(No Model.) 2 Sheets—Sheet 1.

E. PUCHTA & R. HOFFMANN.

TILE MACHINE.

No. 383,591. Patented May 29, 1888.

Fig. 1.

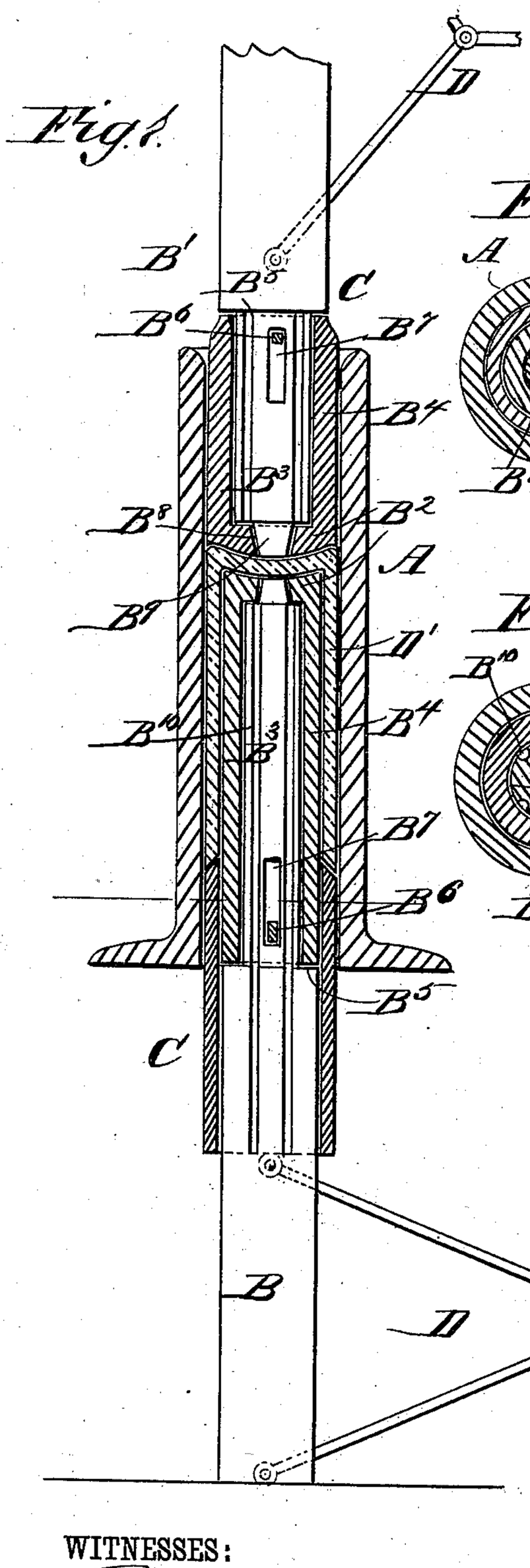


Fig. 4

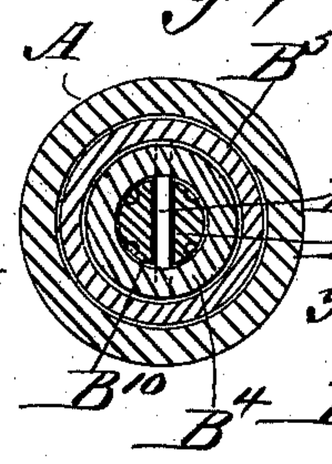
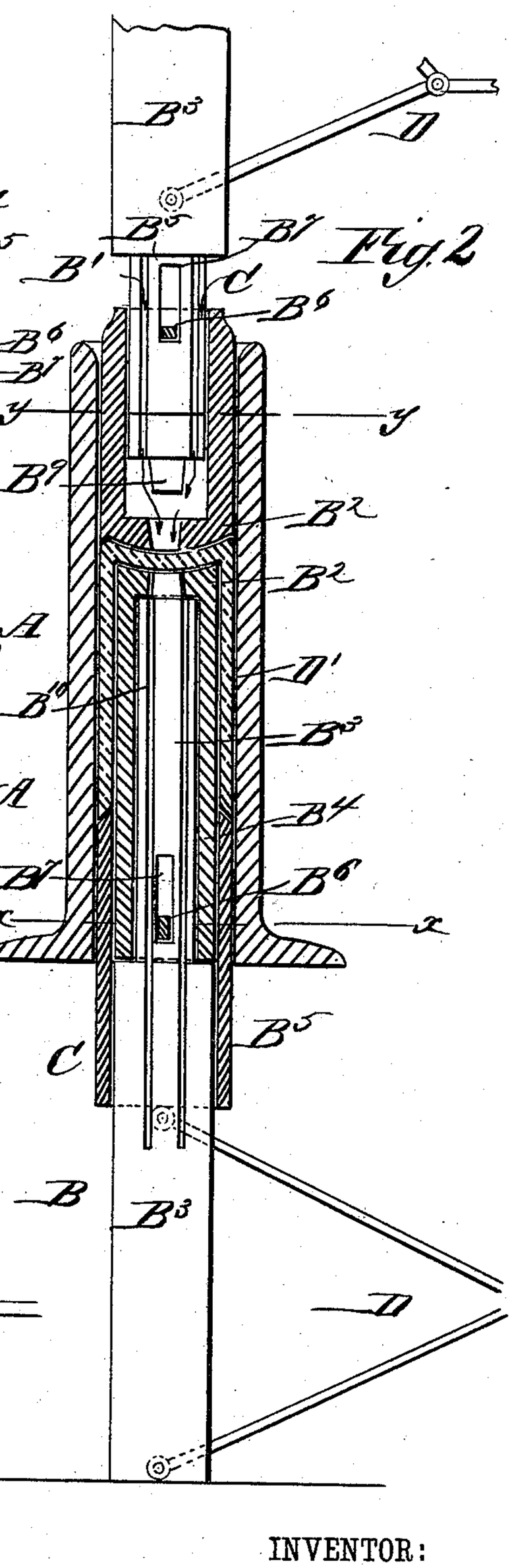


Fig. 5

Fig. 2



WITNESSES:

F. McArdle.

C. Sedgwick.

INVENTOR:

E. Puchta

R. Hoffmann.

BY Munn & Co.

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

E. PUCHTA & R. HOFFMANN.

TILE MACHINE.

No. 383,591. Patented May 29, 1888.

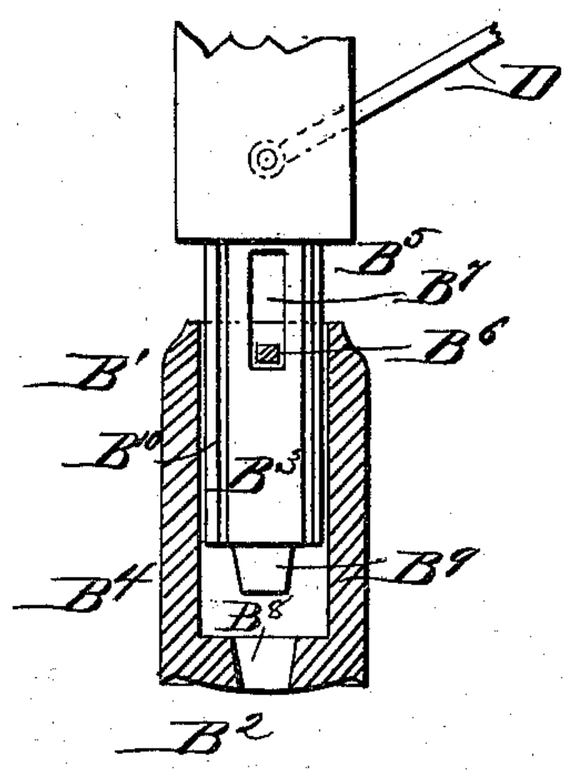
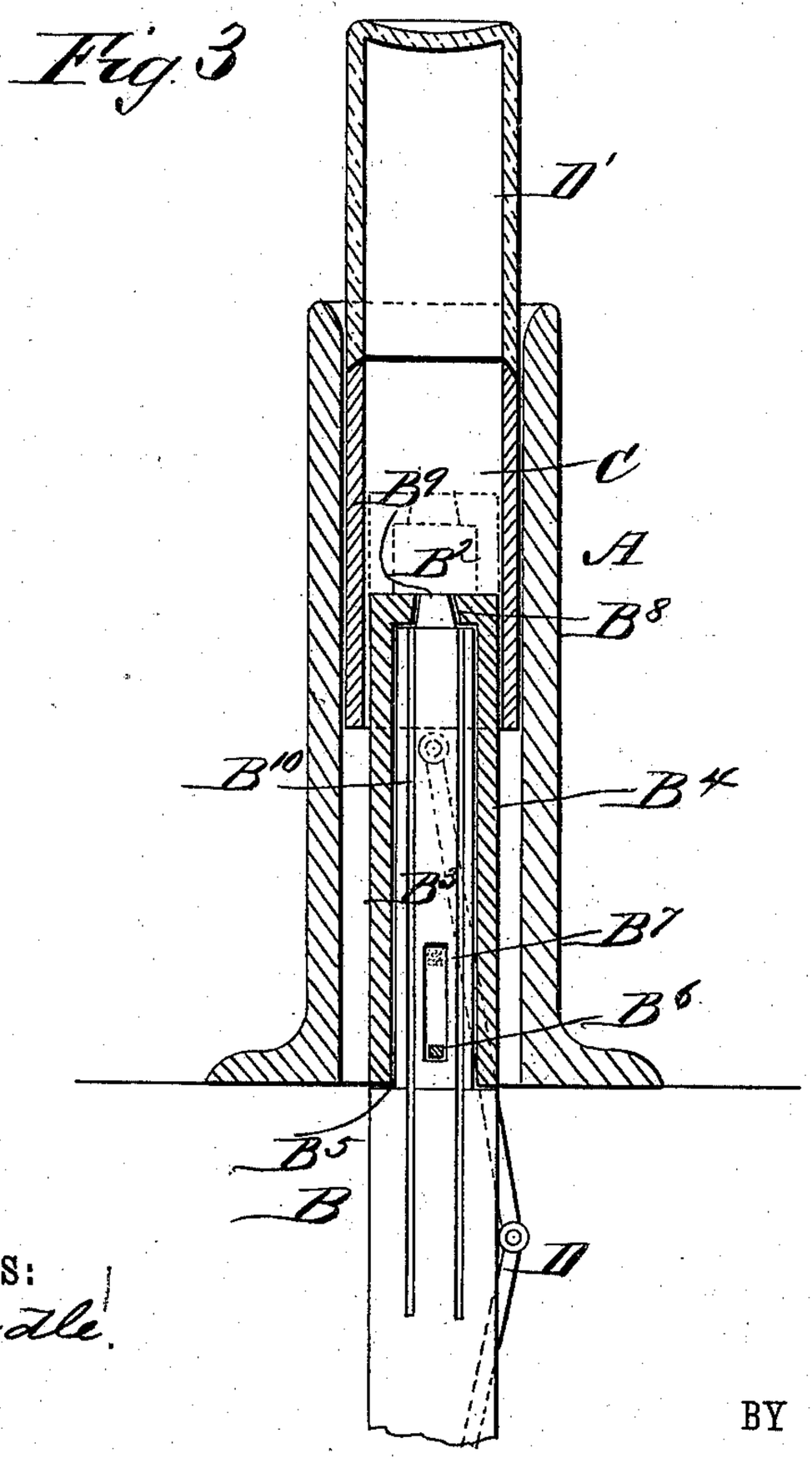


Fig. 3



WITNESSES:

J. McArdle.

C. Sedgwick.

INVENTOR:

E. Puchta.

R. Hoffmann.

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

EMIL PUCHTA AND ROBERT HOFFMANN, OF WASHINGTON, MISSOURI.

TILE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 383,591, dated May 29, 1888.

Application filed June 4, 1887. Serial No. 240,259. (No model.)

To all whom it may concern:

Be it known that we, EMIL PUCHTA and ROBERT HOFFMANN, both of Washington, in the county of Franklin and State of Missouri, have invented a certain new and useful Improvement in Mold-Presses, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in machines for molding and pressing bottles, jars, and other articles having closed bottoms out of clay or an analogous substance, and has for its object to facilitate the removal of the completed article from the press.

A press for the purpose, in which our invention is embodied, will first be described in detail, and the various features of the improvement then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of a press embodying our improvement, showing the article as just formed. Fig. 2 is a similar view of the said press, showing the movable former partly withdrawn. Fig. 3 is a similar view showing the movable former entirely withdrawn and the completed article forced out of the mold. Fig. 4 is a sectional plan taken on the line *x x*, Fig. 2. Fig. 5 is a sectional plan taken on the line *y y*, Fig. 2.

A designates the mold chamber, which may be rigidly supported in any suitable way, and the interior of which has the shape of the article to be formed, as an example of which we have shown a sort of cylindrical jar, D'. In opposite ends of the chamber A are received the stationary and movable formers B and B', respectively.

In making the article D' shown the stationary former B has a less diameter than the chamber A, to leave an annular space in which the cylindrical wall of the article is formed; but the movable former B' is of the same diameter as the chamber. The pressure-heads B^2 of the formers B and B' form the inner and outer sides, respectively, of the bottom of the article D. Each former B and B' consists of an inner and an outer part, B^3 and B^4. Each inner part, B^3, has a reduced end portion to receive the outer part, B^4, which has a short longitudinal play upon the inner part, B^3, limited in one direction by the shoulder B^5 at the base of such reduced portion, and in the other direction by a stop-pin, B^6, fixed to the outer part and passed through a longitudinal slot, B^7, in the inner part. The inner end of each outer part, B^4, constitutes the pressure-head of the corresponding former, and has an inwardly-tapered opening, B^8, which is adapted to be closed by and forms a seat for a neck-like tapering plug or valve, B^9, on the inner end of the inner part, B^3. A number of longitudinal grooves or channels, B^{10}, on each inner part, B^3, extend the length of the reduced portion thereof. A follower, C, is fitted to and adapted to enter the space between the chamber A and the stationary former B.

As one means of sliding the follower C on the stationary former B and the movable former B' into and out of the other end of the mold-chamber, we have shown jointed toggle-levers D, connected with said follower and former, respectively, and a suitable fixed support. The follower C, being moved into the proper position, as that shown in Figs. 1 and 2, closes the lower end of the mold, and the required amount of clay or other substance used is placed in the space between the stationary former and the mold-chamber and above the pressure-head of the stationary former. The movable former B' is then forced into the other end of the mold, pressing the clay or other substance into the required shape. In then withdrawing the movable former B' from the mold-chamber, the operating device D being connected directly with the inner part, B^3, thereof, said inner part is first moved to the position shown in Fig. 2, the outer part remaining stationary. The plug or valve B^9 is thus withdrawn from the opening B^8, giving the air access through the channels B^{10} and said opening B^8 to the outer side of the bottom of the formed article. The separation of the pressure-head, which is in intimate contact with said bottom, from the said bottom, as the movable former B' is further withdrawn, is thus greatly aided, all suction being prevented. The movable former being completely withdrawn from the mold-chamber, as shown in Fig. 3, the follower C is then pushed inward to force the article from the mold. In this

movement the outer part of the stationary former is first carried, by its adhesion to the article D, to the position shown in dotted lines in Fig. 3, opening the valve in the pressure-head and allowing the ready separation of the same from the article, as before. On continuing the movement the outer part, B^4, is stopped by its pin-and-slot connection, with the fixed inner part and the article D forced completely out of the mold, the part B^6 returning to its former position, as shown in full lines in Fig. 3. All distortion of the article in removing it from the mold is thus prevented.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a mold-press of the character described, the combination of a movable former, a valve in the pressure-head of the same, mesne connections allowing a limited movement only of the valve with respect to the former, and a device for withdrawing the movable former from the mold, said device connected directly to the valve and operating thereby indirectly upon the former, substantially as described.

2. In a mold-press of the character described, the combination of the outer part, B^4, of the former, provided with an opening, B^8, and the inner part, B^3, of the former, provided with a plug or valve, B^9, and air-channels B^{10}, substantially as shown and described.

3. In a mold-press of the character described, the combination of the mold-chamber A, the former B, made in two parts, B^3 and B^4, movable upon each other, and the follower C, adapted to enter the space between the chamber and the outer of said parts B^3 B^4, substantially as shown and described.

EMIL PUCHTA.
ROBERT HOFFMANN.

Witnesses:
E. J. SPANNHORST,
FRANZ SCHWARZER.