No. 702,183. Patented June 10, 1902.

J. F. BUCKLEY.

MOLDING PRESS.

(Application filed Aug. 14, 1901.)

(No Model.) 2 Sheets—Sheet 1.

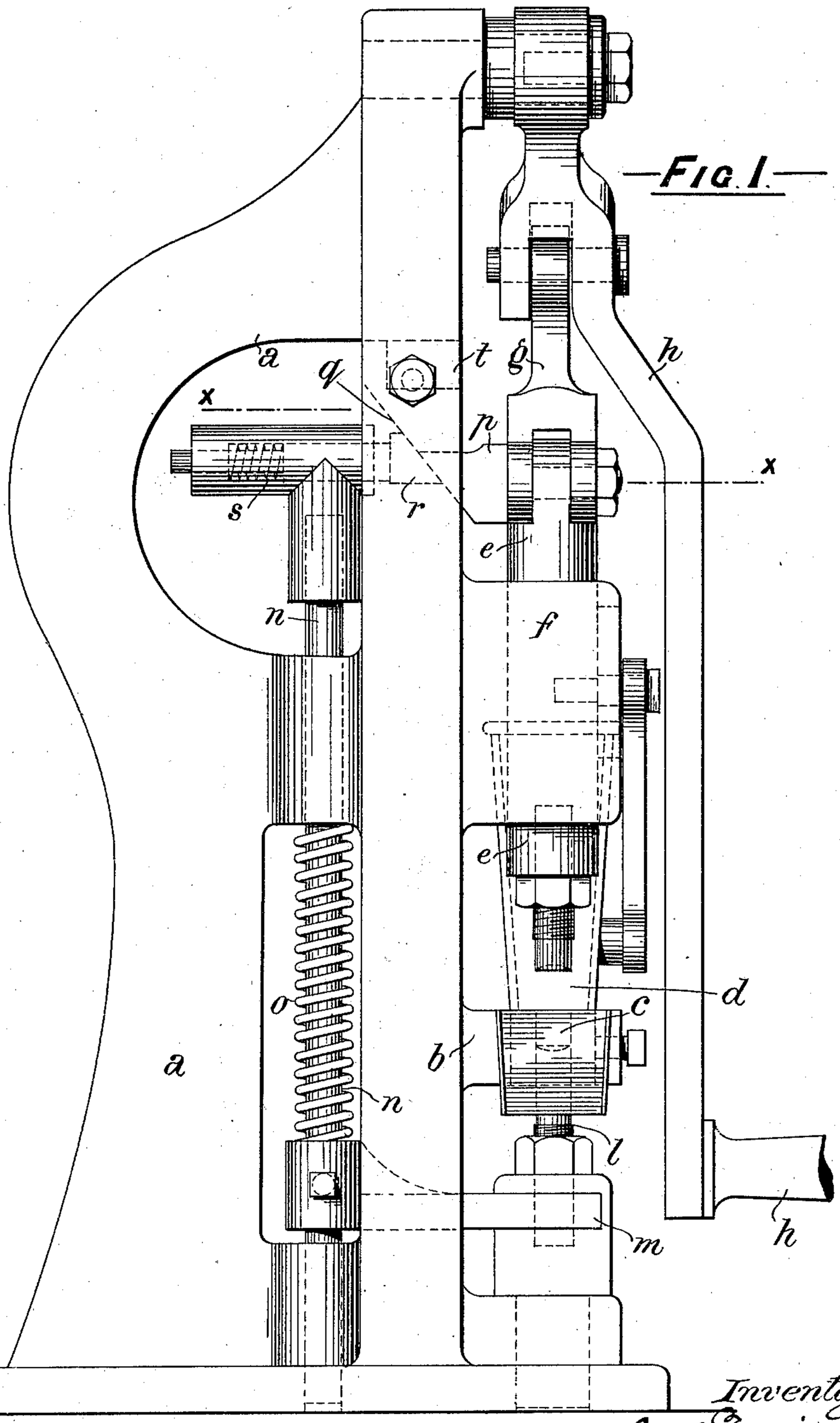

FIG. 1.

Witnesses:-
Henry Thieme.
George Barry Jr

Inventor:-
James Francis Buckley
by attorneys
Brown & Seward

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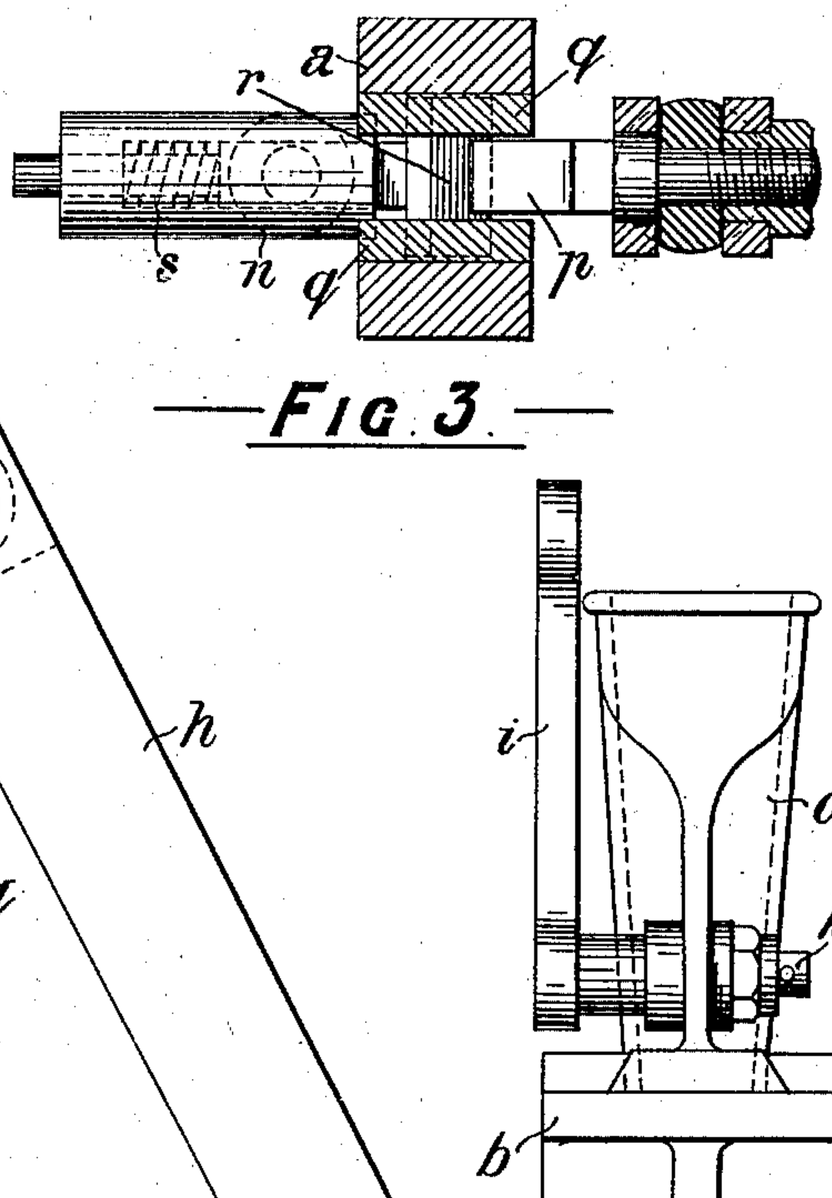

FIG. 2.

FIG. 3.

FIG. 4.

Witnesses:-
Henry Thieme
George Barry Jr

Inventor:-
James Francis Buckley
by attorneys
Brown & Seward

UNITED STATES PATENT OFFICE.

JAMES FRANCIS BUCKLEY, OF DARTFORD, ENGLAND, ASSIGNOR TO COMPANY OF ALLEN AND HANBURYS, LIMITED, OF LONDON, ENGLAND, A CORPORATION OF GREAT BRITAIN.

MOLDING-PRESS.

SPECIFICATION forming part of Letters Patent No. 702,183, dated June 10, 1902.

Application filed August 14, 1901. Serial No. 71,999. (No model.)

To all whom it may concern:

Be it known that I, JAMES FRANCIS BUCKLEY, a subject of the King of Great Britain, residing at 19 Summerhill road, Dartford, in the county of Kent, England, have invented a new and useful Improved Molding-Press, of which the following is a specification.

The present invention has reference to hand-presses for molding medicinal tablets and articles of a similar nature, and has for its object to increase materially the speed of operation of such machines and the efficiency of their work.

In the accompanying drawings I have shown a molding-press embodying my improvements.

Figure 1 is a side elevation. Fig. 2 is a front view. Fig. 3 is a cross-section on line *x x* of Fig. 1, showing in plan view, detached, a detail of the construction. Fig. 4 is an end view of another detail detached.

The press comprises a main framing *a*, supporting a table *b*, wherein is located the die *c*.

d is the hopper containing the material to be pressed, which hopper is moved backward and forward to and from the die *c* between the strokes of the plunger *e*. The plunger *e*, the end of which descends into the die *c*, slides in a suitable guide *f* and is reciprocated by means of a link *g*, which is so connected directly with a handle *h*, consisting of a lever, that the said link and handle form each one of the two members of a toggle. The said handle is capable of swinging to and fro beyond the vertical position and past the axis of the plunger.

The hopper *d* is moved by the plunger *e* through a link rod *i*, jointed to the said plunger and to the hopper. The attachment to the hopper is adjustable, preferably by means of a slot *j*, (see Fig. 2,) into which is secured the spindle *k* by means of a suitable locking device, as shown in Fig. 4. The die *c* is fitted with a movable bottom, consisting of a piston *l*, to which an upward movement is given after every downward stroke of the plunger *e* to eject the tablet just pressed. This upward movement is given to the piston *l*, constituting the die-bottom, by means of the fork *m*, attached to the vertical rod *n*, normally held depressed by the spring *o*, but capable of being alternately lifted and released by the plunger *e*. The plunger *e* carries a horizontal tappet *p*, extending into a space between two fixed plates *q q*, which are attached to the framing and the upper surfaces of which are inclined. The tappet *p* is inclined on its under side approximately to correspond with the said inclined surfaces of said plates. Upon the summit of the rod *n*, adapted to engage with the tappet *p*, is a horizontal spring-catch *r*, wide enough to extend across the two inclined plates *q*, against which its upwardly-inclined face is normally pressed by means of a spring *s*. When the plunger *e* descends, the tappet *p*, descending with it, passes the catch *r* by pushing it back as the two oppositely-inclined surfaces come together. On rising, however, the tappet *p* catches beneath the catch *r* and lifts the rod *n*, and with it the fork *m* and piston *l*, by which a tablet is ejected from the die. The release of the catch *r* is effected by the inclined plates *q*, which press against the inclined face of the said catch and force it back as it rises until it is clear of the nose of the tappet *p* and is free to fall back under the impulse of the spring *o*. *t* is a block of rubber or similar material to deaden the shock to the plunger as the latter reaches the top of its stroke.

A press constructed in accordance with the above description is capable of being operated at a speed much greater than hand-presses hitherto in use, and it will be seen that the movement of the handle *h* in each direction gives to the plunger one complete stroke to and fro. Hence there is no time wasted in returning the handle to an initial position before it can cause the plunger to make a second stroke. In other words, for every complete to-and-fro movement of the handle two strokes to and fro of the plunger are obtained and tablets are produced, whereas in previous machines only one tablet has been made by the double movement of a handle. Moreover, it will be noticed that on account of the plunger descending to the same point at each stroke to and fro each tablet receives the same amount of compression and each

tablet is rendered uniform and of any desired firmness. This result has not hitherto been satisfactorily obtained with hand-machines.

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

1. A press for molding tablets comprising a die, a plunger coöperating therewith, a handle consisting of a lever capable of moving to and fro past the axis of the plunger, and a link so connecting said handle directly with the plunger that the said link and handle constitute two members of a toggle whereby the plunger is caused to make two to-and-fro movements for each to-and-fro movement of the handle, substantially as set forth.

2. In a molding-press for tablets comprising a die, a plunger and a rising-and-falling die-bottom by which the molded tablets are ejected, the means described for operating the said die-bottom consisting of a lifting-rod connected with said bottom, a spring-catch on said rod, a tappet on the plunger with which said catch is adapted to engage on its upward stroke, and an inclined fixed surface by which the said catch is thrust clear of the plunger-tappet when the up-stroke is completed, substantially as herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES FRANCIS BUCKLEY.

Witnesses:
G. F. WARREN,
L. N. REDDIE.