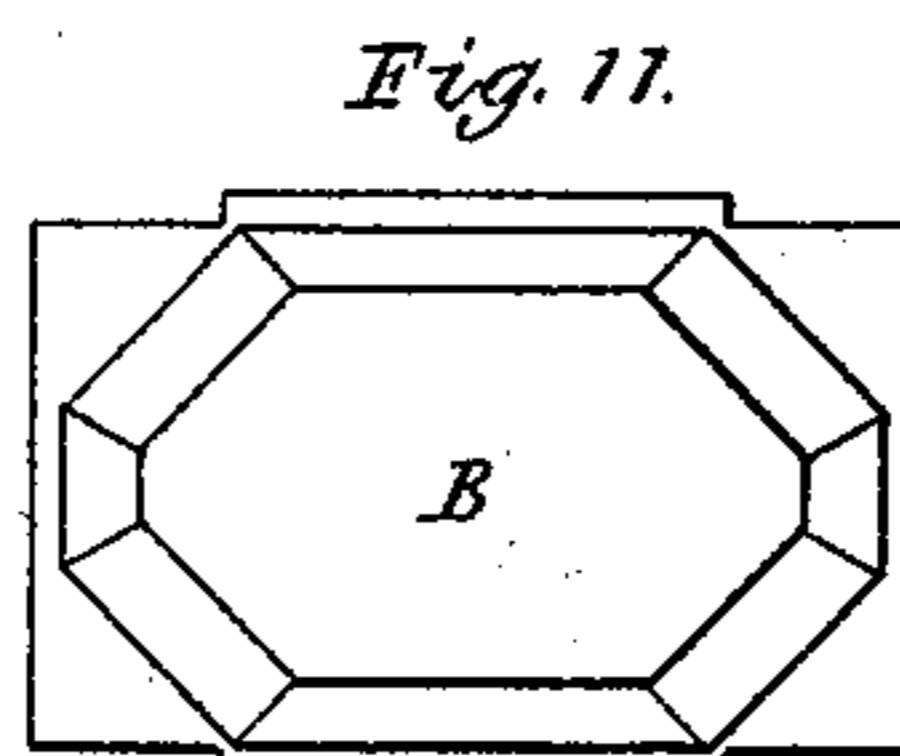
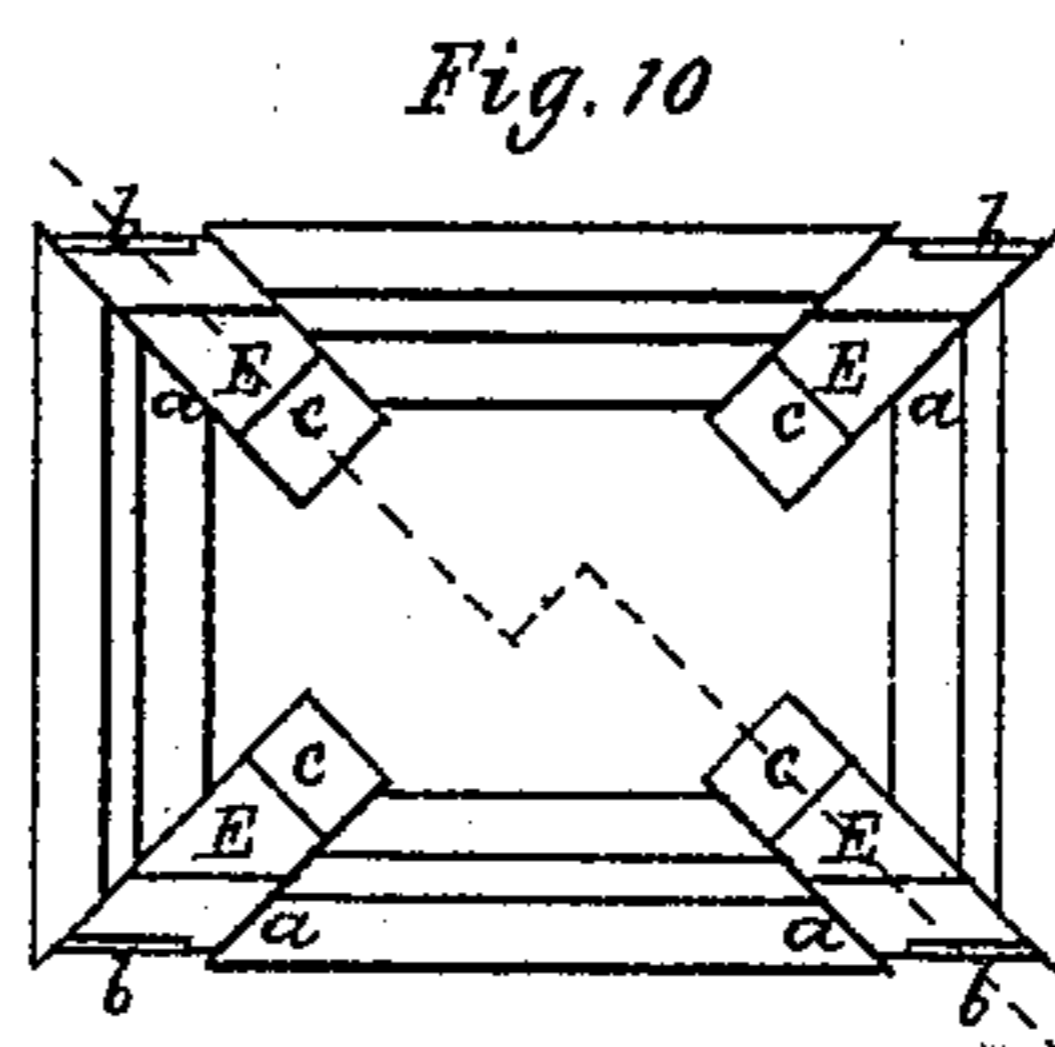
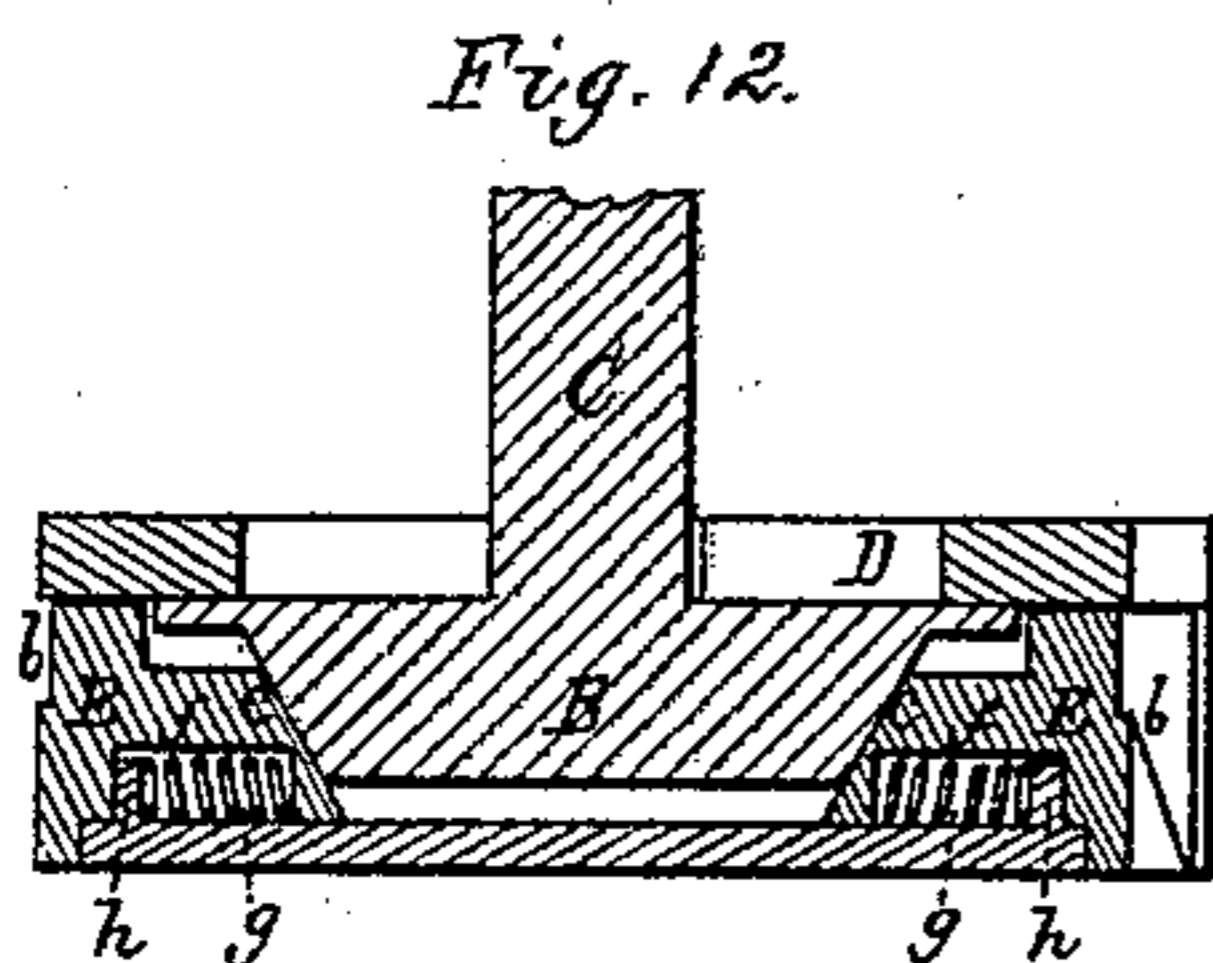
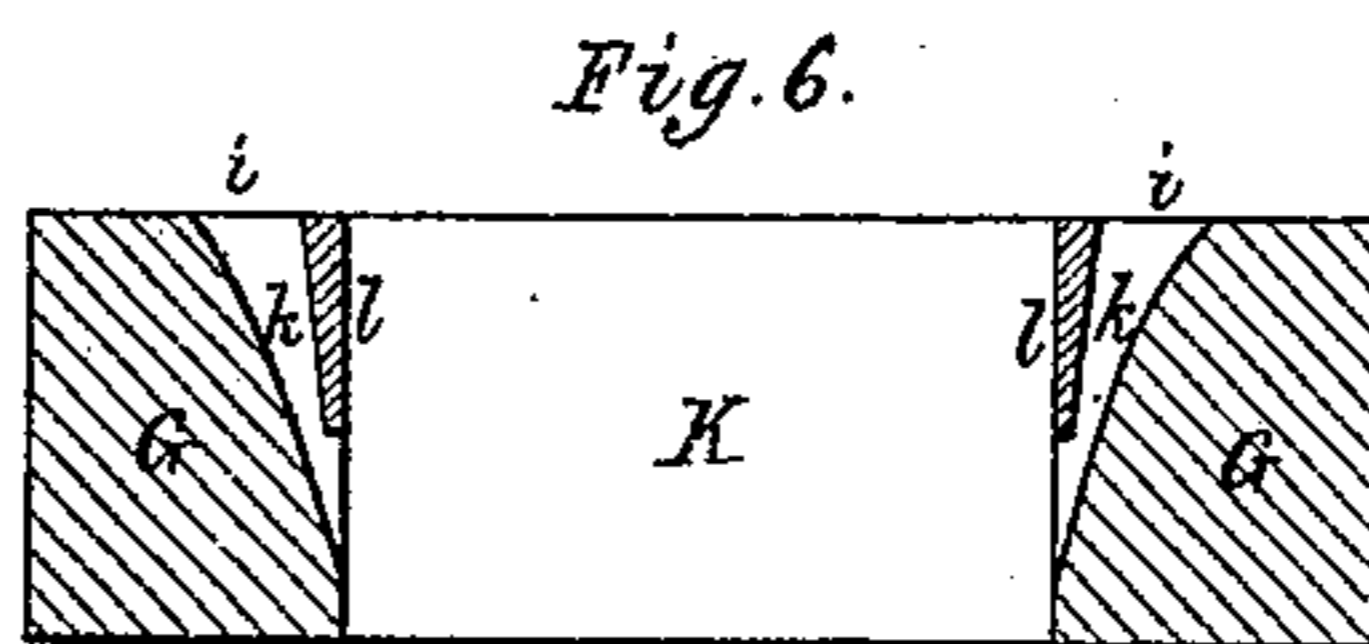
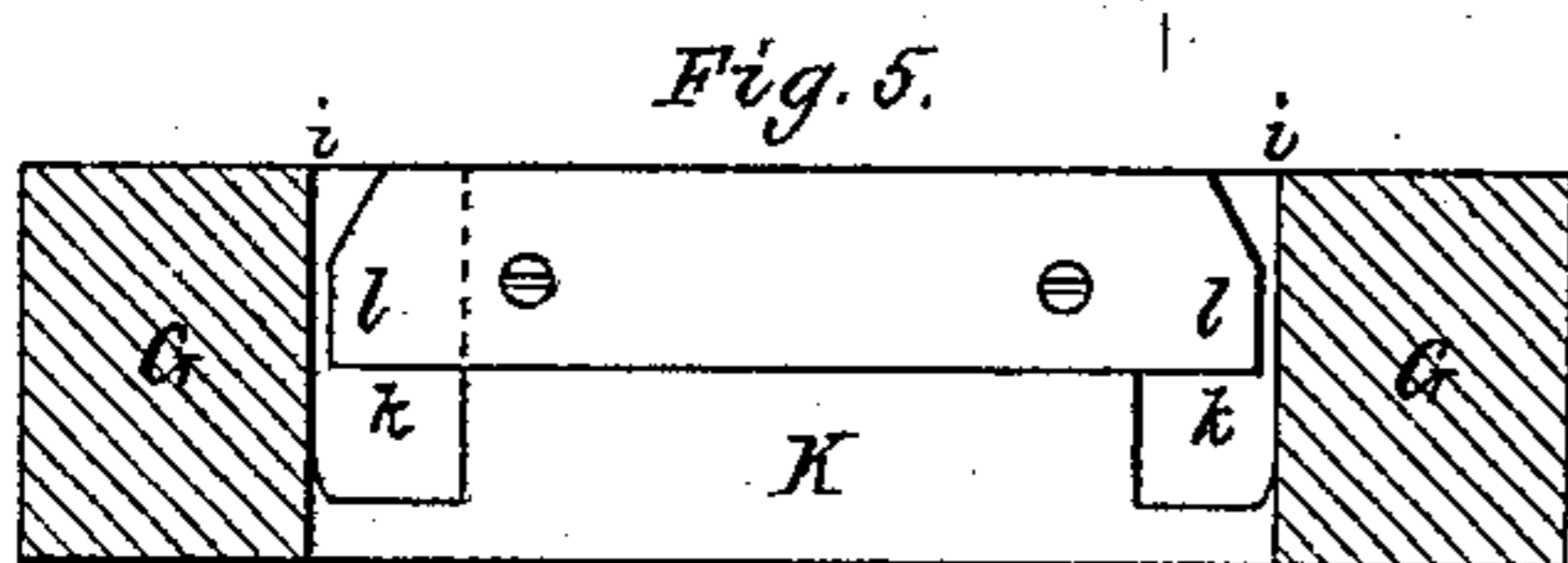
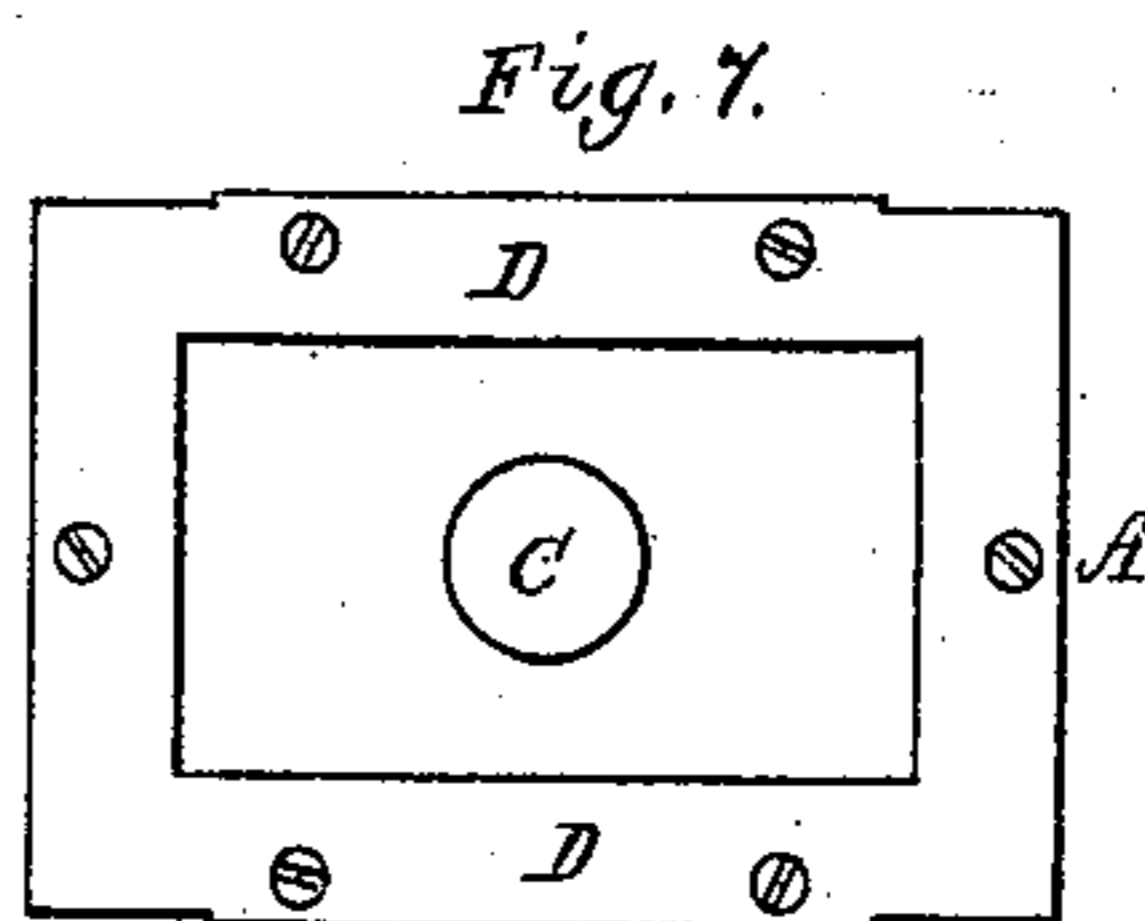
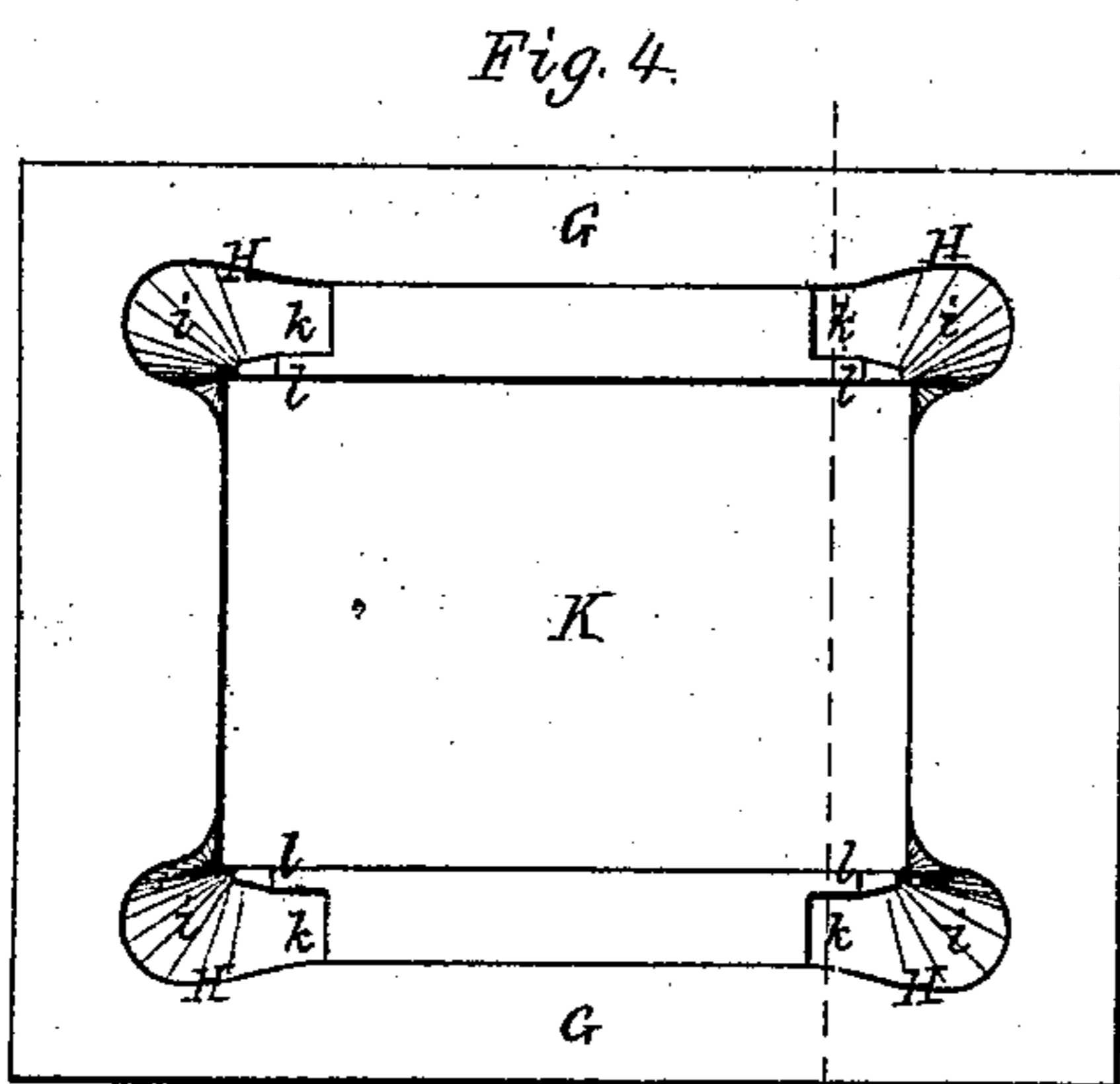
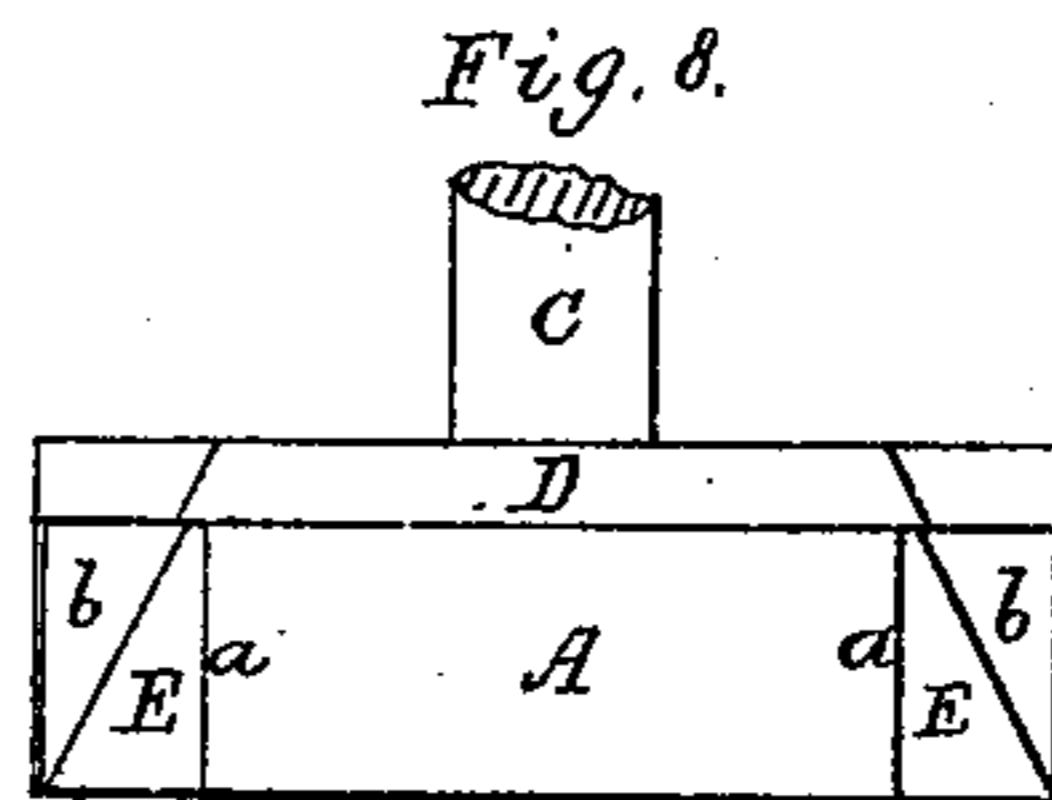
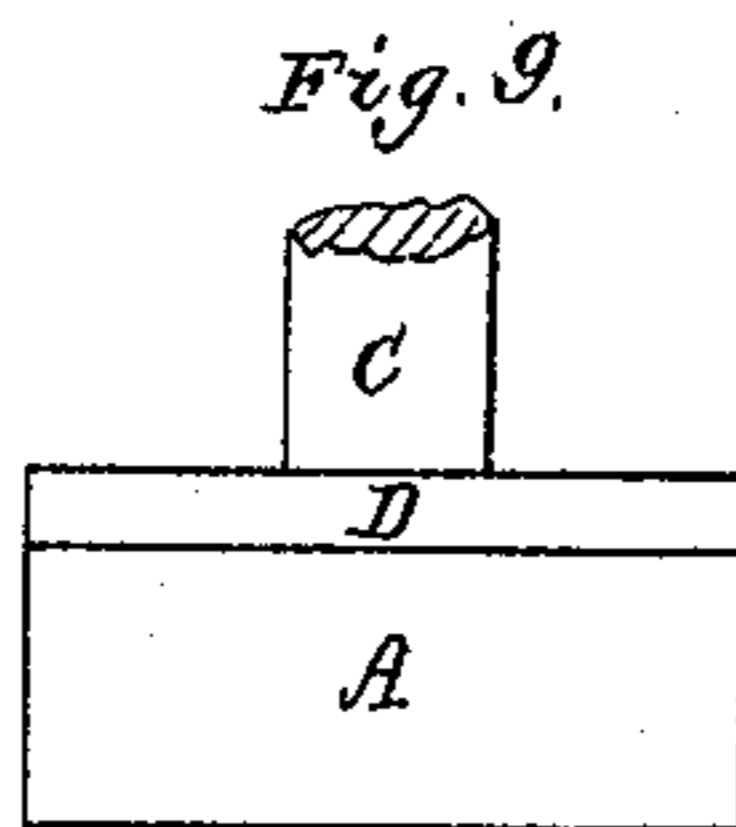
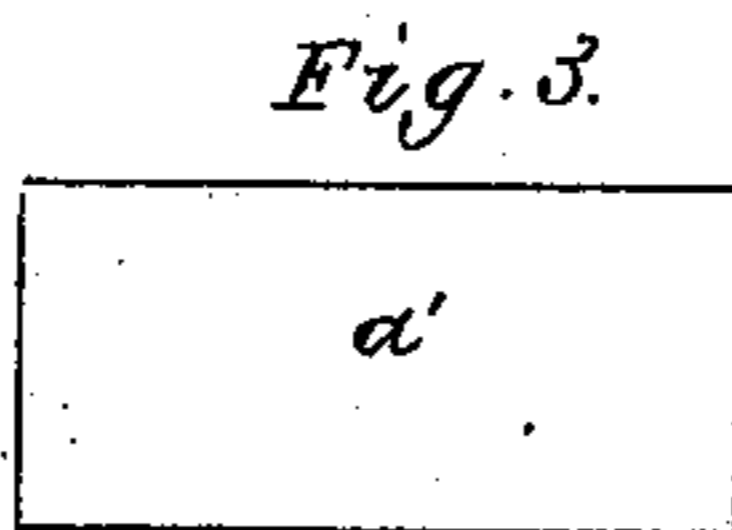
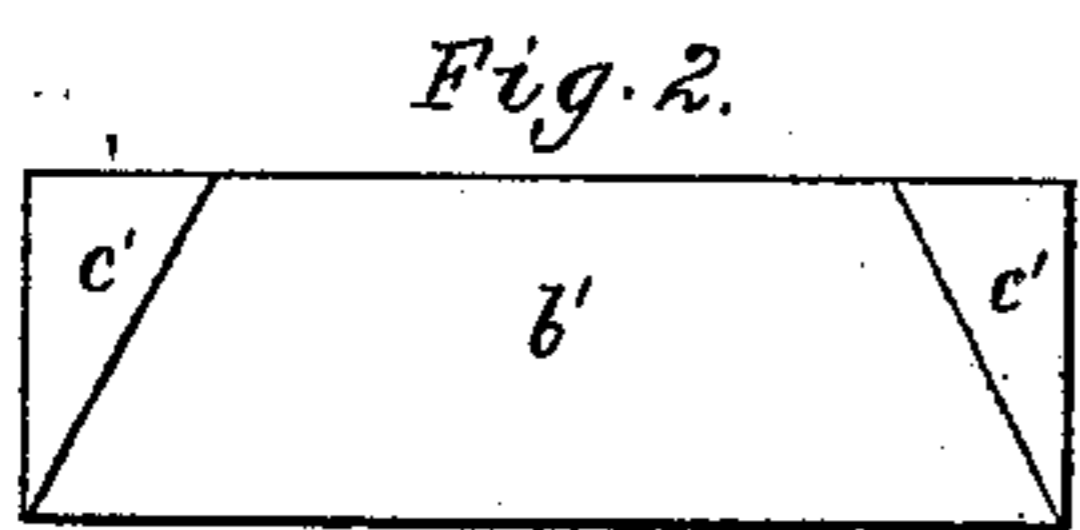
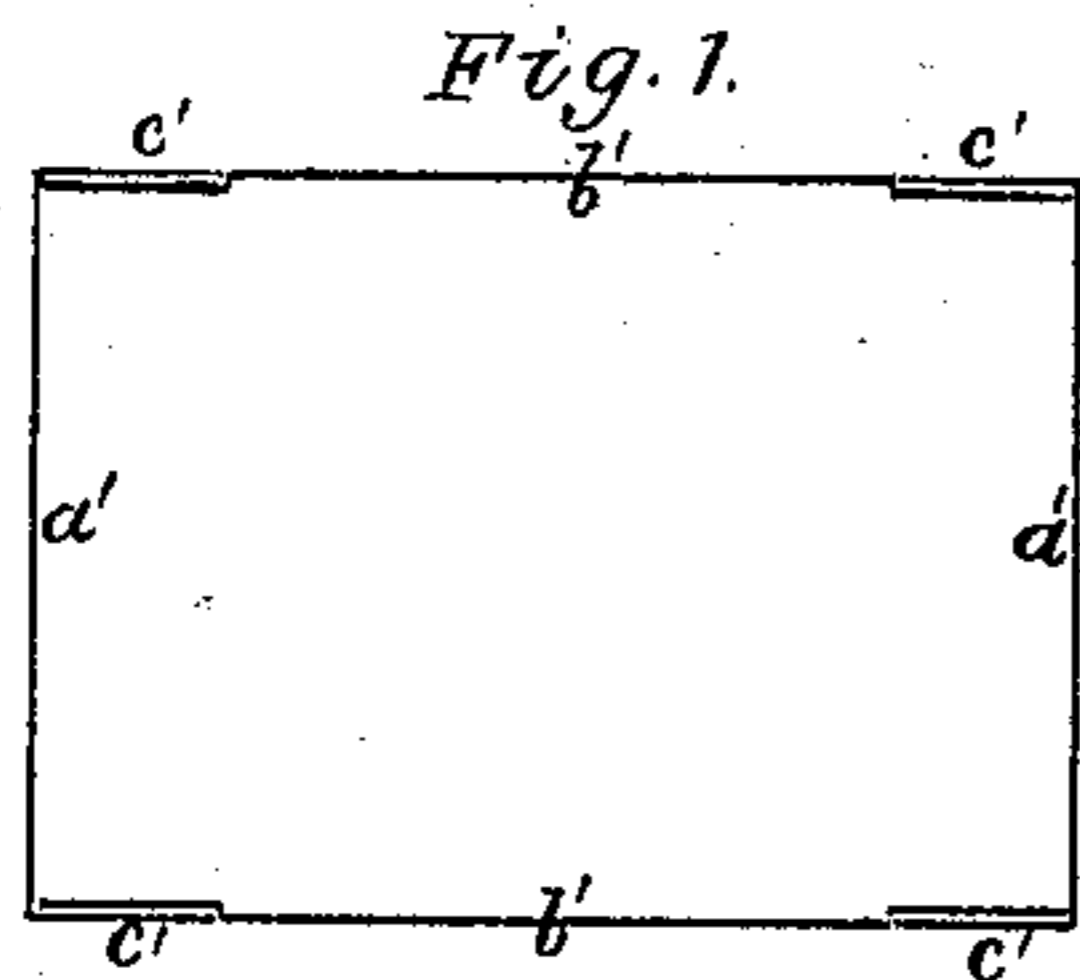


H. MARTYN.
SHEET-METAL DIES.

No. 174,693.

Patented March 14, 1876.



Witnesses.
S. W. Piper
L. W. Miller

Henry Martyn.
by his attorney.
R. H. Eddy

UNITED STATES PATENT OFFICE.

HENRY MARTYN, OF EAST MEDFORD, ASSIGNOR TO HIMSELF AND
BENJAMIN F. BROWN, OF NEWTON CENTRE, MASSACHUSETTS.

IMPROVEMENT IN SHEET-METAL DIES.

Specification forming part of Letters Patent No. **174,693**, dated March 14, 1876; application filed
January 12, 1876.

To all whom it may concern:

Be it known that I, HENRY MARTYN, of East Medford, of the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Dies for the Manufacturing of Pans, Box-Bodies, or their Covers; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, and Fig. 3 an end elevation, of a box-body of the kind as made by the dies hereinafter explained. Fig. 4 is a top view, Fig. 5 a longitudinal section, and Fig. 6 a transverse section, of the female die, this latter section being taken through the projections and inclined walls of two opposite folding cavities at one end of the die. Fig. 7 is a top-view, Fig. 8 is a side elevation, and Fig. 9 an end elevation, of the male die. Fig. 10 is a top view of the body of the male die without the plunger. Fig. 11 is an under-side view of the plunger. Fig. 12 is a diagonal section of the male die.

The dies are for the manufacture, from a plate of metal, of a pan, box-body, or cover, having at each corner the metal folded against one side only, as shown in Figs. 1 and 2, in which *a' a'* denote the shorter sides, and *b' b'* the longer sides, of a box-body, while *c'* represents the metal at each corner folded in a triangular form against one only of the sides.

With the male die of my present invention I employ a female die, made or provided at its corners with tapering cavities, and a single inclined wall to each, and one blade or projection only to each of the said cavities, all being substantially as hereinafter described, and as shown on Figs. 4, 5, and 6.

The male die, combined or for use with the aforesaid female die, has two opposite sides unrecessed, and the other two provided with inclined openings, and with recessed slides thereto, having mechanism for operating them, (the said slides,) all being essentially as shown in Figs. 7, 8, 9, 10, 11, and 12, and hereinafter described.

The male die, instead of being in one piece or block, having at each corner a single rectangular recess to receive the fold of the metal,

is there provided with a movable recessed slide, and with a spring thereto to draw or force the slide inward. The die also has mechanism for simultaneously pressing all the slides outwardly, so as to cause them to be flush or even with the recessed sides of the die.

After the male die, in conjunction with the female die, may have performed its office of making a pan, box-body, or cover therefor, and an attempt is made to draw such male die upward out of the female die, the corner slides will be simultaneously forced inward far enough to force them from the corner folds of the article, in order for such article to be separated from the die.

While my present male die contains a series of recessed slides and their operative mechanism, each of such slides operates through one side only of the body of the die, the next adjacent side being plain, and continued from corner to corner of the body.

In the drawings, A denotes the said body of the male die, it being chambered to receive a tapering plunger, B, which is fixed to a stem or shank, C, projecting upward from it. A rectangular frame, D, fastened to the upper surface of the body A projects over the plunger at its edges, in manner as represented. The body has, through two opposite sides and next its corners, four oblique openings or passages, *a a a a*, each being to receive and guide one of a series of recessed slides, E, having in its outer end one triangular recess, *b*, arranged as shown, it being for reception of the triangular fold of a plate while the said plate is being converted by the dies into a pan, box-body, or cover. Each slide E is beveled on its inner end, as shown at *c*; and within the slide is a chamber, *f*, to receive a helical spring, *g*, which, at its inner end, bears against that of the chamber, the outer end of the spring resting against an abutment, *h*, projecting up from the die into the chamber, in manner as represented.

On pressing down the plunger all the slides E will be simultaneously advanced the requisite distance, and will be preserved in their positions by the plunger during the descent of the die into or through the female die, such slides being retracted or forced backward by

their springs as soon as the male die may have passed through the fellow die. This fellow or female die, as shown in the drawings, consists of a rectangular frame or open block, G, provided at each corner of its rectangular opening K with a tapering cavity, *i*, and a single inclined wall or surface, *k*, the latter being in one side only of the opening H. To each cavity there is a blade or projection, *l*, arranged with the cavity in manner as shown. The tapering cavity, its inclined wall, and the blade or projection *l* will, while a plate is being forced by the male die down through the female die, cause the metal to constitute the fold to be folded in a triangular shape around and against one side only of the box-body or article, and into the next contiguous recess of the slide E of the male die.

I do not herein claim a female die made as shown in the United States Patent No. 163,793,

dated May 25, 1875, and granted to me, such die being constructed to fold the metal in opposite ways, or on each side of a box, at each corner thereof, as my present female die is formed to fold the metal in one direction, or against one side only, at each corner of the box-body.

I claim as my present invention—

In combination or for use with a female die, substantially as described, the male die, having two of its body sides unrecessed, and the other two provided with oblique openings *a* and recessed slides E, having mechanism for operating the latter, all being essentially as set forth.

HENRY MARTYN.

Witnesses:

R. H. EDDY,
J. R. SNOW.