

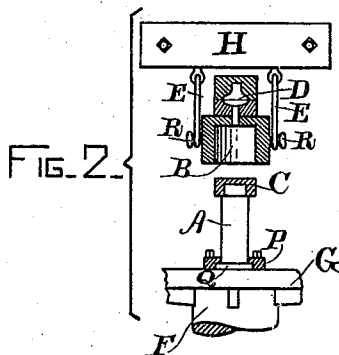
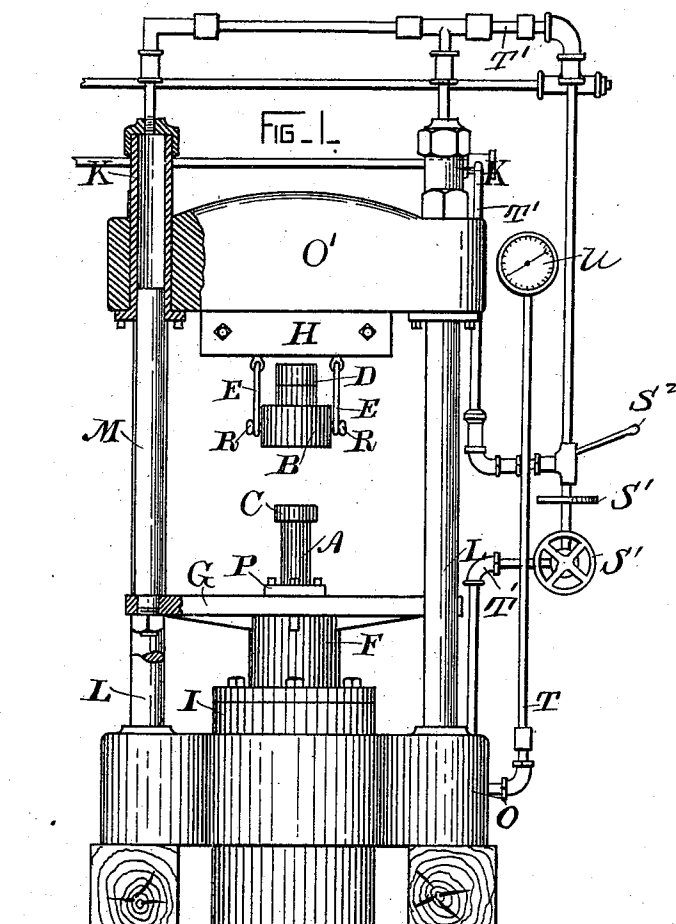
(No Model.)

J. HOFFMAN.

PRESS FOR MOLDING PLASTIC COMPOUNDS.

No. 516,814.

Patented Mar. 20, 1894.



WITNESSES.
Alec F. Macdonald.
J. Johnston.

INVENTOR-
Joseph Hoffman
Wardley and Blockett.
Atty.

UNITED STATES PATENT OFFICE.

JOSEPH HOFFMAN, OF SCHENECTADY, NEW YORK, ASSIGNOR TO THE
GENERAL ELECTRIC COMPANY, OF BOSTON, MASSACHUSETTS.

PRESS FOR MOLDING PLASTIC COMPOUNDS.

SPECIFICATION forming part of Letters Patent No. 516,814, dated March 20, 1894.

Application filed June 19, 1893. Serial No. 478,037. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH HOFFMAN, a citizen of the United States, residing at Schenectady, in the county of Schenectady and State of New York, have invented a certain new and useful Improvement in Presses for Molding Plastic Compounds, of which the following is a specification.

My invention relates to presses for molding plastic compounds; and has for its object to provide such a press which shall be easy of manipulation and in which the more difficult operations are accomplished by power.

My improved press is particularly adapted for use in the manufacture of the material known as *liebite*, now extensively used for insulating purposes.

In the accompanying drawings, which show an embodiment of my invention, Figure 1 is a front elevation partly in section of my improved press and Fig. 2 a section of details of the mold which I employ.

In my prior Patent No. 458,754 granted September 1, 1891, I have shown a press for use in a similar manner to the one here shown; but the construction there shown has some objections which it is the purpose of the present invention to remove; that press employed one cylinder for holding the mold in place and a second cylinder for pressing the composition into the mold, while my present construction performs both of these operations with one cylinder; again, the perforated plates therein shown are difficult to remove and the cylinder was hard to handle when heated.

As shown in the drawings O, O', are the foundation plate and head respectively of a hydraulic press, L, L, are the columns supporting the press, I is the main cylinder, F is the piston sliding therein and G is the platen secured to the piston F. All of these parts are old and in common use. Upon the platen G, I secure removably a piston A, provided with a removable cap C; preferably the piston A is secured to the platen by means of an enlarged collar Q formed upon it, over which a collar P fits and is secured to the platen G by bolts. Attached to each end of the platen G are pistons M, M only one of which is shown; these pistons reciprocate in the cylinders K, K, shown at the top of Fig.

1, which cylinders are of small diameter as compared to the main cylinder I. A charger B, formed to fit the cap C, is used to hold the plastic compound which is to be forced into the mold D, the capacity of the charger being several times that of the mold D, as will be hereinafter explained. Secured to the plate H, which is fastened to the head O', are two links or hooks E, E, passing over trunnions R, R, adapted to sustain the charger B in place when the cap C is withdrawn from it. The cap C being removably secured to the piston A, chargers of various capacities may be used without making any change in the piston A, by simply substituting caps adapted to fit the charger for the ones already in use. The small cylinders K, K, are preferably under constant pressure opposing the motion of the piston F in the cylinder I, the pistons M, M and F being all attached to the platen G, but I may also arrange valves to throw on or release the pressure in these cylinders in well-known ways. The whole apparatus is preferably operated by hydraulic pressure.

Means for controlling the hydraulic pressure are shown in the drawings and consist of the pipes T', T', &c., the pressure in which is regulated by means of valves controlled by the hand-wheels S, S' and the handle S²; the pipe T communicates with the system through the cylinder I, and with the gage U, furnishing an index of the pressure. All of these parts are old and well known in the art and are used in ways well understood which form no part of my invention except in combination with other features.

Its operation is as follows: A sufficient quantity of the plastic compound is inserted while hot into the charger B, which is heated to receive it; the charger is then placed over the cap C, the mold D placed above it, and the pressure being turned into the cylinder I, the piston F is forced up against the pressure in the cylinders K, K until the mold D abuts against the plate H; the cap C being then forced into the charger B the mold D is filled, and after the compression ceases the pressure is thrown off the cylinder I, sufficiently to permit removing of the mold D and the substitution of another mold in its place. When the contents of the charger B have been

exhausted the links E, E, are placed over the trunnions R, R, the pressure is released from the cylinder I and the pressure in the cylinders K, K, forces down the platen G, thus withdrawing the cap C from the charger, in which it would otherwise be stuck fast by the cementing action of the hot compound and by the great pressure in the cylinder I. The charger is then removed, heated and refilled and the operation is continued.

Having thus described my invention, what I claim as new, and wish to protect by Letters Patent of the United States, is—

1. In combination, a main cylinder containing a piston, means for regulating the pressure therein, a smaller cylinder also containing a piston opposing the motion of the piston in the main cylinder, a platen attached to the pistons in both cylinders and a piston removably secured to the platen.

2. In combination, a main cylinder containing a piston, means for regulating the press-

ure therein, a smaller cylinder also containing a piston opposing the motion of the piston in the main cylinder, a platen attached to the pistons in both cylinders, a piston secured to the platen adapted to register with a charger adapted to contain a plastic compound and a mold arranged to be filled from such charger.

3. In combination, a main cylinder containing a piston, means for regulating the pressure therein, a small cylinder containing a piston opposing the motion of the piston in the main cylinder, a platen attached to the pistons in both cylinders, a piston secured thereto adapted to register with a charger, and links arranged to engage the charger upon a withdrawal of the piston therefrom.

In witness whereof I have hereunto set my hand this 13th day of June, 1893.

JOSEPH HOFFMAN.

Witnesses:

T. A. BRANIN,
FRED BATHURST.