

(No Model.)

2 Sheets—Sheet 1.

A. DOLGE.

PRESS FOR FORMING PIANO FORTE HAMMERS.

No. 361,144.

Patented Apr. 12, 1887.

Fig. 1.

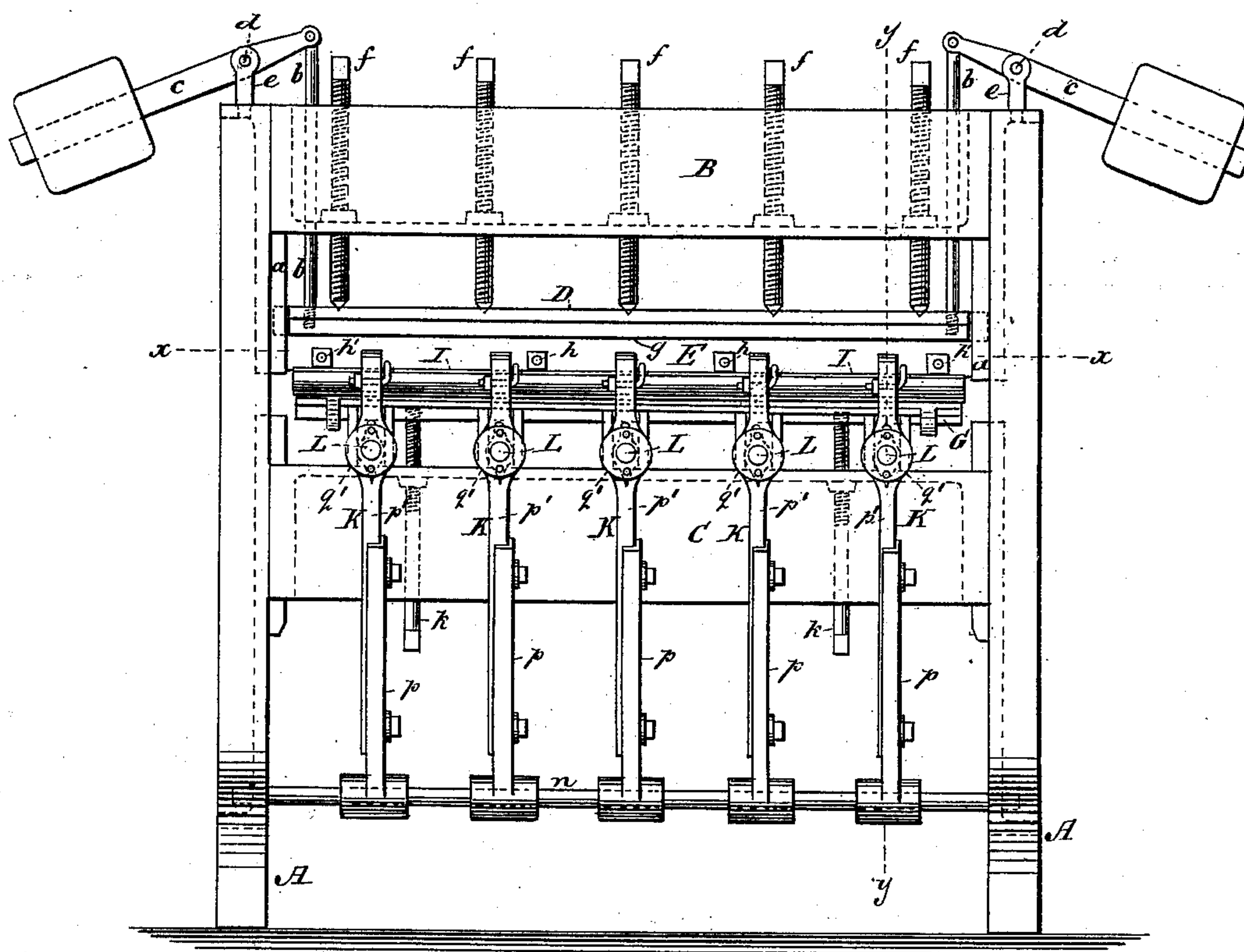
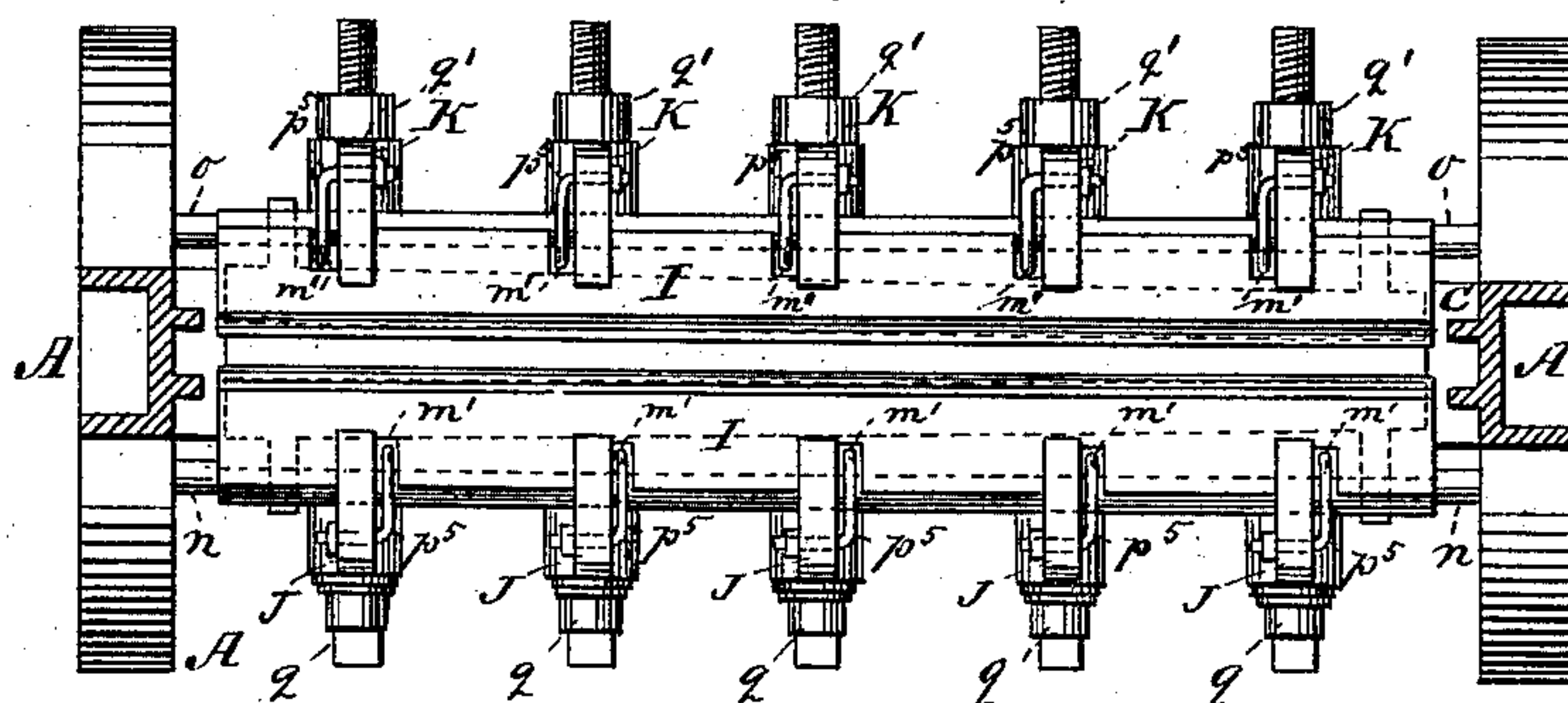


Fig. 2.



WITNESSES:

Eduard Wolff
William Miller

INVENTOR

Alfred Dolge.

BY

Van Santvoord & Hanff

ATTORNEYS

(No Model.)

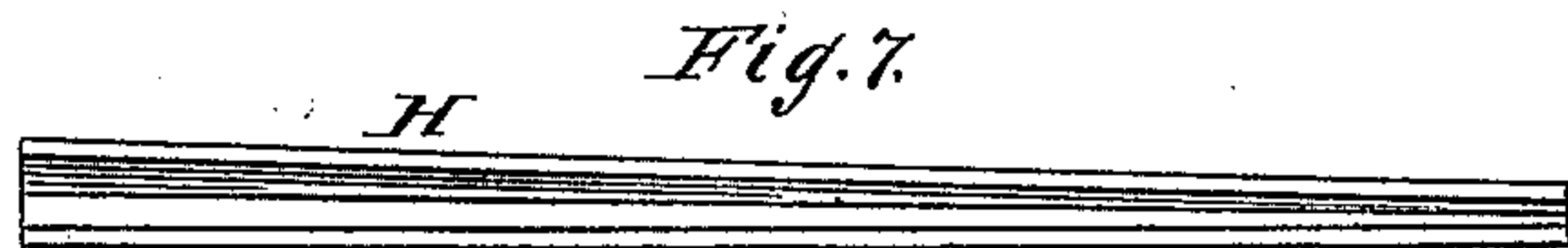
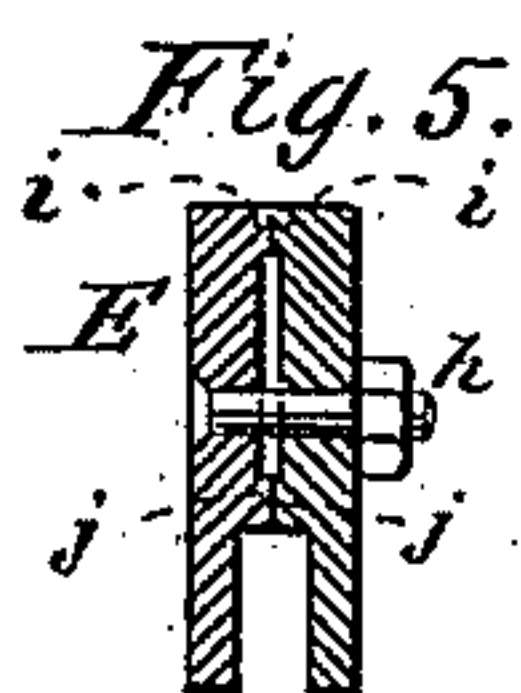
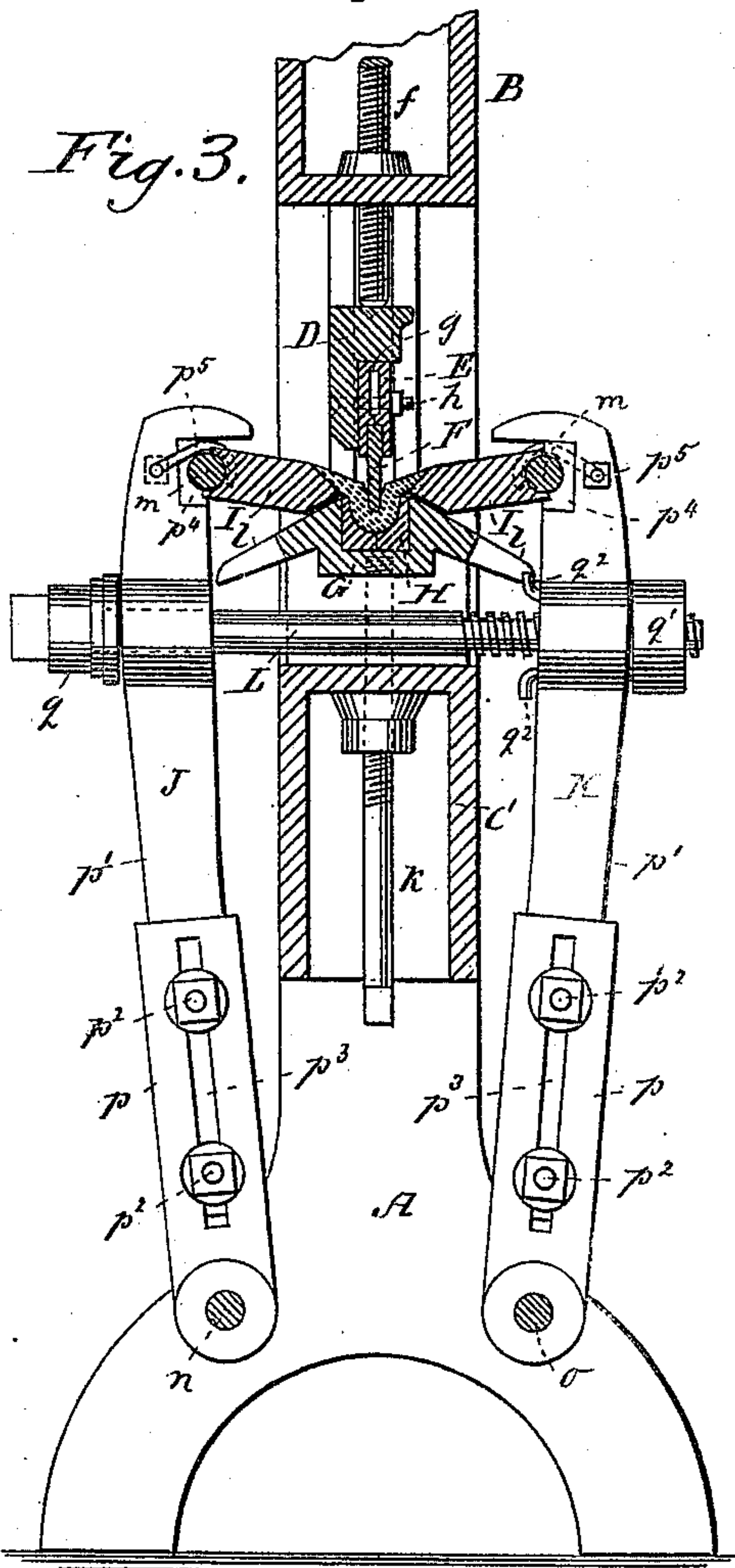
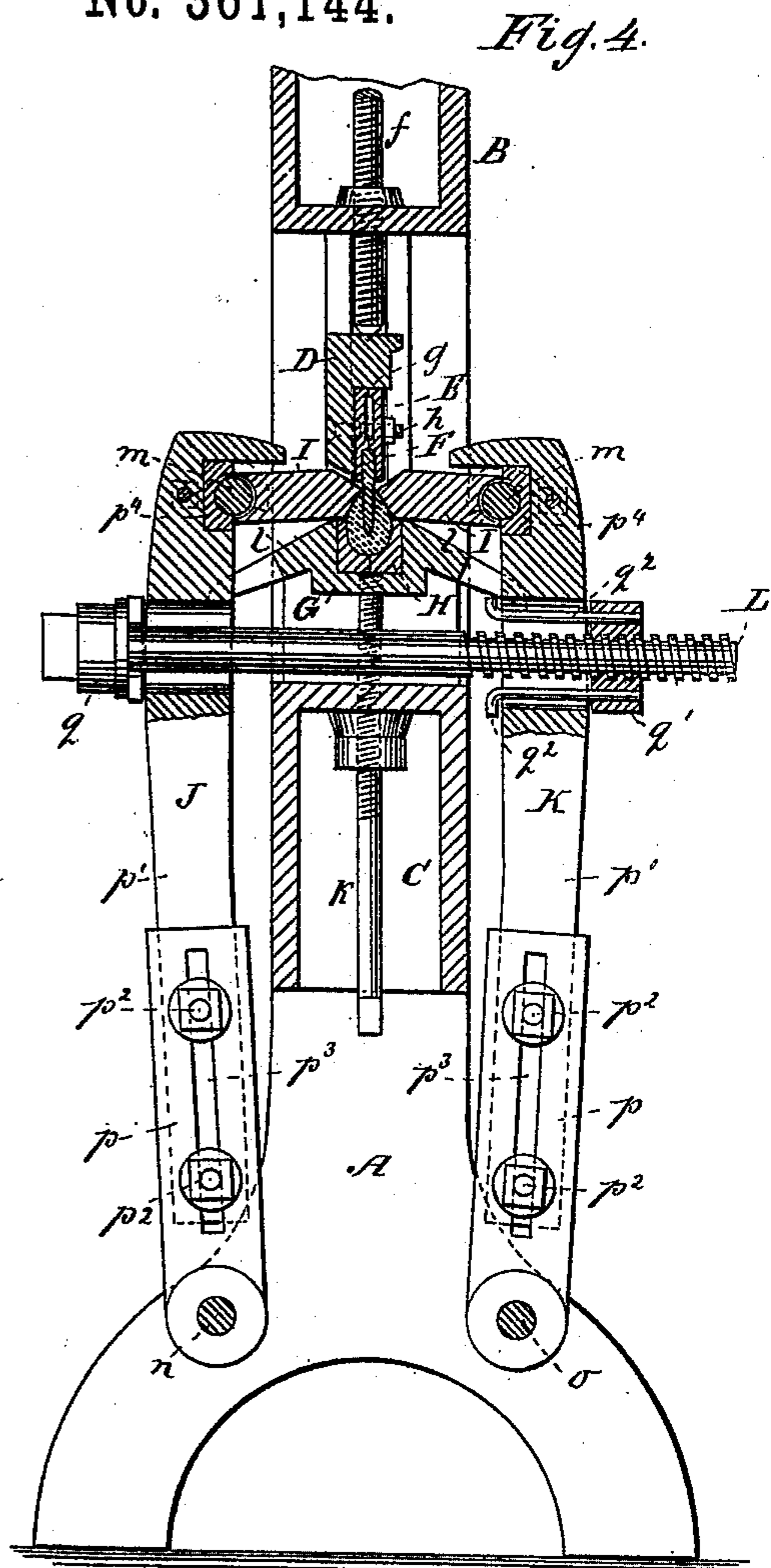
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WITNESSES:

Eduard Wolff.
William Miller

INVENTOR

Alfred Dolge.
BY *Van Santvoord & Knapp*

ATTORNEYS

UNITED STATES PATENT OFFICE.

ALFRED DOLGE, OF NEW YORK, N. Y.

PRESS FOR FORMING PIANO-FORTE HAMMERS.

SPECIFICATION forming part of Letters Patent No. 361,144, dated April 12, 1887.

Application filed February 17, 1887. Serial No. 227,919. (No model.)

To all whom it may concern:

Be it known that I, ALFRED DOLGE, a citizen of the United States, residing at New York, in the county and State of New York, have
5 invented new and useful Improvements in Presses for Forming Piano-Forte Hammers, of which the following is a specification.

This invention relates more particularly to certain novel devices for applying the felt to the hammer-moldings, the construction and operation of said devices being pointed out in the following specification and claims, and illustrated in the accompanying drawings, in which—

15 Figure 1 represents a front view of my apparatus. Fig. 2 is a horizontal section in the plane xx , Fig. 1. Fig. 3 is a transverse section on a larger scale than the previous figure, the plane of section being indicated by the
20 line yy , Fig. 1. Fig. 4 is a similar section showing the working parts of the apparatus in a different position. Fig. 5 is a detached section of the molding-clamp. Fig. 6 is a detached plan of the trough. Fig. 7 is a de-
25 tached plan of the felt-die.

Similar letters indicate corresponding parts.

In the drawings, the letters A A designate the side pieces of the frame which supports the working parts of the press, said side pieces
30 being firmly connected by the beams B C.

Beneath the beam B is situated the slide D, which moves up and down in guides aa , and which is suspended from rods bb .

These rods extend up through the beam B, and their upper ends are pivoted to levers cc , which are fulcrumed on pivots dd , secured in standards ee , and which are subjected to the action of weights and springs, so that the slide D has a tendency to move up whenever
40 it is free to do so. The beam B is tapped to receive a series of screws, ff , by means of which the slide D can be depressed against the action of the weights or springs. Of course the springs can be made to act directly on the
45 rods b .

The slide D is provided with a shoulder, g , (best seen in Figs. 3 and 4,) and beneath this shoulder is secured the clamp E, which is intended to receive the hammer-molding F. The molding-clamp E extends from one end
50 of the slide D to the other, and it is fastened

to the same by screws $h'h'$. It is composed of two plates, which are compressed by means of screws hh , extending through them.

In Fig. 5 I have shown a detached section 55 of the molding-clamp E, from which it will be seen that the two plates which compose said clamp are provided with lips ii at their upper edges and with lips jj beneath the screws hh , and when the plates are drawn together to 60 the position shown in Figs. 3 and 4, so as to clamp the hammer-molding F, the lips jj form a shoulder, against which the inner end of the hammer-molding abuts, and which prevents said hammer-molding from being pressed up- 65 ward.

The beam C of the frame A is tapped for a series of screws, kk , and upon these screws is placed a trough, G, into which fits the felt-die H. The trough G is made of cast-iron, and it 70 is provided with inclined wings ll , which form the guides for the plungers I I, as will be presently explained. The cavity of the trough G is slightly tapering in the direction of its length, (best seen in Fig. 6,) and the felt-die 75 H is formed to correspond to this taper, in order to accommodate itself to the varying thickness of the felt, which must be greater for the bass-hammers than for the treble-hammers, and the thickness of the hammer- 80 molding F is made to correspond to the tapering form of the felt-die. After the felt-die H has been placed into the trough G the strip of felt is put on, and the slide D is depressed by means of the screws ff , so that the hammer- 85 molding F forces the felt into the felt-die H, as shown in Fig. 3, and then the plungers I I are set in motion. These plungers are by preference made of flat pieces of wood, and their working-faces are Λ -shaped, as shown in Figs. 90 3 and 4, while their rear edges are made concave, to receive round metallic bars m , which are secured in position by screws or any other suitable means. The required motion is imparted to the plungers I I by means of jaws J 95 K, which, in the example shown in the drawings, are made in the form of levers, which swing on rods nn , secured in the side pieces, A A. As seen from the drawings, the jaws J are situated on one and the jaws K on the op- 100-
posite side of the beam C, and they are connected in pairs by screws L, (best seen in Figs.

3 and 4,) so that they can be caused to move toward each other. Each of the jaw-supporting levers is telescopic, being made in two sections, p and p' , the lower section, p , being provided with side flanges, between which the upper section, p' , slides, and the two sections are connected by screws p^2 , which pass through slots p^3 in the lower section. In the upper part of each jaw is fitted a box, p^4 , with a semi-circular cavity corresponding in diameter to the diameter of the metallic bars m in the ends of the plungers I I. When the bars m of the plungers have been adjusted in the boxes p^4 of the jaws J K, they are retained therein by means of hooks p^5 , which are pivoted to the sides of the jaws, (see Figs. 2 and 3,) and in order to allow these hooks to engage with the bars m recesses m' are cut into the bodies of the plungers I I. (See Fig. 2.) The screws L pass loosely through the jaws J K, and they are provided with heads q , which bear against the outer surfaces of the jaws J, and with nuts q' , which, when screwed on, bear against the outer surfaces of the jaws K. These nuts are prevented from turning round with the screws by any suitable means, such as keys q^2 , Fig. 4, which extend through grooves in the holes of the jaws K, and which at the same time permit said nuts to accommodate themselves to the varying position of the jaws in regard to the screws if the jaw-supports are made in the form of levers.

From this description it will be seen that when the screws f are turned back the slide D, together with the molding-clamp E, is moved upward automatically, so that the screws h' , which secure the clamp to the slide, can readily be reached, and the clamp can be taken off for the reception of a molding and replaced without much trouble or loss of time.

Another great advantage arises from the inclined guides l for the plungers I. In pressing the felt up against the hammer-molding it is very desirable that the strain of the plungers shall be upward, for if the strain be downward during any part of the stroke of the plungers the felt cannot be drawn up snug against the hammer-molding.

By referring to Fig. 3 it will be seen that in my press the plungers I, as the same are moved up on the inclined guides $l l$, begin to act upon the felt with their upper inclined faces, and, as their inward movement continues, they continue to act upon the felt in an upward direction until the same lies close up against the hammer-molding. When this has been accomplished the lower inclined faces of the plungers come into action, as seen in Fig. 4.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the slide D and with means, substantially as described, for automatically raising the slide, of the trough G, the jaws J K, and the plungers I I, substantially as described.

2. The combination, with the jaws J K, the plungers I I, and the trough G, of the slide D and the detachable molding-clamp E, substantially as described.

3. The combination, with the slide D, the trough G, the plungers I I, and the jaws J K, of the inclined guides $l l$, substantially as described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

ALFRED DOLGE. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.