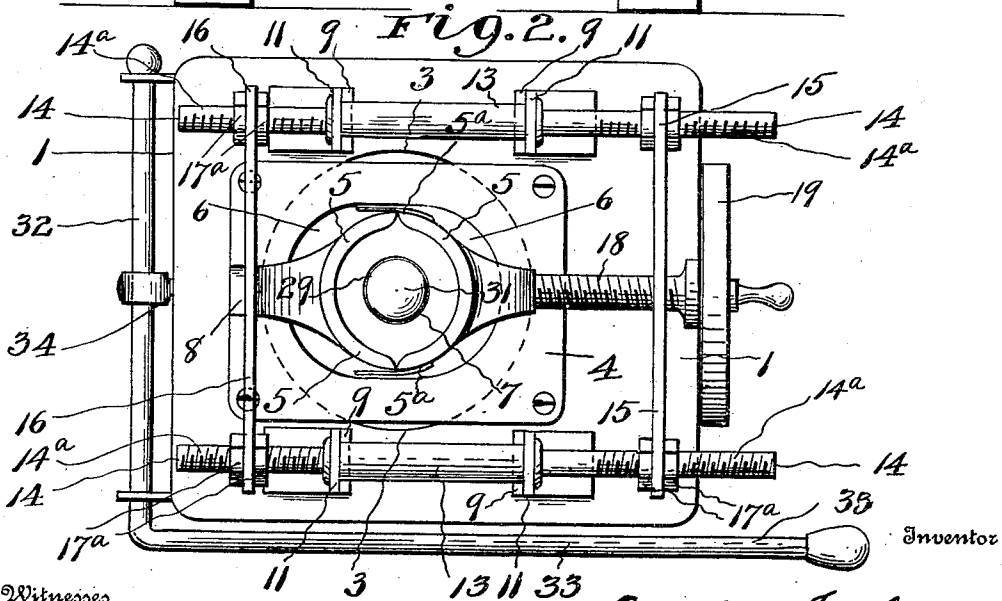
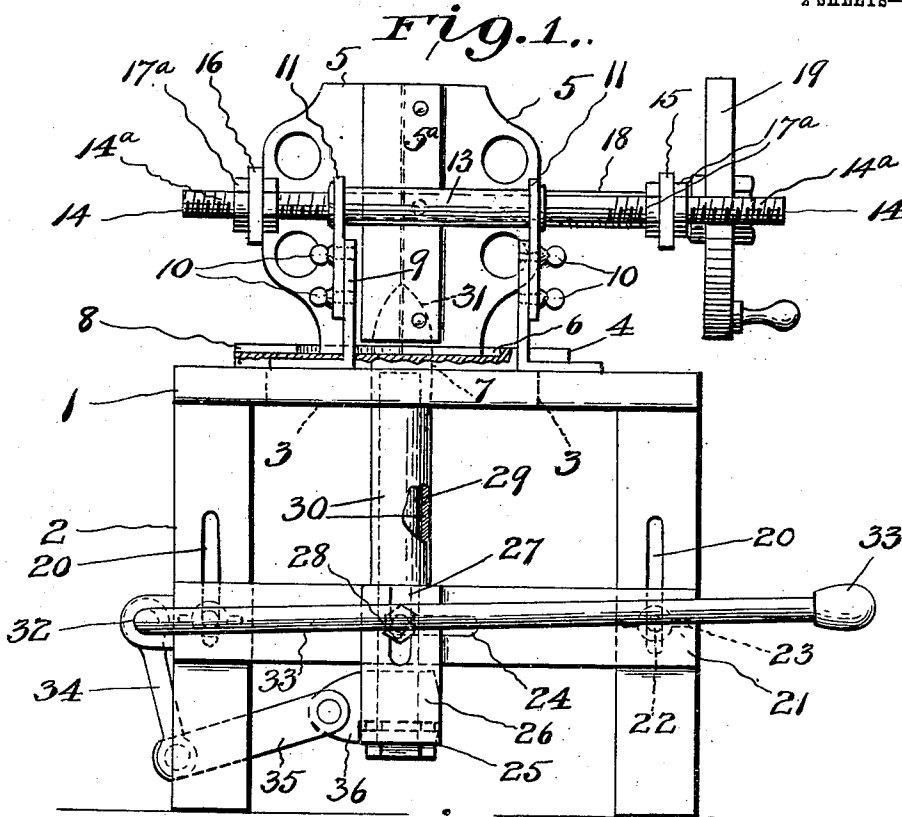


D. FUHRER.
CONCRETE TILE MOLDING MACHINE.
APPLICATION FILED MAR. 10, 1909.

935,904.

Patented Oct. 5, 1909.

2 SHEETS—SHEET 1.



Witnesses
J. H. Blackwood
H. A. H. H. H.

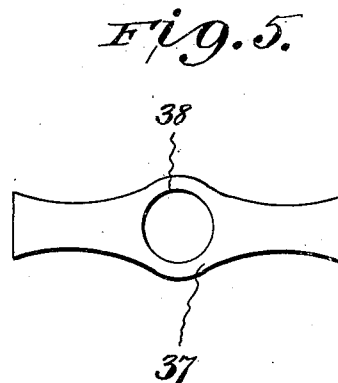
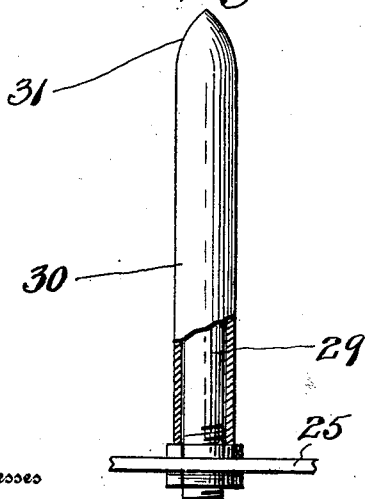
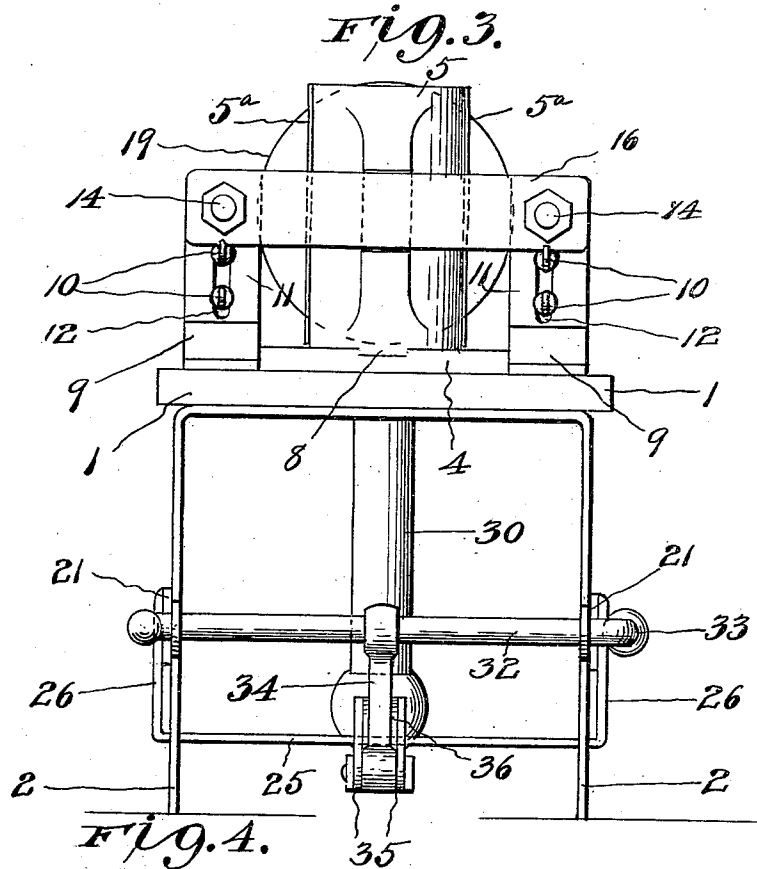
Daniel Fuhrer
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Attorney

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Witnesses

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UNITED STATES PATENT OFFICE.

DANIEL FUHRER, OF BLUFFTON, INDIANA.

CONCRETE-TILE-MOLDING MACHINE.

935,904.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed March 10, 1909. Serial No. 482,489.

To all whom it may concern:

Be it known that I, DANIEL FUHRER, a citizen of the United States, residing at Bluffton, in the county of Wells and State of Indiana, have invented certain new and useful Improvements in Concrete - Tile - Molding Machines, of which the following is a specification.

My invention relates to machines for making concrete tiles and has for its object the provision of a machine adapted to making tiles of different diameters and shapes in which the mold consists of a vertically movable plunger or core to form the bore of the molded tile, and the molds for the outside of the tile consisting of two separable sections slidably mounted on a suitable base. A screw clamp is provided for moving the molds for the outside of the tile toward one another so that the concrete is compressed sufficiently to dispense with the tamping heretofore necessary to thoroughly compact the concrete and squeeze the bulk of the water therefrom.

The construction and operation of my improved machine will be described hereinafter and illustrated in the accompanying drawings in which—

Figure 1 is a side view of my improved machine, Fig. 2, a top plan view, Fig. 3, an end view, Fig. 4, a detail view partly in section of the plunger, and Fig. 5, a view showing the implement used to level the upper edge of the molded tile.

In the drawings similar reference characters indicate corresponding parts in the several views.

The table 1 is supported by means of the legs 2 and has an opening 3 therein over which is secured a plate 4 for holding the molds 5. One of said molds being provided with plates 5^a secured to the sides thereof and extending beyond its edges to engage the edges of the other mold. Plate 4 is provided with an elongated depression 6 in the top surface thereof, in which the molds 5 are seated, and a central opening 7 of the diameter of the core to be used in forming the bore of the tile.

8 indicates a gutter connecting depression 6 and extending to the edge of the plate to facilitate the removal of loose particles of the concrete after the removal of the molded tile therefrom.

9 indicates upright supports secured to the table 1 having screws or bolts 10 secured

thereto, and 11 plates having longitudinal slots 12 therein engaging said screws or bolts 10.

13 indicates sleeves secured to plates 11 in which are slidably mounted rods 14 having their ends threaded as shown at 14^a.

15 and 16 indicate cross-bars mounted on the ends of rods 14 and adjustable thereon by means of nuts 17 engaging the threaded ends 14^a.

18 indicates a screw mounted in cross-bar 15 turned by hand wheel 19. This structure comprises the compression frame hereinafter referred to.

In operation the cross-bar 16 engages one of the molds 5 while the other mold is engaged by screw 18, and by turning the screw in the proper direction the two parts of the mold are pressed toward one another to compact its contents, the rods 14 being slidably mounted in sleeves 13 permit the automatic adjustment of the compression frame to equalize the pressure on the two sides of the mold.

The legs 2 are provided with longitudinal slots 20, and 21 indicates bars having threaded pins 22 secured thereto and slidably mounted in said slots 20 and adjustably secured on the legs by means of thumb nuts 23. Bars 21 are provided with longitudinal slots 24, and 25 indicates a cross-bar having upwardly extending ends 26 formed with slots 27 and 28 indicates bolts engaging slots 24 and 27 to hold bar 25 in position.

29 indicates a post secured to cross-bar 25 and 30 a tubular plunger mounted on said post the upper end of said plunger being closed and tapered as shown at 31.

32 indicates a rock shaft journaled on two of the legs 2 and provided with an operating lever arm 33.

34 indicates an arm secured to shaft 32 and 35 links connecting arm 34 and the ear 36 on plunger 30.

In operation the lever arm 33 is swung upwardly so as to raise the plunger 30 through the opening 7 in plate 4. The molds 5 are then placed at the two ends of the depression 6 and the concrete poured into the form. After being filled the screw 18 is turned so that the two molds 5 are brought together and the concrete contained therein compressed, the plates 5^a preventing it from squeezing out between the edges of the molds. By this operation the excess of water is squeezed out of the concrete and the ma-

terial thoroughly compacted without tamping. The top of the molded tile is then leveled off by means of the plate 37 having central hole 38 that engages the tapered portion 31 of plunger 30, the plate being rotated around the upper end of the mold to smooth the upper end of the molded tile and throw off all surplus material. After this the lever arm 33 is swung downwardly so as to lower the plunger 30, the screw 18 turned to release the clamping frame from engagement with the molds 5 and the molds 5 with the molded article therebetween removed from the plate 4, the article placed upon a suitable platform to dry and the molds used to repeat the operation.

The adjustability of the plunger mounting and of the standards consisting of supports 9 and plates 11 admit of the use of molds of different dimensions, the plate 4 also being removable so that a plate constructed to accommodate the mold may be secured to the table. The diameter of the plunger 30 determines the diameter of the bore of the tile when finished, while the sizes of the molds 5 determine the thickness of the tile.

I have shown the mold constructed to form a cylindrical tile of the same diameter throughout its length but it will be understood that molds of other shapes may be used including a bell-shaped portion at one end to receive the smaller end of the adjacent tile.

Having thus described my invention what I claim is—

1. In a molding machine, a table, a frame mounted on said table, comprising side-bars and cross-bars adjustably mounted on said side-bars, a screw secured to one of said cross-bars, and molds formed in two parts, one of said parts engaging said screw, and the other part the cross-bar opposite to the screw.

2. In a molding machine, a table, standards secured to said table, sleeves secured to said standards, rods slidably mounted in said sleeves, cross bars secured to said rods, a screw mounted in one of said cross-bars, and a mold formed in two parts, one of said parts engaging the screw and the other part the other cross-bar.

3. In a molding machine, a table, standards secured to said table, sleeves secured to said standards, rods slidably mounted in said sleeves and having threaded ends, cross-bars mounted on said threaded ends, nuts engaging said threads and the cross-bars to hold them in position, a screw mounted in one of said cross-bars, and a mold formed in two parts, one of said parts engaging the screw and the other part the other cross-bar.

4. In a molding machine, a table, adjustable standards secured to said table, sleeves secured to said standards, rods slidably

mounted in said sleeves and having threaded ends, cross-bars mounted on said threaded ends nuts engaging said threads and the cross-bars to hold them in position, a screw mounted in one of said cross-bars and a mold formed in two parts, one of said parts engaging the screw and the other part the other cross-bar.

5. In a tile molding machine, a table having legs, a supporting structure adjustably secured to said table legs, a post mounted on said supporting structure, a tubular plunger engaging said post, a rock shaft journaled on said legs, an arm secured to said shaft, links connecting said arm and plunger, and a lever-arm secured to the rock shaft to actuate it.

6. In a tile molding machine, a table having legs, bars adjustably secured to said legs, a cross-bar adjustably secured to said bars, a post secured to said cross-bar, a tubular plunger engaging said post, a rock shaft journaled on said legs, an arm secured to said shaft, links connecting said arm and plunger, and a lever-arm secured to the rock shaft to actuate it.

7. In a tile molding machine, a table, the legs of the table having longitudinal slots therein, bars adjustably secured in said slots, said bars having a longitudinal slot therein, a cross-bar having upwardly extending ends secured in the slots in the bars, a post secured to said cross-bar, a tubular plunger engaging said post, a rock shaft journaled on said legs, an arm secured to said shaft, links connecting said arm and plunger, and a lever-arm secured to the rock shaft to actuate it.

8. A tile molding machine comprising a table having an opening therein, a plate secured over said opening and having a hole therein, an adjustable frame mounted on the table, a screw secured to said frame, molds mounted on said plate and formed in two parts, one of said parts engaging the frame, the other part the screw, a vertically adjustable plunger in alinement with the hole in the plate, a rock shaft, an arm secured to the rock shaft, links connecting the arm and plunger, and a lever-arm secured to the rock-shaft to actuate it.

9. A tile molding machine comprising a table having an opening therein, a plate secured over the opening and having a hole therein, adjustable standards secured to said table, sleeves secured to said standards, rods slidably mounted in said sleeves and having threaded ends, cross-bars adjustably mounted on said threaded ends of the rods, a screw mounted in one of said cross-bars, a mold mounted on said plate and formed in two parts, one of said parts engaging the screw the other part the other cross-bar, bars secured to the legs of said table, a cross-bar

supported by said bars, a post secured to
said cross-bar in alinement with the hole in
the plate, a tubular plunger engaging said
post, a rock shaft journaled on said legs, an
5 arm secured to said shaft, links connecting
said arm and plunger, and a lever-arm se-
cured to the rock shaft to actuate it.

In testimony whereof I hereto affix my
signature in the presence of two witnesses.

DANIEL FUHRER.

Witnesses:

PETER SCHOTT,
EDWIN C. VAUGHN.