

(No Model.)

B. TOULOUSE & J. DELORIEUX.

MOSAIC AND TILE PRESS.

No. 501,584.

Patented July 18, 1893.

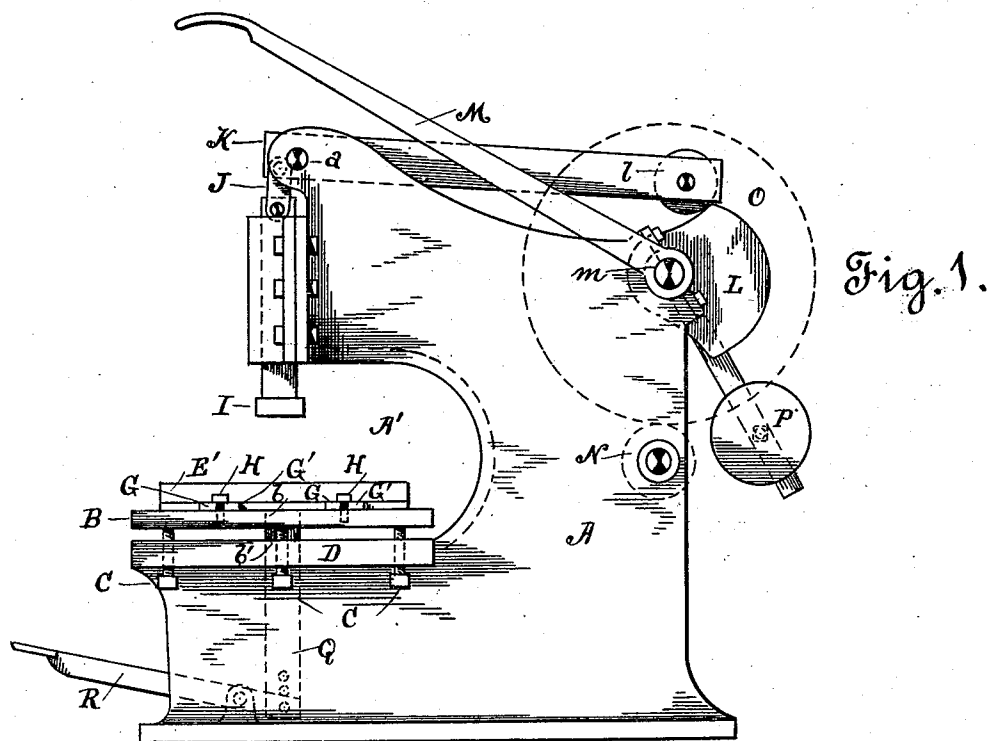


Fig. 1.

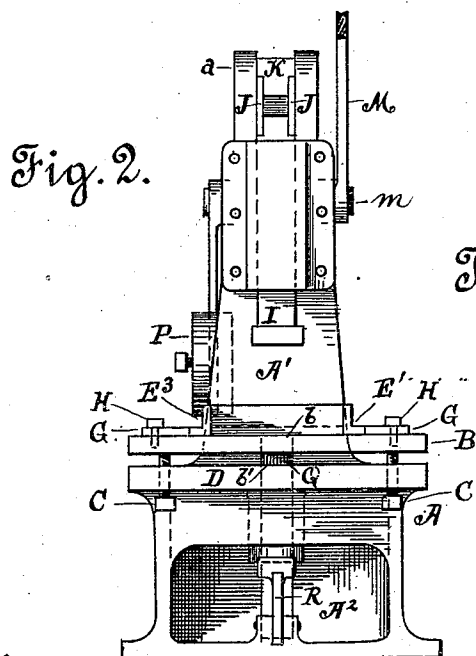


Fig. 2.

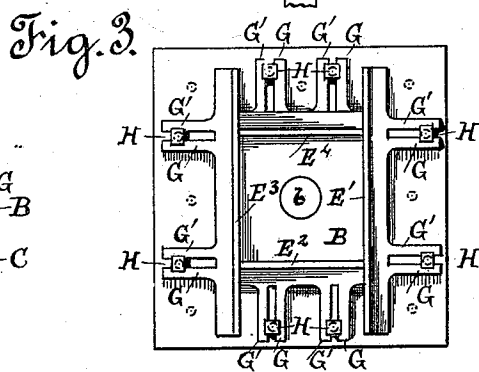


Fig. 3.

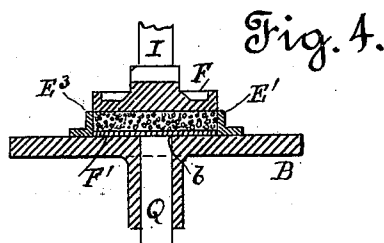


Fig. 4.

Witnesses.

*Helmutewerds*

*Charlie Raullett*

Inventors.

Bernard Toulouse  
John Delorieu  
by *A. H. Ste Marie* atty

# UNITED STATES PATENT OFFICE.

BERNARD TOULOUSE AND JOHN DELORIEUX, OF SAN FRANCISCO,  
CALIFORNIA.

## MOSAIC AND TILE PRESS.

SPECIFICATION forming part of Letters Patent No. 501,584, dated July 18, 1893.

Application filed December 2, 1892. Serial No. 453,880. (No model.)

*To all whom it may concern:*

Be it known that we, BERNARD TOULOUSE and JOHN DELORIEUX, of the city and county of San Francisco and State of California, have invented certain new and useful Improvements in Mosaic and Tile Presses; and we do declare the following to be a full, clear, and exact description of the invention, such as it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention consists in a press specially constructed for the manufacture of mosaic and cement tiles. The body of this press is made of a single casting bent over somewhat in the form of the letter U and presenting an open lateral recess within which the pressing is done. A table and mold located within this recess constitute part of the press and both are made adjustable relatively to the pressure devices with a view of rendering the press available for objects varying in size and compactness. A reciprocating follower moved by a lever provided with an end roller acted upon by a combination of lever and cam or wheel and cam is the means employed to effect the pressure upon the material contained in the mold. The pressing being completed, the mold is worked oppositely to the follower by means of a push-rod and foot-lever and the pressed material removed therefrom as fast as relieved from the action of the pressing apparatus.

Our object in devising our invention has been to provide a press that can be relied on to give the necessary pressure and meanwhile turn out the largest possible amount of work with a minimum expenditure of labor and time. Actual tests have demonstrated that with our improved press one man is enabled to accomplish easily double the quantity of work usually performed by other presses of the same class. Both screw and hydraulic presses have been tried to obtain the results which we had in view, but, so far as our experiments went, none have given as satisfactory results as the one which we are now going to describe in detail.

Referring to the accompanying drawings, Figure 1 is a side elevation of our improved press. Fig. 2 is a front view of the same. Fig. 3 is a plan of the adjustable mold and table; and Fig. 4 is a broken sectional elevation showing how the material is pressed in the mold.

Similar letters of reference are used to indicate similar parts in the four views.

A represents the body of the press, which consists of a heavy casting bent upon itself to form a lateral recess A'. It is within this recess that the material to be pressed is placed and the pressing done.

B is a table, which is placed above and parallel with the lower part of the casting A, within the side recess. This table is adjustable with relation to the pressing mechanism—that is to say it may be moved to or from it, at option, to secure the desired thickness and density of work. By preference, the adjustment of the table B is effected through the medium of set-screws C passing through outward flanges D projecting from the body of the press.

Upon the center of B is set the mold which is destined to give the required shape to the object to be pressed. The form and construction of the mold may, of course, vary according to the article to be turned out, but for mosaic work and tiles we prefer one made of adjustable sides E' E<sup>2</sup> E<sup>3</sup> E<sup>4</sup> and top and bottom plates F F' of a size to match. The sides are all provided with tail pieces G G' which help to keep them in the requisite position. Set-screws H are the means used in connection with the tail-pieces to guide the movements of the sides and hold them firmly in place when those of the desired length have been put together. The lower plate is removable with the material packed and pressed upon it. The upper one is also wholly detachable from the other parts of the mold.

The mold is brought into action and the material packed therein compressed by means of a follower I suspended above and adapted to bear upon the top plate F. The follower I works vertically between guides at the foremost part of the upper portion of the casting, as represented in Figs. 1 and 2, and is secured by links J to the short arm of a lever

K, the longer arm of which is sufficiently heavy to overbalance it and keep it normally raised. Lever K is fulcrumed at *a* between suitable flanges at the upper front corner of the casting and reclines backward as far as the rearmost part of the press, where it is acted upon by a cam L, which comes in contact with a roller *l* journaled in the lever's end. By lifting the roller the cam causes the longer arm of the lever to rise and consequently forces its shorter arm and the depending follower downward.

The cam L may be operated by hand or by power, as preferred. To operate it by hand, a lever M is used. Where a motor is employed, the motive force may be transmitted to the cam through gearing, such as a pinion N and cog-wheel O (shown only in dotted lines at Fig. 1). The lever M is keyed at *m* to an axis about which the cam oscillates at the rear of the press and it is made to reach well forward so that the person having charge of the mold may grasp it with ease and acquire enough purchase to bring down the follower with the force necessary to impart the desired pressure. An adjustable counterweight P is provided to assist the cam in overbalancing the lever M and returning it to its normal position after the pressing, thus allowing the pressman to give his undivided attention to other and more important work. If a motor is substituted for the hand-lever, the cam is no longer oscillated but it is continuously revolved by the wheel O, the effect upon the lever K and follower I being, however, exactly the same. It will be understood that the revolutions of the pinion N, wheel O and cam L may be timed in a way that will afford a good workman every opportunity to remove the pressed material and replace it by a new charge before each succeeding downward stroke of the follower. This may be easily accomplished by an automatic shifter and clutch (not shown), which may be connected with the pinion in such a manner as to allow it only intermittent or periodical revolutions. The pressed material is thrown out of the mold,

after the follower is raised and the top plate removed, by means of a push-rod Q and foot-lever R located partly in a recess A<sup>2</sup> in the lower part of the press. The rod Q moves in a vertical plane, directly opposite the follower, it passing up through holes *b b'* in the lower portion of the casting and the table above it, and resting against the under side of the bottom plate of the mold. The foot-lever is pivoted to the push-rod at its lower end, as shown at Fig. 1, and projects out of the recess A<sup>2</sup> so that it may be conveniently operated by the pressman. The depression of the foot-lever, as may be noticed, causes the rise of the push-rod, and therefore throws up the bottom of the mold with the pressed material.

It will be observed that the table B may be made wholly stationary, as suggested by Fig. 4 of the drawings—that is to say the adjustable table may be dispensed with and the pressing done upon the casting itself, or upon a table formed integral therewith. But this construction is not considered desirable and is spoken of merely to indicate one of the possible modifications of our invention.

Having described our improved press, what we claim as new, and desire to secure by Letters Patent of the United States, is—

In a press, the combination of a frame having a table, adjustable sides and plates forming a mold on the table, a follower mounted in the frame and bearing upon the mold, a lever fulcrumed on the upper end of the frame, extending rearward over the same and connected with the follower, a driving shaft mounted in the rear side of the frame, and a cam carried by said shaft and bearing against the under side of the lever at the rear end of the same.

In testimony whereof we affix our signatures in presence of two witnesses.

B. TOULOUSE. [L. S.]  
J. DELORIEUX. [L. S.]

Witnesses:

H. J. LANG,  
A. H. STE. MARIE.