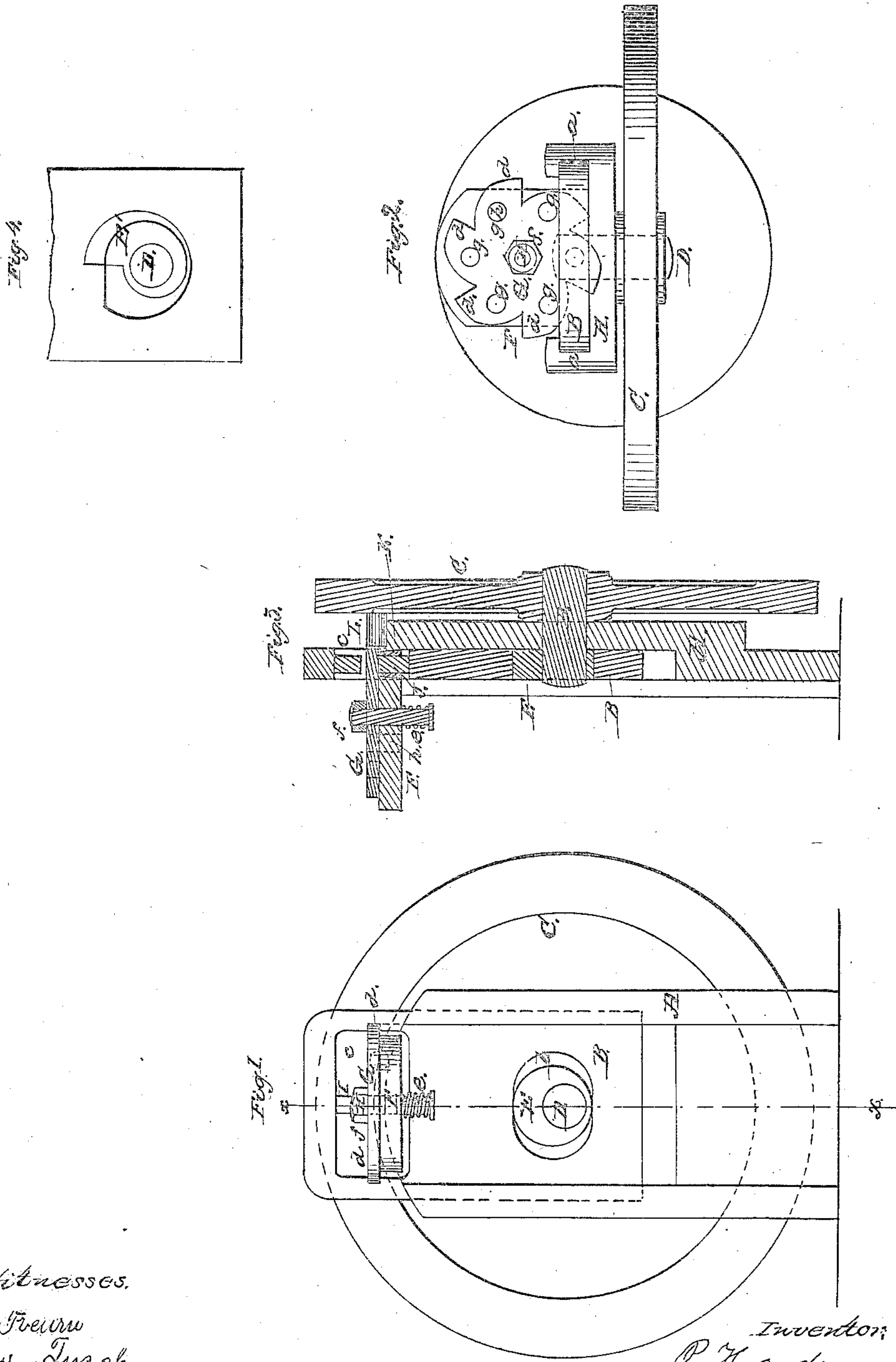


P. Hayden,
Metal Punch,

N^o 49,877-

Patented Sep. 12, 1865.



Witnesses.
Wm. Freeman
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Inventor:
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UNITED STATES PATENT OFFICE.

PETER HAYDEN, OF PITTSBURG, PENNSYLVANIA.

IMPROVED AUTOMATIC PRESS.

Specification forming part of Letters Patent No. 49,877, dated September 12, 1865.

To all whom it may concern:

Be it known that I, PETER HAYDEN, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Automatic Press; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of my invention; Fig. 2, a vertical section of the same, taken in the line *x x*, Fig. 1; Fig. 3, a plan or top view of the same; Fig. 4, a modification of a part pertaining to the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved press designed for striking up or swaging articles into various forms; and it consists in the employment or use of a feed-wheel in connection with a driving-wheel, a bolster-plate, a slide, and a cam, all arranged in such a manner as to admit of the work being performed automatically and expeditiously.

A represents an upright framing, in which a slide, B, is fitted in grooves *a a*, so that it may work freely up and down; and C is what may be termed a "driving-wheel" having upon its axis D a cam, E, which in this instance is an eccentric, as shown clearly in Fig. 1. This cam E is fitted and works in an elliptical opening, *b*, in the slide B, the major diameter of which opening is in a horizontal line. By means of this cam and elliptical opening it will be seen that a reciprocating motion will be imparted to the slide B on turning the wheel C.

In the upper part of the slide B there is an opening, *c*, through which a bolster-plate, F, attached horizontally to the framing A passes, the opening *c* being of sufficient dimensions as to admit of the proper movement of the slide B. On this bolster-plate F the feed-wheel G is placed, the latter being provided with teeth *d*, like those of a ratchet, and having the pin H, on which it works, extending down through the bolster-plate F, with a spiral spring, *e*, upon it, said spring having a tendency to cause the

head *f* of the pin to bear upon the feed-wheel and cause sufficient friction to prevent the casual turning of the latter.

The feed-wheel G has a series of holes, *g*, made in it at equal distances apart, said holes being in a circle concentric with the wheel and extending entirely through the latter.

The slide B has two pins, I J, attached to it, one, I, depending from the upper edge of the opening *c* and the other, J, extending up vertically from the lower edge of said opening, the two pins being in the line with each other and with a hole in the bolster-plate F, in which the dies K are fitted. (See Fig. 3.)

The holes *g* in the feed-wheel are of such a diameter as to admit of the pin I passing through them.

The wheel C has a pin, L, projecting horizontally from it at such a point as to engage with the teeth of the feed-wheel and move the latter the distance of one tooth at every revolution of the wheel. By this means a hole, *g*, in the feed-wheel is brought in line with the hole in the bolster-plate in which the dies K are fitted.

The operation is as follows: Motion is given the wheel C by any convenient power, and the articles to be swaged or struck up in proper form are placed in the holes *g* of the feed-wheel and brought consecutively over the dies in the bolster-plate, into which they drop, one at a time, and are compressed, swaged, or struck up in proper form by the descent of the pin I. The finished articles are forced up out of the dies into the holes *g* of the feed-wheel by the upward movement of the pin J, it being understood that the slide B descends and rises while the feed-wheel remains stationary, the pin L coming in contact with a tooth of the feed-wheel at the termination of each upward movement of the slide B. The finished articles are discharged from the holes in the feed-wheel through a hole, *h*, in the bolster-plate.

I would remark that I do not confine myself to the use of the eccentric cam E, as a scroll or spiral cam, E', may be used, as shown in Fig. 4, said cam raising the slide and the latter falling by its own weight.

The device, it will be seen, works automat-

ically throughout and will perform its work rapidly.

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

The feed-wheel G, provided with holes *g* to receive the work to be operated upon, and moved by means of the rotation of the driving-wheel O through the medium of the teeth on the

feed-wheel and a pin attached to O, or other equivalent means, in connection with the bolster-plate F and the pins I J, and operated from wheel C through the medium of a cam, substantially as and for the purpose herein set forth.

PETER HAYDEN.

Witnesses:

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