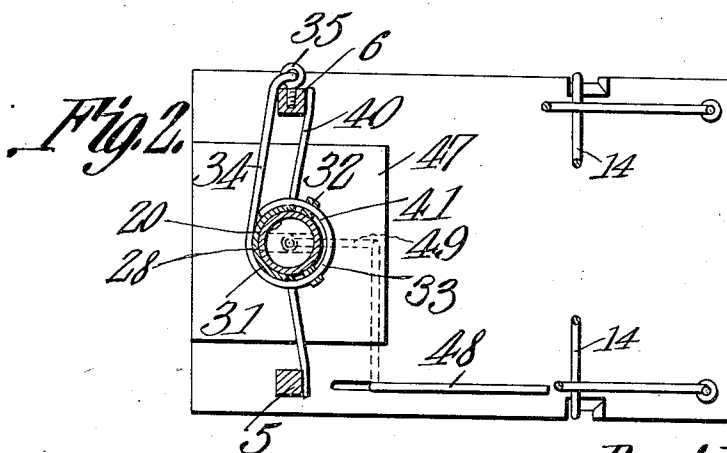
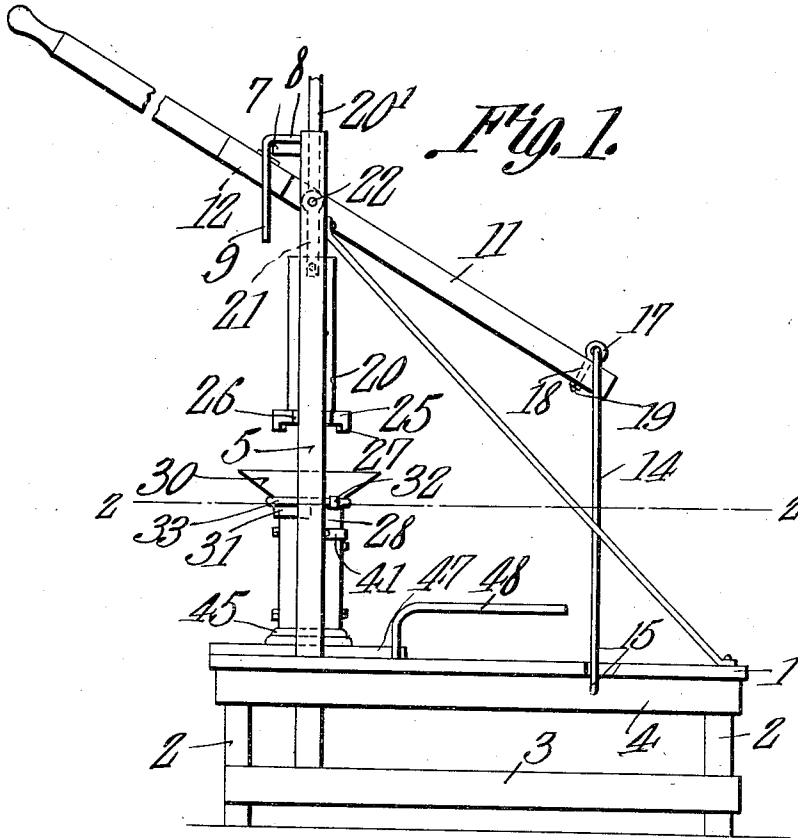


D. LEONARD.
TILE MACHINE.
APPLICATION FILED MAR. 28, 1910.

1,007,214.

Patented Oct. 31, 1911.

2 SHEETS-SHEET 1.



Witnesses

E. H. Stewart
W. H. C. Clarke

David Leonard,
Inventor

by

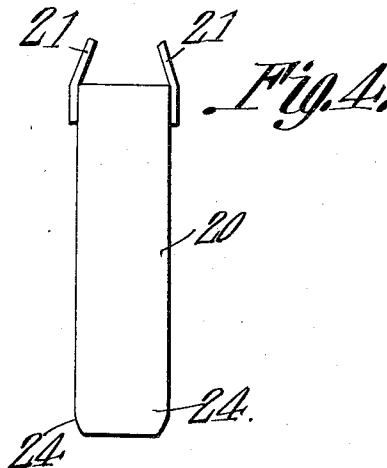
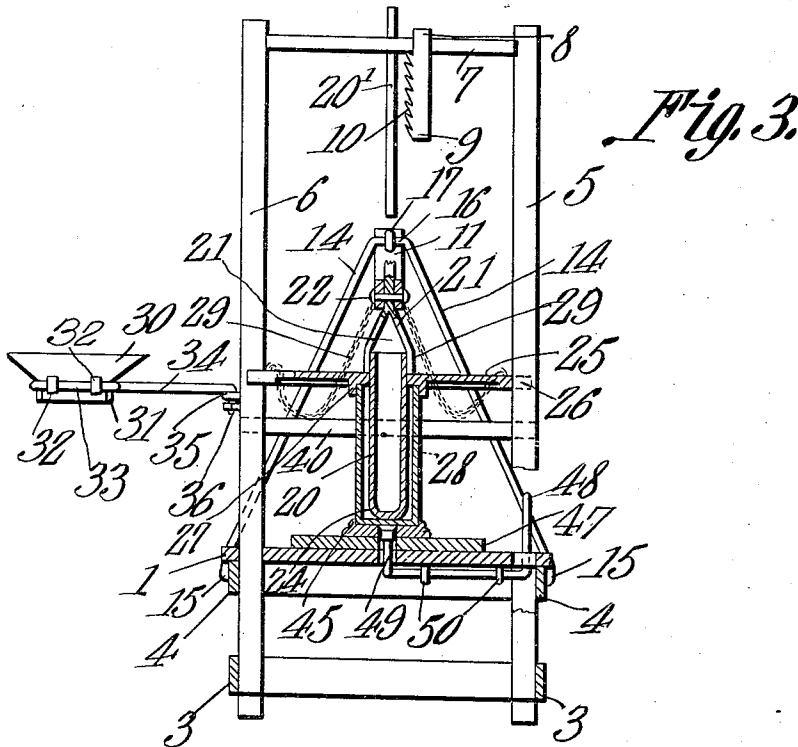
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UNITED STATES PATENT OFFICE.

DAVID LEONARD, OF ST. LOUIS, MICHIGAN.

TILE-MACHINE.

1,007,214.

Specification of Letters Patent.

Patented Oct. 31, 1911.

Application filed March 28, 1910. Serial No. 552,035.

To all whom it may concern:

Be it known that I, DAVID LEONARD, a citizen of the United States, residing at St. Louis, in the county of Gratiot and State of Michigan, have invented a new and useful Tile-Machine, of which the following is a specification.

This invention relates to tile machines.

One of the objects of the invention is to provide simple and improved means for forming tiles without the necessity of tamping the material, whereby to save time and expense.

A further object of the invention is to provide improved means for operating the core or plunger and for locking the same in raised position.

A further object of the invention is to provide an improved form of hopper for feeding material to the tile jackets.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of the claims without departing from the spirit of the invention.

In the accompanying drawings forming part of this specification:—Figure 1 is a side elevation of a tile machine constructed in accordance with the present invention, the core or plunger, and the operating means therefor, being locked in raised position. Fig. 2 is a sectional plan view on the line 2—2 of Fig. 1, looking downward. Fig. 3 is an end elevation, partly in vertical section, of the tile machine with the core or plunger in lowered position. Fig. 4 is a detail view of the core or plunger.

Like reference numerals indicate corresponding parts in the different figures of the drawing.

The tile machine of the present invention preferably is constructed with a platform 1 which is supported by means of the legs or supports 2 to which are secured the lower side boards 3 and the upper side boards 4, the parts thus far described serving to produce a rigid framework. Extending downward through the table or platform 1 are two standards or uprights 5 and 6, that are secured at their lower ends in any suitable manner to the upper and lower side

pieces 4 and 3. Adjacent their upper ends, the standards 5 and 6 are rigidly connected with each other by means such as the cross piece 7. Secured in any suitable manner to the cross piece 7 is a forwardly extending member 8 the forward end of which is downwardly bent as indicated at 9 and is formed with a plurality of ratchet teeth or the like 10.

The member 9 constitutes means for holding the operating lever 11 in raised position, such as is shown in Fig. 1, the teeth 10 being adapted to engage the lower edge of a metal plate 12 which is fixed on the side of the lever 11 in any suitable manner. The operating lever 11 is provided with a movable fulcrum which consists preferably of an inverted V-shaped frame 14 the lower ends of which are inwardly bent as indicated at 15, and are pivotally mounted in any suitable manner in the upper side boards 4 as indicated in Fig. 3. The upper or pointed end of the inverted V-frame 14 is provided with a cross piece 16 which extends through an eye 17 formed on the upper end of a bolt 18 which extends vertically through the operating lever 11 and is provided at its lower end with a nut 19. The frame 14, of course, swings pivotally upon the fulcrum points 15 thereof and thus acts as a movable fulcrum for the operating lever 11. The function of the operating lever 11 is to raise and lower the core or plunger 20, said core or plunger 20, being secured to the lever 11 by means such as the inverted V-frame 21 which is secured at its lower end in any suitable manner to the core 20 and at its upper end is pivotally mounted within a slot formed in the lever 11, the connection between the lever 11 and the inverted V-frame 21 being a bolt 22 which extends transversely through the lever.

By reason of the fact that the operating lever 11 is provided with a movable fulcrum, the core or plunger 20 can be moved in a true vertical plane by said lever. The plunger 20 preferably is curved inward or slightly beveled at its lower end as indicated at 24 in order to cause it to penetrate the material which is to be molded without the exercise of a great deal of force on the plunger. In other words by forming the lower end of the plunger so it can be forced into the body of the material to be molded, the tile can be properly formed without the necessity of tamping the material around the core or plunger

after said core or plunger has been inserted into the jacket or mold.

The means for guiding the core or plunger in its vertical movement preferably consists of a rod 20' and guide member 25 which is formed with bifurcated ends 26 which slidably engage the standards or up-rights 5 and 6. Adjacent its center, the guide member 25 is enlarged and formed with a vertically extending opening of a size sufficient to receive the plunger 20 so as to permit this plunger to slide vertically therein. Adjacent the plunger opening, the guide member 25 is formed or provided with a plurality of depending lugs 27 which are adapted, when the guide member is lowered with the plunger, to fit over the upper end of the jacket or mold 28 as shown in Fig. 3 whereby to center the plunger properly therein. The guide member 25 is secured, preferably by means of the cords or chains 29 to the pivot member or bolt 22 of the operating lever 11. The chains 29 have sufficient slack to permit the plunger 20 to be almost entirely withdrawn from the jacket 28 during the upward movement of the operating lever, before said chains become taut enough to raise the guide member to the position shown in Fig. 1. When the operating lever is raised to this latter position, the plate 12 becomes engaged with the teeth 10 of the member 9 and thus holds said operating lever, plunger and guide member 25 in raised position.

While the parts are in the raised position illustrated in Fig. 1, the material from which the tile is to be formed is fed to the jacket 28. The means for facilitating this feeding operation preferably consists of a funnel shaped hopper 30 which is provided at its lower end with a semicircular flange 31 adapted to contact with the exterior of the upper end of the jacket 28, as shown in Fig. 1. The hopper 30 is provided with brackets 32 which serve to hold in position the circular portion or eye 33 of a supporting arm 34 which is pivotally mounted in an eye 35 secured in the outer face of the standard 6. When it is desired to feed material to the jacket 28, the supporting arm 34 is swung inward from the position shown in Fig. 3 to that shown in Fig. 1, and is checked in its inward movement by the flange 31. After the jacket has been filled to the desired height, the hopper 30 is swung into the position shown in Fig. 3 so as to permit the operating lever 11 and the plunger to be lowered during the operation of forming the tile.

The means for holding the jacket 28 in proper position during the molding operation preferably consists of a bar 40 which is

connected at its ends with the standards 5 and 6 and adjacent its center is bent to form an approximately semicircular seat 41 which surrounds the jacket 28. When the tile has been properly molded, and the plunger withdrawn upward, the jacket 28 is moved out of engagement with the seat 41 and the completed tile is removed therefrom in the usual manner.

When the jacket 28 is in position, the lower end thereof fits in a socket 45 carried by a board 47 mounted upon the table 1. For the purpose of raising the jacket 28 a slight distance so as to cause its lower end to move out of engagement with the socket 45, a lever 48 is employed. This lever is suitably journaled on the table 1 and at its lower end as indicated at 49 extends through an opening in the table so as to be adapted to raise the jacket 28 when the upper end of the lever is rocked. The lever 48, as shown in Fig. 3, preferably is journaled in eye-bolts 50. The shape of the lever 48 is indicated by the dotted lines in Fig. 2.

The tile machine of the present invention is strong, simple, durable and inexpensive in construction, as well as thoroughly efficient and practical in operation.

What is claimed as new is:—

1. In a tile machine, an operating lever provided with a movable fulcrum, a plunger pivotally connected with the lever, a guide member slidably engaging the plunger, means connecting the guide member with the lever, a jacket arranged to be engaged by the guide member, means for raising and lowering the jacket, and a movable hopper arranged to be moved into and out of engagement with the jacket when the lever and plunger are in raised position.

2. In a tile machine, a table, a jacket removably mounted on the table, means engaging the jacket, and a movable hopper arranging the jacket out of engagement with the last mentioned means, a cross piece having a semi-circular portion engaging the periphery of the jacket, an operating lever, a swinging inverted V-frame serving as a fulcrum for the lever, a plate on the lever, a toothed member arranged to engage the plate to hold the lever in raised position, a swinging hopper arranged to fit against the upper end of the jacket, and a plunger connected with the lever and having a tapered lower end.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

DAVID LEONARD.

Witnesses:

OTO F. MEY,
GEO. S. ALDRICH.