

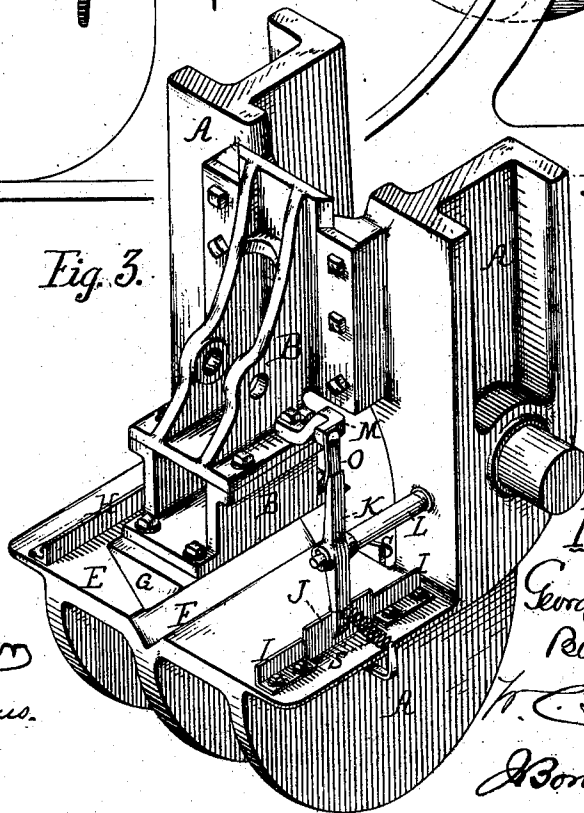
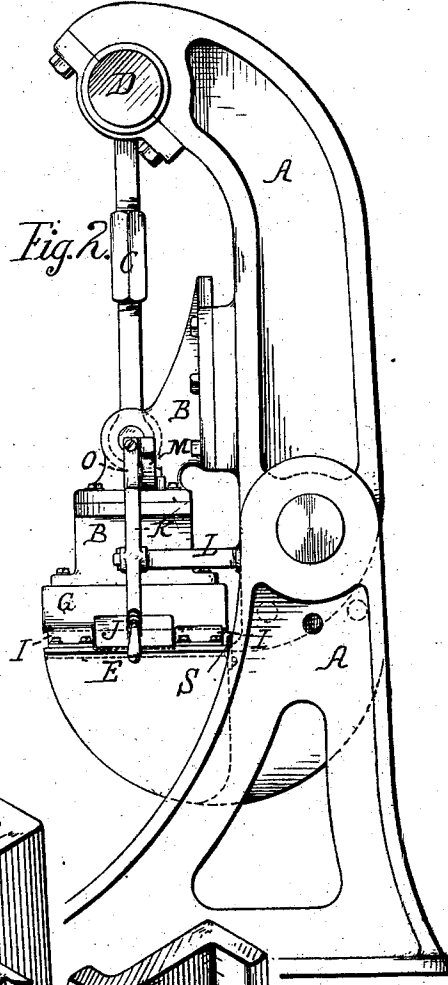
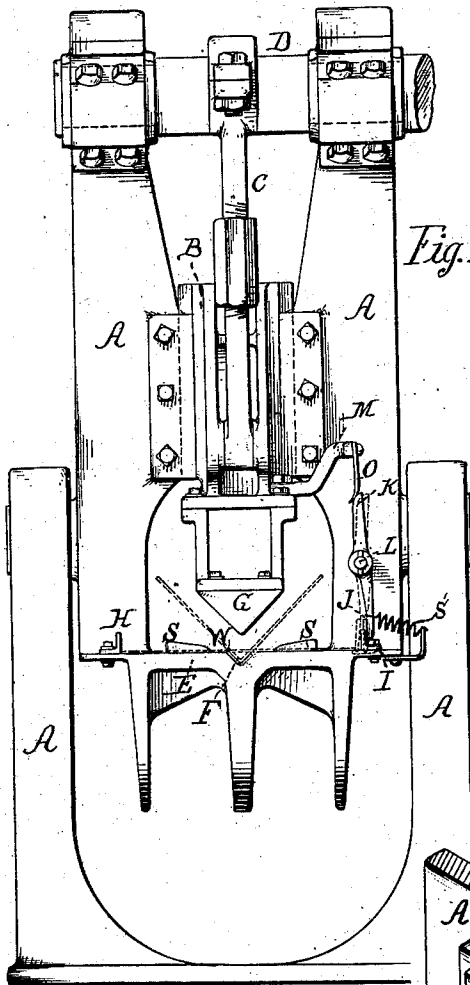
(Model.)

2 Sheets—Sheet 1.

G. H. PERKINS.
Gage for Presses.

No. 227,827.

Patented May 18, 1880.



Witnesses.

John Dolez
John K. Rupertus.

Inventor:

George H. Perkins
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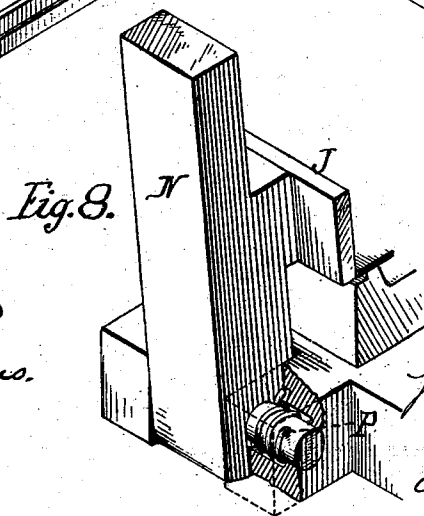
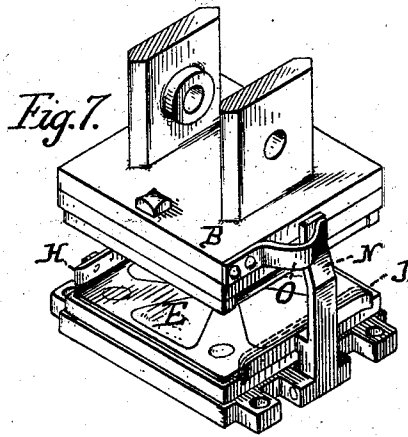
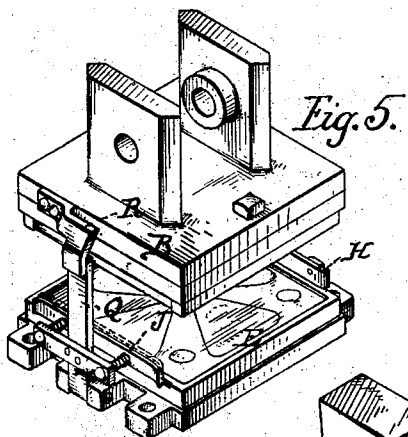
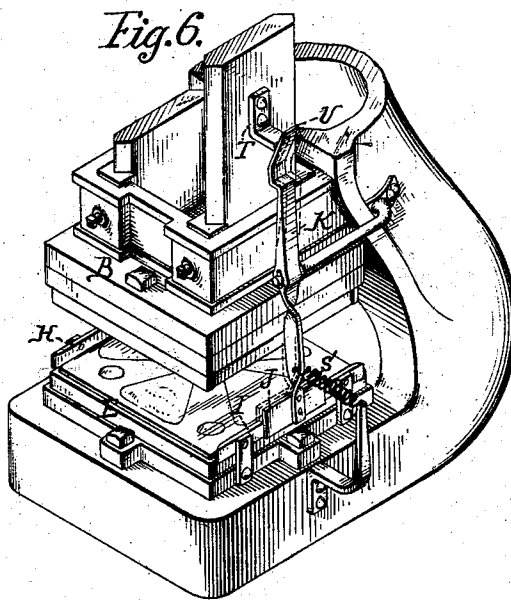
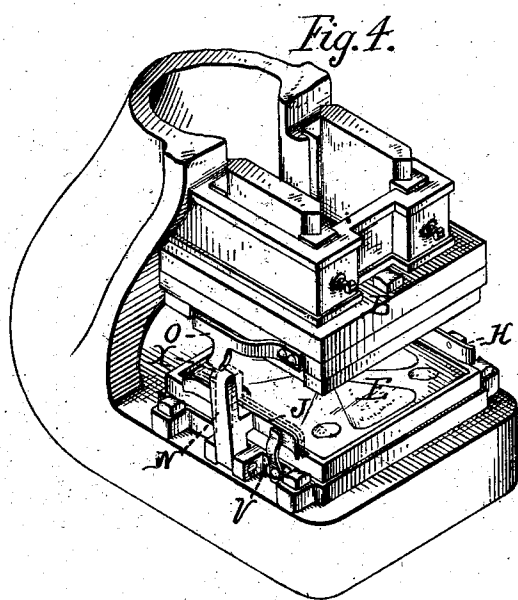
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2 Sheets—Sheet 2.

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Witnesses

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John Kupertus

Inventor

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UNITED STATES PATENT OFFICE.

GEORGE H. PERKINS, OF PHILADELPHIA, PENNSYLVANIA.

GAGE FOR PRESSES.

SPECIFICATION forming part of Letters Patent No. 227,827, dated May 18, 1880.

Application filed March 19, 1880. (Model.)

To all whom it may concern:

Be it known that I, GEORGE H. PERKINS, of Philadelphia, Pennsylvania, have invented an Improvement in Adjustable Gages for Die-Presses, of which the following is a full, clear, and true description, reference being had to the accompanying drawings, forming part hereof, in which—

Figure 1 is a front elevation of a convenient form of my gage applied to a press for striking up to a right angle the body-blanks of petroleum-cans; Fig. 2; a side elevation, and Fig. 3 a partial perspective detail, of the same. Figs. 4, 5, 6, 7, and 8 are perspective details of modified constructions of my gage.

Similar letters of reference indicate corresponding parts wherever used.

My invention relates to the gages which are applied to the bed-die of striking, forming, and punching presses, and which are employed to indicate and control the position of the blanks thereon.

Its object is the construction of an automatic gage which shall be adapted to place and retain in proper lateral position blanks of slightly varying sizes—that is to say, blanks which depart in slight degree from a standard width, the arrangement and action being such that as the striking-die descends it operates the gage to place and retain the blank in proper position.

With reference to the drawings, A represents any form of stamping-press, and B the plunger of the striking-die, operated in the present instance by a connecting-rod, C, from a crank-axle, D.

E is the bed-die in the device, (represented in Figs. 1, 2, and 3,) provided with a central V-shaped depression, F, corresponding to a triangular striking-die, whereby the blank W is bent.

H is a fixed gage upon one side of the bed-die, running in the present instance across at the side in a direction parallel with the V-shaped depression F. S S are back or stop gages applied to the bed. I I are two fixed gages upon the opposite side of the bed-die, each to the extent of its length parallel with the gage H, and both in the same line longitudinally.

The gages H and I I may, of course, be se-

cured in any desired position with reference to the form of blank operated upon, and to such extent and as to their form are adapted to be varied. When placed, however, they are rigidly affixed.

J is my automatic gage, of any desired form, and in the present instance of the width of the space between the fixed gages I I. It is attached to the lower extremity of a rock-shaft K, pivoted upon a shaft, L, projecting from the face of one of the standards of the press, and is held back by a spring, S'. The upper face of the rock-shaft K, which fronts toward the striking-die, is provided with a cam-surface. The control of the spring S' upon the gage and rock-shaft is such that at rest their position is that represented in full lines in Figs. 1 and 3 of the drawings—that is to say, resting against a toe, O, secured to an arm, M, affixed to the striking-die or the plunger thereof. The lower face of the toe O is best slightly curved, as represented, so as to lessen the friction and render more certain the movement which it imparts to the rock-shaft.

Such being the construction of the apparatus referred to, its operation is as follows: The striking-die being raised to the position shown in Fig. 1, the spring draws back the gage so that the cam-face of the rock-shaft lies against the toe O, in which position the adjustable gage J is back of the line of the fixed gages I I. The blank is fed by the operator upon the bed-die between the gages I I, H, and S S, which are set as nearly as possible to the standard and form of the blank to be operated upon. In case, however, the blank varies in width from the standard, it has heretofore been impossible that its position should be accurately determined by fixed gages, and it has happened that blanks being slightly out of position, or by reason of being slightly smaller than the standard, have been wrongly stamped; to obviate which I have devised the automatic gage herein described, by the operation of which blanks varying from the standard are set up true against the gage H, so as to occupy the proper rectilinear position in respect to the striking-die and the gage H, by the operation of which, also, blanks of the standard size are enabled to be freely fed, and are then placed

in proper position, whereby the capacity of the press is increased fully thirty per cent.

As the striking-die descends, the toe L, descending with it, encounters the cam-surface of the rock-shaft K, thereby expanding the spring and deflecting in the automatic gage J against the blank, of whatever width or form the latter may be, so as to place it firmly against gage H.

It is obvious that the action of the gage terminates prior to the time when the striking-die encounters the blank, thereby insuring to the device certainty of operation.

I have represented and above described a convenient form of apparatus effectuating my invention.

It is obvious, however, that many modified forms of construction may be resorted to with equally beneficial results, as are represented, for instance, in the modified forms of Figs. 4, 5, 6, and 7 of the drawings.

Figs. 4, 5, 6, and 7 represent presses with flat enbossing or other dies.

In Fig. 4 an automatic gage is affixed to a pivoted lug, N, which, prior to the striking of the die, is held out in the position shown in full lines by means of a coiled spring, P, about the pivot, as shown in Fig. 8, or by other equivalent device. A toe, O, upon the striking-die acts against a cam-surface, X, on the exterior of the lug, deflecting and setting the gage up against the blank in the position indicated in dotted lines.

In Fig. 5 a similar arrangement of guide

is represented affixed to an arm, Q, which is deflected inward by a cam, R, upon the striking-die. The cam R embraces the arm Q.

In Fig. 6 an arrangement of rock-shaft is represented practically similar to that in Fig. 1, with slight differences of mechanical construction. A bracket, T, upon the striking-die acts against a cam-surface, U, upon the upper extremity of the rock-shaft.

In Fig. 7 an arrangement similar in principle and operation to that of Fig. 4 is represented, with the exception, however, that the mechanical construction of the parts O and N is different.

It is obvious that the two fixed gages I I may be dispensed with and the adjustable gage alone employed in connection with the fixed gage H, as in Figs. 4, 5, and 7.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

In a die-press, the combination, with a fixed gage upon the bed-die, of an automatic gage adapted to be moved against the blank by the movement of the striking-die, so as to place and retain the blank in position.

In testimony whereof I have hereunto signed my name this 10th day of February, A. D. 1880.

GEORGE H. PERKINS.

In presence of—

J. BONSALE TAYLOR,
C. B. TAYLOR.