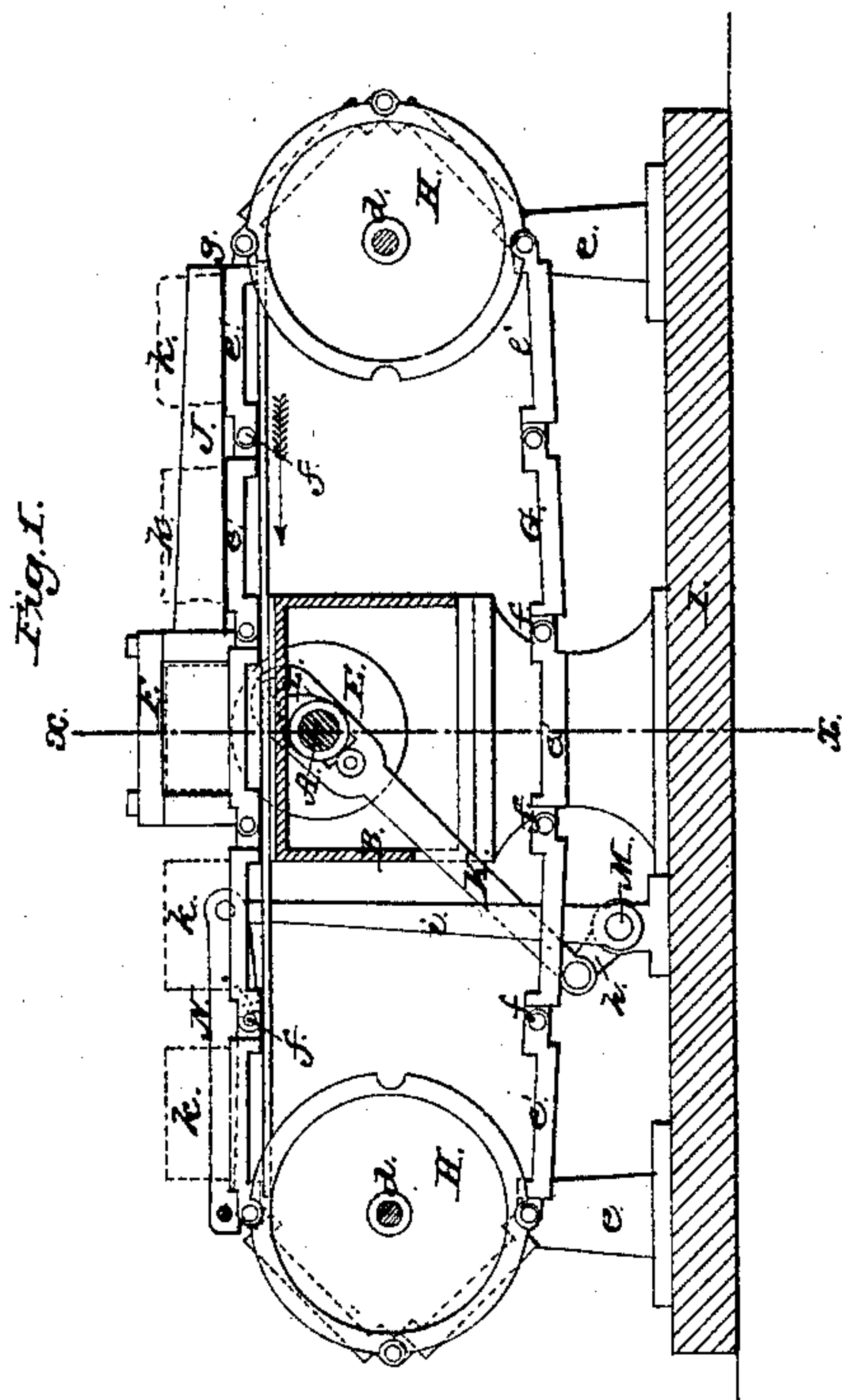
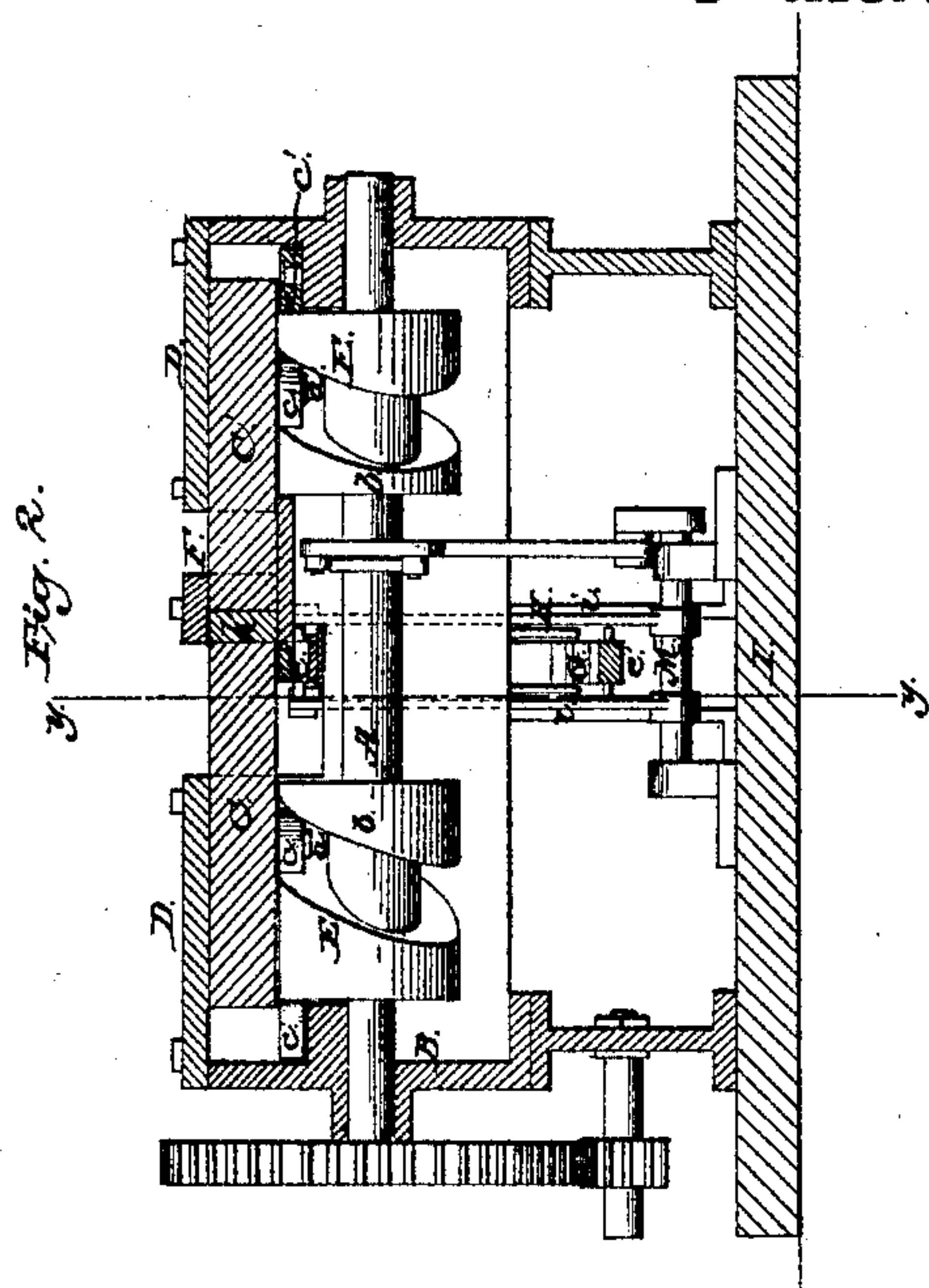


E. H. Bellows, Brick Machine.

N^o 18,318.

Patented Oct. 6, 1857.



UNITED STATES PATENT OFFICE.

E. H. BELLOWS, OF WORCESTER, MASSACHUSETTS.

BRICK-PRESS.

Specification of Letters Patent No. 18,318, dated October 6, 1857.

To all whom it may concern:

Be it known that I, EPHRAIM H. BELLOWS, of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and Improved Machine for Smoothing and Finishing Bricks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical section of my improvement taken on the line (y), (y), Fig. 2. Fig. 2, is also a vertical section of ditto taken on the line (x), (x), Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

The object of this invention is to smooth and polish bricks after being molded and allowed to become partially dry so that the bricks will answer for "facing" or any exterior work in masonry where a smooth and neat finish is required.

The invention consists in the employment or use of an endless chain or carrier in connection with two reciprocating plungers and a press box arranged and operating as hereinafter shown so as to perform the desired work.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, represents a shaft over which a shell or case B is fitted; and C, C, are two rectangular plungers which are fitted in guide boxes D, D, directly over the shaft A. On the shaft A, two cams E, E, are placed. These cams are each formed by cutting a zig-zag groove (a), in a hub or boss (b), the hubs or bosses being firmly keyed or secured on the shaft. To the under side of each plunger C, a friction roller (c) is attached, and these rollers are fitted in the grooves (a) in the hubs or bosses. The outer sides of the hubs or bosses (b) bear against friction rollers (c¹) which are attached to the inner sides of the shell or case B as shown clearly in Fig. 2, the rollers (c¹) preventing any longitudinal play of the shaft A. The plungers C, C, are of equal dimensions throughout and they work through the inner ends of the guide boxes D, D.

F represents a case or box placed on the upper part of the shell or case B between the two guide boxes D, D. This case or box F has open ends to receive the plungers C, C, the ends of which work therein.

G, is an endless chain which passes around pulleys H, H, one at each end of the bed or platform I of the machine. The shafts (d), (d), of the pulleys H, H, are fitted in proper bearings in uprights (e) attached to the bed or platform. The endless chain is formed of a series of flat rectangular links (e¹), connected by joints (f), said links being of sufficient area to receive the bricks.

J, is a guide strip which is attached to one end of the case or box F; this guide strip is formed of a piece of metal plate cut at its outer end so as to be at right angles with its other or main portion and extend across the bricks as shown at (g), so that the bricks may be placed or adjusted upon the links.

K, is a bar which has a reciprocating movement given it by means of a cam L, on the shaft A. The lower end of this rod is attached to an arm (h) on a shaft M on the bed or platform I. To this shaft two arms (i), (i), are attached, and the upper ends of these arms are connected by pivots to a frame N, which has a notch (j), made in each side of it.

The operation is as follows: The bricks, designated by (k), being partially dried, are placed upon the links (e¹) in the angle of the guide J, and motion being given the shaft A, an intermittent movement is given the endless chain G by means of the notch (j) in the frame N catching against or over the rivets of the joints (f); said frame being operated by means of the arms (i), (i), rock-shaft M, bar K, and eccentric L. At the same time a reciprocating movement is given the plungers C, C, by the revolution of the cams E, E. These cams are so placed on the shaft A, that the movements of the plungers do not coincide at all points of their movements, for instance, when a link (e¹) arrives directly in line with the case or box F, the plunger C forces the brick off the link into the case or box F, the plunger C¹ receding or moving out from the box as the plunger C enters it. When, however, the brick is within the box and the plungers C, C¹, are at each end of it, both plungers move simultaneously toward each other and the brick is compressed between them and made perfectly smooth. The plunger C¹ is then forced into the box, the plunger C withdrawing and the smoothed brick is shoved out of the case or box F by plunger C², upon the same link (e¹), which conveyed the brick to said box or case. The chain G

of course having the necessary dwells in consequence of the reciprocating movement of the frame N. The bricks are carried by the chain G successively before the box or case F, and they may be taken from the chain, by hand, or other proper means, as they are moved along after being ejected from the case or box F. This machine may be worked by hand or other power; but it is designed mainly for a hand machine, and in order to insure a smooth surface and a requisite degree of polish to the bricks, the shaft A previous to the ejection of each brick from the case or box, should have a reciprocating motion given it so that the bricks may be removed back and forth a few times within the case or box F.

I am aware that plungers have been so ar-

ranged as to operate simultaneously at opposite sides of a brick, for the purpose of compressing the same. This device is common to many brick presses; and I therefore do not claim, broadly, such device;—but,

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

The combination of the plungers C, C', intermittingly moving apron G, and frame N with the case or box F, the whole being constructed and arranged so as to operate conjointly as and for the purpose set forth.

EPH. H. BELLOWS.

Witnesses:

HENRY CHAPIN,
APPLETON DUDMON.