on its tensile strength alone. The whole apparatus is simple in construction, compact, convenient of operation, and durable. For heavy work the frame may be strengthened by making the brackets *a' a'* of different pairs continuous, or in any other way that the judgment of the manufacturer may suggest; while for very light work the frame and other parts may be made much lighter than here shown.

I do not limit myself to the precise construction or form of the several parts here shown, but consider my invention as pertaining rather



to their combination and arrangement, by which greater convenience and facility of operation are attained, and the machine rendered very simple and compact, considering the amount and variety of work to which it is adapted.

Having thus described my invention, I claim as new—

The combination of the frame A A', constructed as described, the series of punches *m*

*m*<sup>1</sup>, &c., the shears *s*, and the cutters *c*, all operated simultaneously by power applied at *e* to a single plunger or sliding bar, B, so as to utilize the tensile strength thereof, for the purpose substantially as described.

HENRY WISLER.

Witnesses:

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WM. H. MINNIX.