

J. A. DESGOFFE.  
HYDRAULIC PRESS.

No. 110,346.

Patented Dec. 20, 1870.

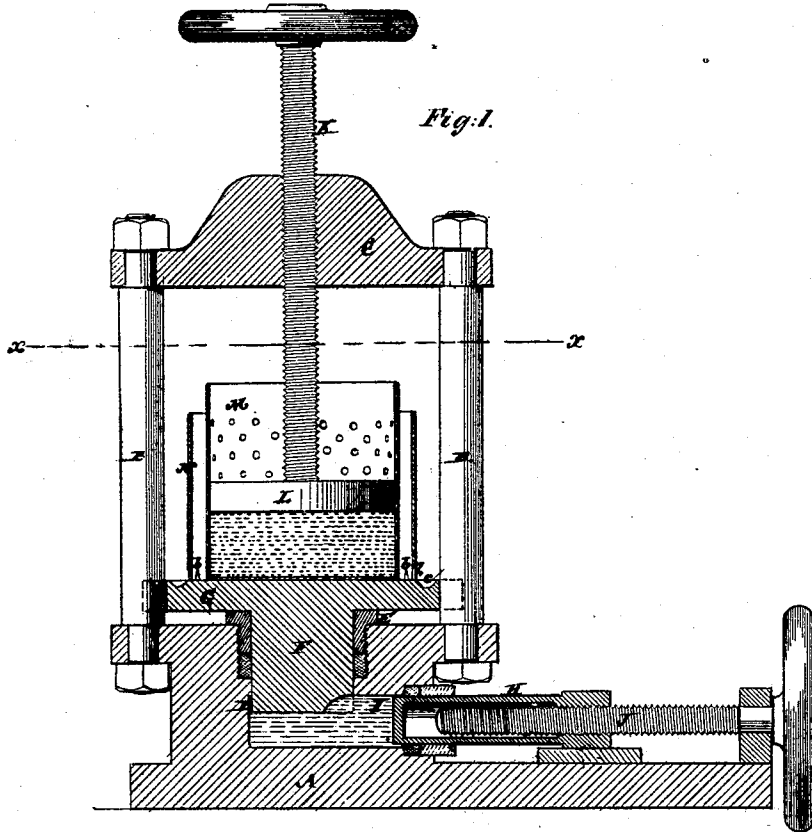


Fig. 1.

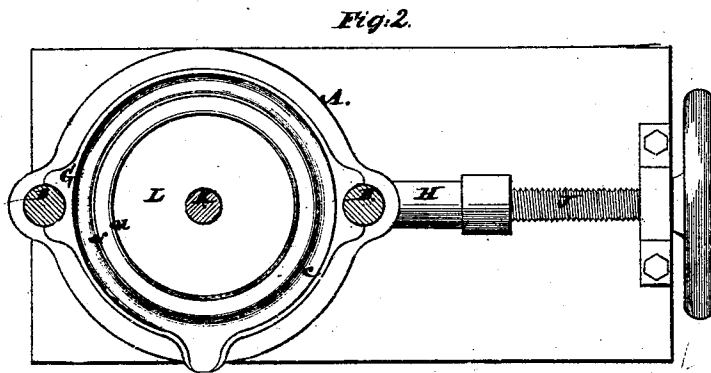


Fig. 2.

Witnesses:

Fred. Haynes  
And French

Jules Auguste Desgoffe  
per Brown Coombs & Co

Haynes

# United States Patent Office.

JULES AUGUSTE DESGOFFE, OF PARIS, FRANCE.

Letters Patent No. 110,346, dated December 20, 1870; antedated December 9, 1870.

## IMPROVEMENT IN HYDRAULIC PRESSES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JULES AUGUSTE DESGOFFE, of Paris, in the Empire of France, have invented certain new and useful Improvements in Hydraulic Presses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a sectional elevation of a press constructed in accordance with my invention, and

Figure 2, a sectional plan of the same, taken as indicated by the line  $x x$  in fig. 1.

Similar letters of reference indicate corresponding parts.

My invention relates to presses applicable to compressing purposes generally, whether for the mere reduction of bulk in the article under pressure or for the extraction of juice or liquid therefrom.

The invention comprises a ram arranged at the one end of the press operated, through the intervention of a fluid, by a plunger of smaller diameter than the ram, and which is actuated in a slow or powerful manner by a screw.

The invention furthermore embraces, in combination with the elements just recited, an additional screw and follower arranged to face the ram of the press, and so that said ram is made to form the bed on which the article to be pressed is carried, for action on it first by the follower and subsequently by the ram.

Referring to the accompanying drawing—

A represents the base of the press, on which are mounted columns, B B, that support an entablature, C.

D is a cylindrical chamber made in the base A; and provided with an upper stuffing-box, E, and packing, to receive within and through it a ram, F, having an upper bed surface, G, which is guided in its up-and-down travel by the column B B.

Said ram is raised by hydraulic pressure through means of a small horizontal plunger, H, arranged to play through a branch cylindrical chamber, I, in communication with the ram-cylinder D below the piston, and fitted with a suitable stuffing-box at its outer end.

These cylinders D and I are filled with water or any other suitable fluid; and the small plunger H is made hollow and constructed to form a screw-box for an operating-screw, J, to play in, for the purpose of actuating the ram F up or down according to the direction in which the screw J is turned.

By means of the screw J and small plunger H a powerful action is secured to the ram and the operating fluid in the cylinders D and I remains permanent within them.

K is an auxiliary screw arranged to work through the entablature C, and carrying at its lower end a platen, L, between which and the bed G of the ram the substance to be pressed lies.

When the press is used for expressing essences, juices, or other liquid, from the material under pressure, then the platen L is made to play in a perforated cylinder, M, placed upon the bed G and surrounded by an outer cylinder, N, leaving an annular space between it and the inner perforated cylinder M, and provided with outlets  $b$ , near its bottom, for the expressed liquid to run off into a channel,  $c$ , in the bed G, which is furnished with a spout for carrying off said liquid.

In the operation of the press the platen L may first be lowered to produce a given pressure on the substance within the cylinder M or on the bed G.

This constitutes a quick action of the press, and after a certain pressure has been thus obtained, then the ram F is operated by the screw J and small plunger H to give a powerful lifting action or heavy pressing force of the bed G on the substance lying between it and the platen L.

In some cases both forces, namely, that of the ram and platen, may be applied simultaneously.

The arrangement of the small plunger H and its operating screw J on one side of the press, and relatively to the auxiliary screw K, with its platen L, affords every convenience for working the press.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination of the screw J and hollow plunger H with the ram F and cylinders D I, substantially as specified.

2. The combination, with the elements recited in the previous claim, of the platen L and auxiliary screw K, essentially as herein set forth.

3. The arrangement, relatively to each other, of the plunger H and its operating screw J, the ram F with its bed G, and platen L with its operating screw K, substantially as shown and described.

JULES AUGUSTE DESGOFFE. [L. s.]

Witnesses:

J. U. ZUST,  
CH. F. THIRION.