J. CARDIFF.

MACHINE FOR MAKING CEMENT DRAIN TILES.

APPLICATION FILED APR. 24, 1908.

905,646. Patented Dec. 1, 1908.

2 SHEETS—SHEET 1.

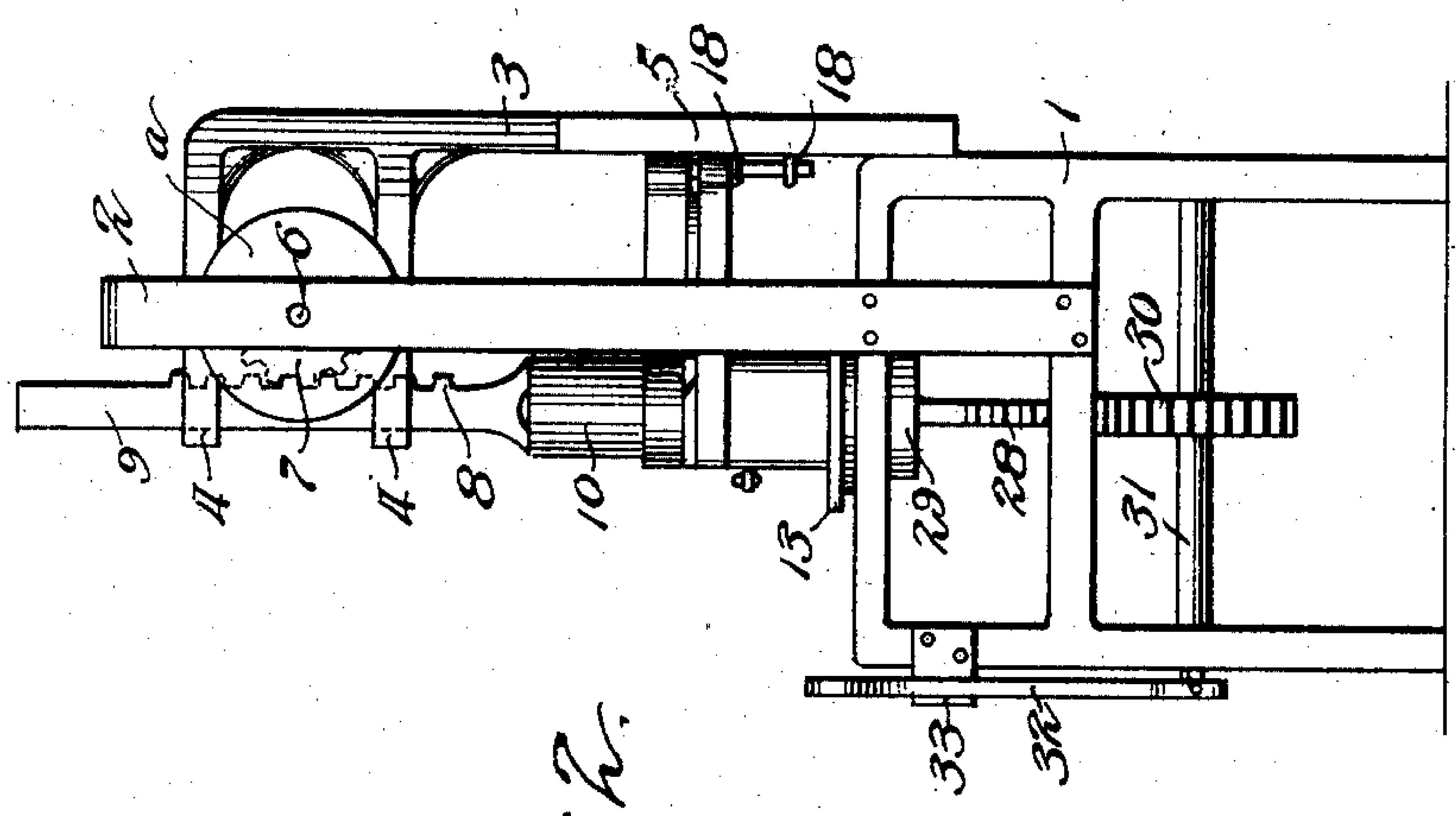

Fig. 2.

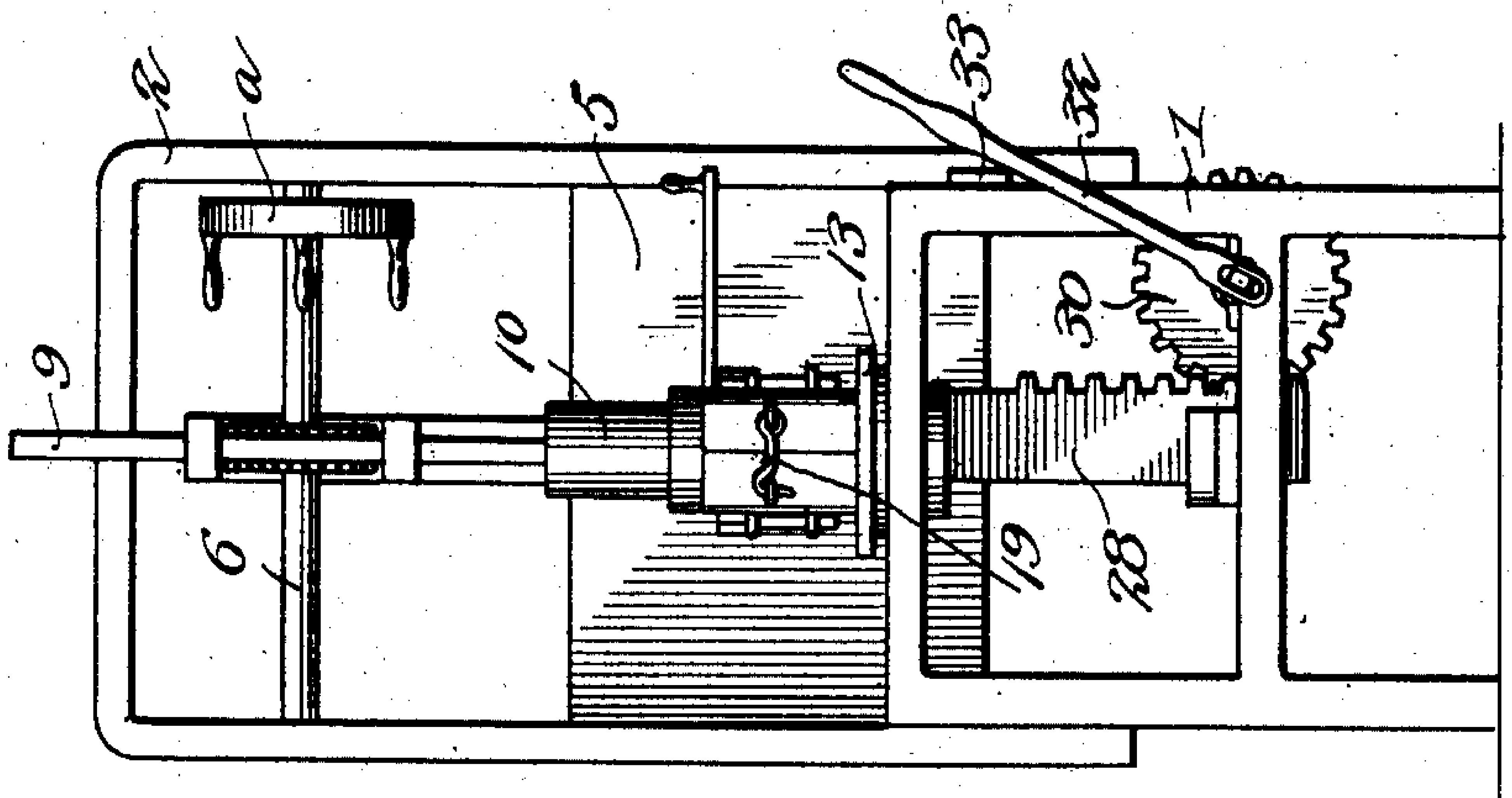

Fig. 1.

Witnesses

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[illegible]

Inventor

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2 SHEETS—SHEET 2.

Fig 4.

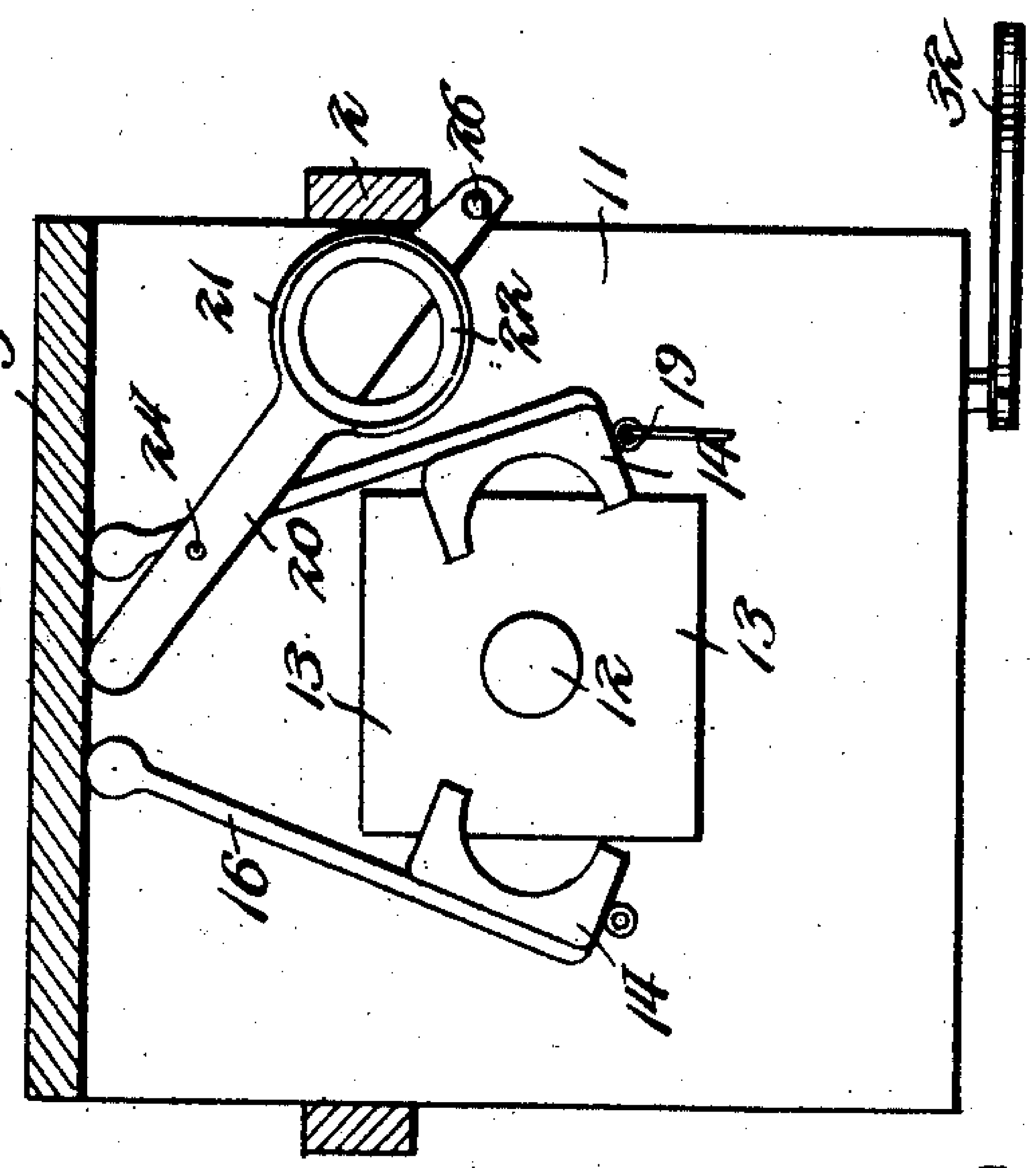


Fig 6.

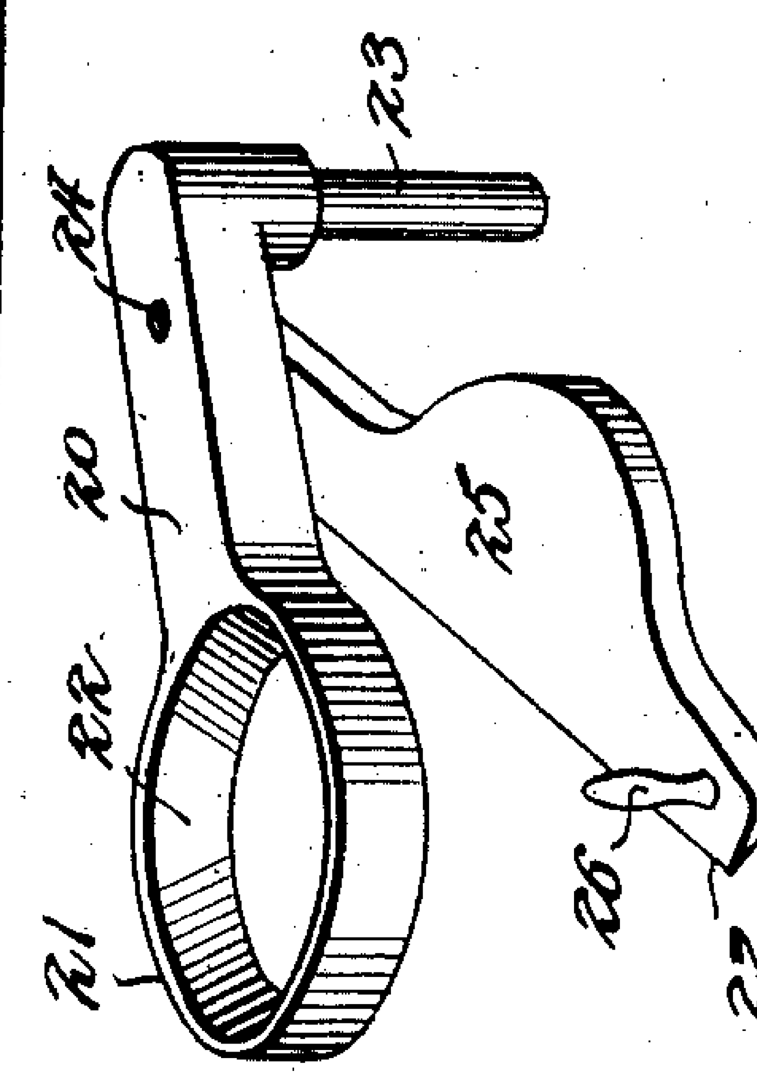


Fig 3.

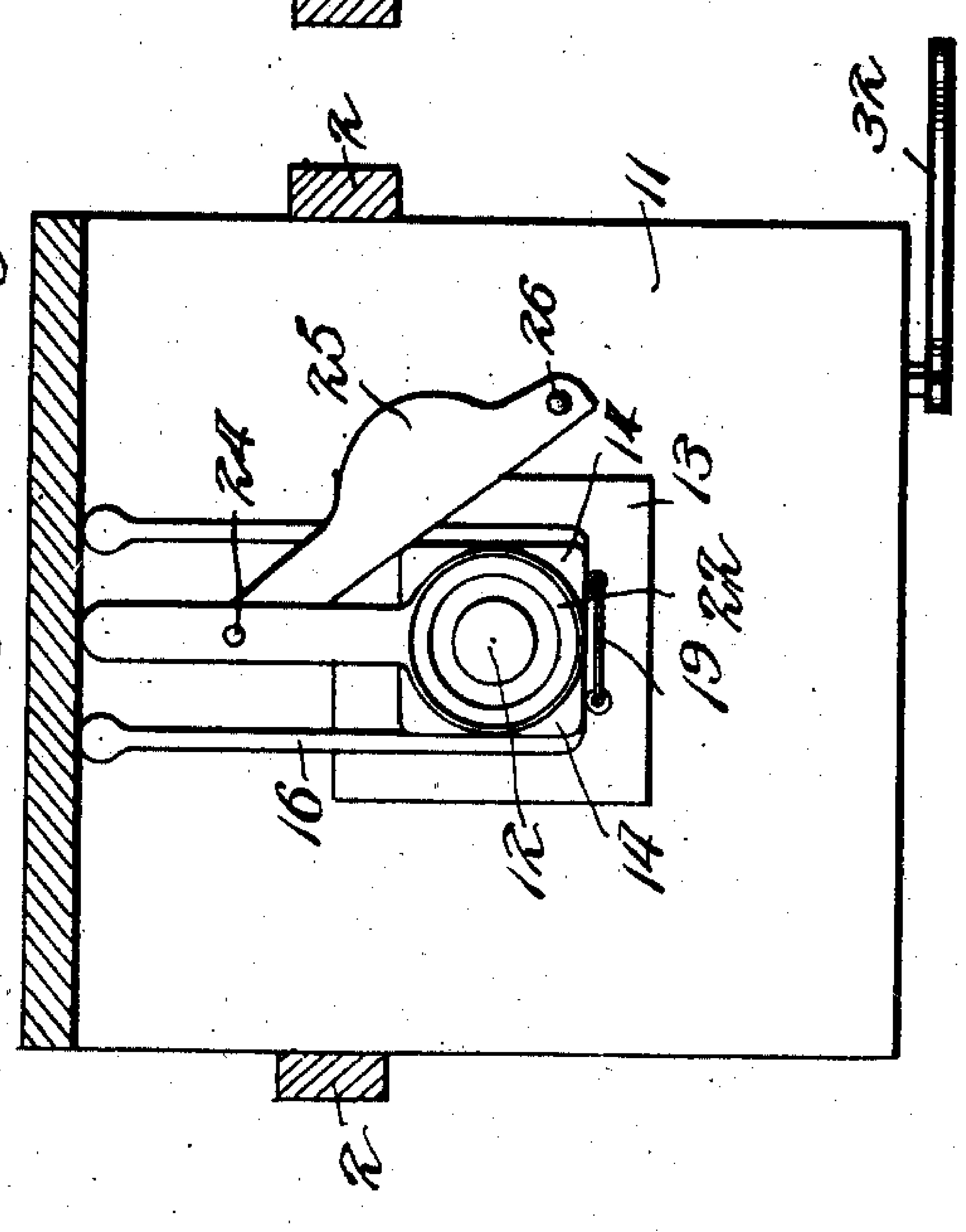
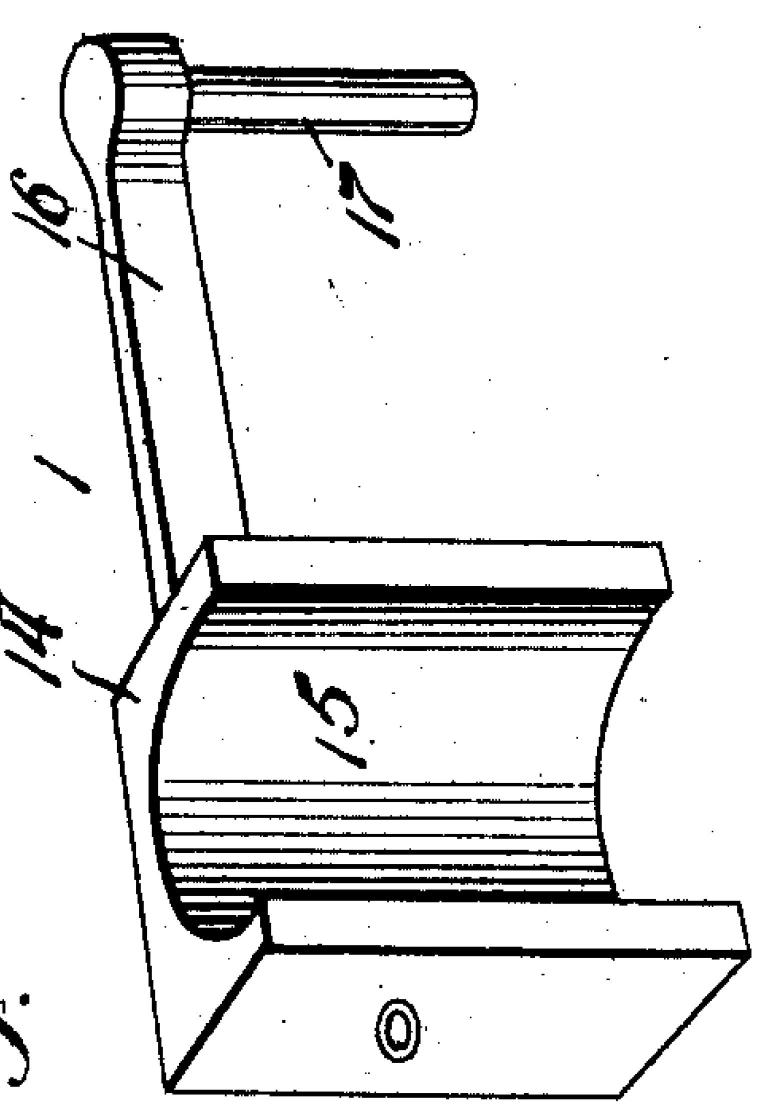


Fig 5.



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UNITED STATES PATENT OFFICE.

JOHN CARDIFF, OF POTOMAC, ILLINOIS.

MACHINE FOR MAKING CEMENT DRAIN-TILES.

No. 905,646. Specification of Letters Patent. Patented Dec. 1, 1908.

Application filed April 24, 1908. Serial No. 429,065.

To all whom it may concern:

Be it known that I, JOHN CARDIFF, a citizen of the United States of America, residing at Potomac, in the county of Vermilion and State of Illinois, have invented new and useful Improvements in Machines for Making Cement Drain-Tiles, of which the following is a specification.

This invention relates to machines for making cement drain tiles, and one of the principal objects of the same is to provide a simple hand-operable machine for making drain tiles which will operate quickly, smoothly and efficiently.

Another object of the invention is to provide a machine for the manufacture of hollow drain tiles of cement or other plastic material which may be operated by hand and which may be operated without the application of excessive power in forming the tiles.

These and other objects may be attained by means of the construction illustrated in the accompanying drawings, in which,—

Figure 1 is a front elevation of a machine made in accordance with my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a transverse sectional view taken on a line with the top of the swinging feed hopper, the mold members being shown closed. Fig. 4 is a similar view showing the mold members open and the feed hopper swung out of the way. Fig. 5 is a perspective view of one of the mold members. Fig. 6 is a similar view of the feed hopper and the scraper or slicker pivoted thereto.

Referring to the drawings for a more specific description of my invention, the numeral 1 designates a frame mounted on legs, and secured to said frame is the arch 2 for supporting parts of the mechanism. A central upright 3 is secured to the frame 1, said upright having forwardly projecting arms 4. A back board 5 is secured to the frame 1 at the back of the machine.

Journaled at its ends in the arch 2 is a shaft 6, said shaft carrying a centrally disposed gear wheel 7 which meshes with a series of teeth formed upon the plunger rod 9, said plunger rod being mounted in the arms 4 and adapted to be reciprocated therein by the rotation of shaft 6. On the lower end of the rod 9 is a plunger 10. At the top of the frame 1 is a table 11 having an opening 12 through the same. A pallet board 13 having an opening therein which coincides with the opening 12 in the table is placed upon said table to support the hollow tile after it has been molded and to permit said tile to be dried thereon before it is removed therefrom. A new pallet is required for each tile.

The mold members each consists of a rectangular block 14 having a semi-circular recess 15 extending therethrough. An arm 16 connected to the member 14 is provided with a pivot pin 17 which fits in keepers 18 secured to the back 5. The two mold members 14 are provided with a suitable latch 19 for holding the same together. A feed hopper comprises an arm 20 having a ring 21 formed on the outer end thereof, said ring having a beveled inner wall 22. Projecting downward from the arm 20 is a pivot pin 23 which is mounted in suitable keepers on the rack 5. Pivoted underneath the arm 20 at 24 is a scraper or slicker 25 having a handle 26, said slicker having a sharpened edge 27.

At the lower side of the machine a rack bar 28 is provided with a core 29 which removes the central portion from the hollow tile. The rack bar 28 is moved up and down by means of a gear wheel 30 mounted upon a shaft 31 journaled in the frame 1 and provided with a lever 32 by means of which the wheel 30 is rotated to move said rack bar 28. A stop 33 is provided which holds the lever 32 in place.

The operation of my invention may be briefly described as follows: When the machine is in the position shown in Fig. 3 the cement or other material is fed into the ring 21, and the plunger 10 is moved downwardly to press the same into the mold. After the cement or mortar has been thoroughly filled into the mold, the core 29 is carried upwardly through the opening 12 in the table and forcing its way through the tile to form a hollow tile member. The plunger 10 is then brought down on top of the tile. After the mold members have been opened out the tile is removed by lifting out the pallet 13 and placing it with the tile thereon in position to dry. A hand wheel a is utilized for rotating the shaft 6.

From the foregoing it will be obvious that my invention is of simple construction, will operate quickly to form hollow tiles and can be manufactured at slight cost.

Having thus described the invention, what is claimed as new, is:—

1. A tile machine comprising two pivoted members, a swinging hopper member, and a scraper or slicker pivoted to the hopper member, substantially as described.

2. In a machine of the character described, a pair of molds pivoted to the frame, a hopper, a slicker pivoted to the hopper, a pallet board having an aperture therein, a plunger, a core, and means for operating said plunger and core.

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

JOHN CARDIFF.

Witnesses:

T. I. WYANT,

U. S. GOODWINE.