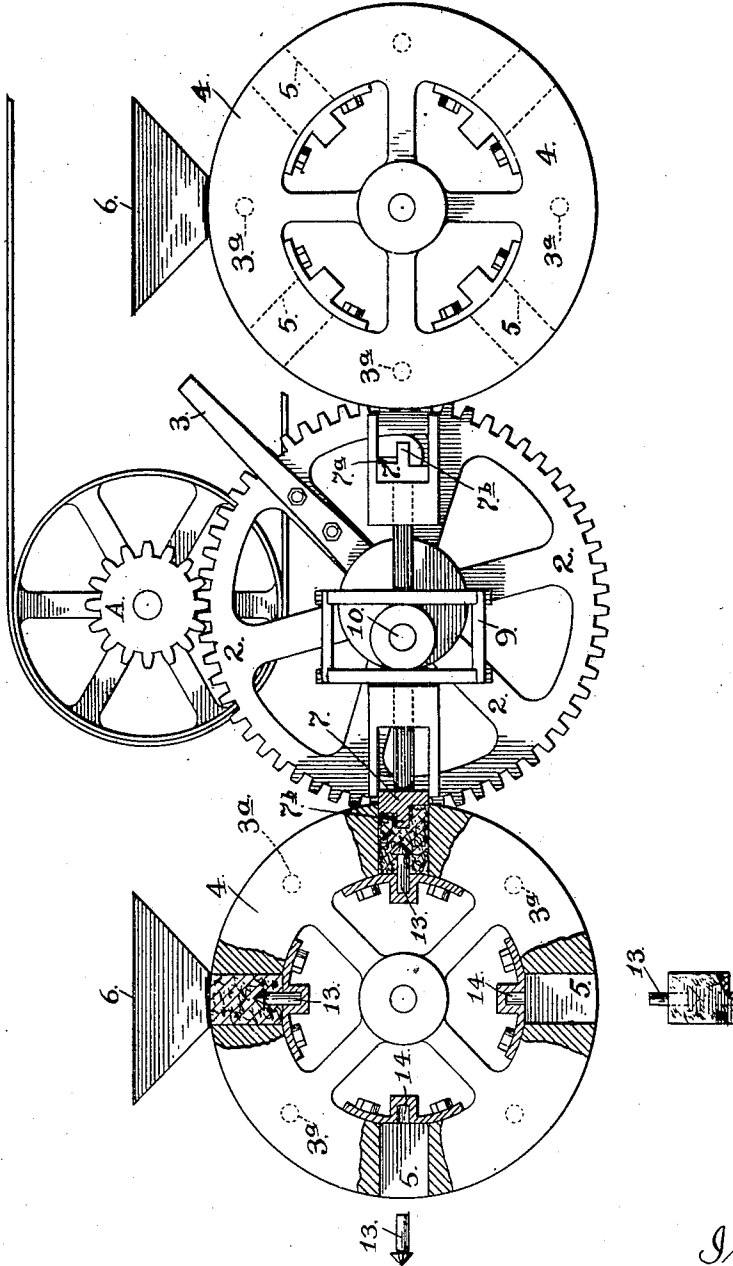


No. 824,924.

PATENTED JULY 3, 1906.

W. H. FULCHER.
CONCRETE BLOCK MAKING MACHINE.
APPLICATION FILED SEPT. 29, 1905.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM H. FULCHER, OF OAKLAND, CALIFORNIA.

CONCRETE-BLOCK-MAKING MACHINE.

No. 824,924.

Specification of Letters Patent.

Patented July 3, 1906.

Application filed September 29, 1905. Serial No. 280,609.

To all whom it may concern:

Be it known that I, WILLIAM H. FULCHER, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Concrete-Block-Making Machines, of which the following is a specification.

My invention relates to a machine which is designed for the manufacture of concrete and like molded bricks or blocks.

It consists of revoluble molds and opposed compressing forming devices with mechanism for operating the same.

It also comprises details of construction which will be more fully explained by reference to the accompanying drawings, in which the figure is an elevation and partial section of one side of a double apparatus, showing my invention.

It is the object of my invention to provide an apparatus which is designed for the rapid manufacture of building-blocks from plastic material.

In the construction of my apparatus I have shown one or two drums 4, in which the molds or forms for the blocks are carried. It will be understood that two of these mold-carrying drums may be employed located at opposite sides of the driving-gear, and the description of the operation of one of these gears will suffice for both.

A is a driving-pinion impelled by any suitable motor. This pinion engages with a gear-wheel 2, which it revolves. The gear-wheel has a projecting arm 3, which at each revolution engages one of the equally-spaced studs 3^a, projecting from the side of the drum 4, so that at each revolution of the gear-wheel 2 the drum is advanced a quarter of a revolution.

The drum has four pockets or molds, as shown at 5, for the formation of the blocks, these molds being varied to suit the character of block desired.

6 is a hopper located above the drum 4 and through which the material may be introduced.

13 are pins which it is designed to fix in the concrete blocks when they are formed.

The operation will then be as follows: The pins 13 are introduced into sockets 14 in the bottom of each mold when the mold arrives at a point substantially in line with and on the opposite side from the gear-wheel 2. At this point the pins are introduced and will be

held centrally in the socket 14. The next revolution of the gear-wheel brings the arm 3 into contact with one of the studs 3^a, and this revolves the drum 4 a quarter of a revolution, bringing it in line beneath the hopper 6, through which the plastic material is delivered, and fills the mold around the inwardly-projecting end of the pin 13. This end may be corrugated or irregular, so that it will be firmly locked into the block when the latter has become hardened. The next revolution of the gear 2 again engages the arm 3 with the succeeding stud 3^a, and the now filled mold is brought into a horizontal position and in line with the axis of the gear 2.

7 is a plunger having a main diameter sufficient to fit the mold and having a projection 7^b of such size as to form a chamber or pocket in the end of the block opposite to the one which contains the pin 13, so that when the blocks are completed the pin in one end of a block will fit into the pocket or depression in the opposite end of the contiguous block.

In addition to the projection 7^b there is a rib 7^a extending transversely across the face of the plunger, and this rib forms a channel in the end of each block, so that when the blocks are laid it allows for the introduction of grout or other plastic material which will set after the blocks have been laid.

It will be understood that the plunger as thus described may be duplicated upon the opposite side in case there may be two of the drums 4. This plunger is connected with a yoke 9, within which an eccentric 10, mounted upon the shaft of the gear 2, is revoluble. The eccentric is so set that when the gear is revolved and during the interval of the revolution of the arm 3 and before it reaches another of the pins 3^a the eccentric will force the plunger into the mold, thus compressing the material around the pin 13 and forming the socket and channels at the opposite end. The plunger will be withdrawn as the revolution of the gear continues, so that it is entirely clear of the drum 4 before the next quarter-revolution is made.

Blocks of any description may be made in an apparatus of this kind, it being only necessary to substitute the desired mold for the one herein described. Such blocks are especially designed for laying up walls, for paving purposes, for sewer-work, &c., and it will be seen that when so constructed the projecting pins, sockets, and the channels allow the blocks to be so locked together that

they cannot settle out of line. After the block has been compressed as previously described the following revolution brings the mold and its block to the bottom of the drum, and at this point the blocks will be discharged by gravitation upon any suitable carrying belt or table.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A concrete-block-making machine having in combination a wheel or drum and a horizontally-disposed shaft therefor, said drum having molds opening through its periphery, and said molds having sockets in their bottom adapted to receive and support removable pins; a hopper vertically disposed above said drum and adapted to fill the molds as the latter successively pass below its bottom; a second drum journaled parallel with the first-named drum, and having a single arm fixed to it and projecting radially beyond the periphery thereof; lugs on the first drum, with one of which said arm engages at each revolution of said second drum whereby the first drum is intermittently revolved; a guided pressure-plunger arranged horizontally in line with the molds; and an eccentric on the axis of the second drum by which the plunger is reciprocated to compress the material within the mold.

2. A concrete-block-making machine having in combination a wheel or drum and a horizontally-disposed shaft therefor, said drum having molds opening through its periphery and each of said molds having a socket in its bottom adapted to receive and support a removable pin which extends into the mold-chamber; a hopper vertically disposed above said drum and adapted to supply material to the molds as they are successively alined therewith; a second drum journaled parallel with the first drum, and having an arm projecting radially beyond its periph-

ery; lugs on the first drum, with one of which said arm engages at each revolution of the second drum whereby the first drum is intermittently revolved; a guided pressure-plunger arranged horizontally in line with the molds; and an eccentric on the axis of the second drum by which the plunger is reciprocated said plunger having a projection on its face adapted to form a chamber or pocket in the end of the block opposite to the one which contains the pin whereby the pin fixed in one block will fit the pocket or chamber of another block.

3. In an apparatus for forming blocks from plastic material a revoluble wheel having molds opening at the periphery and located ninety degrees apart, sockets in the inner ends of the molds and pins fitting said sockets and projecting into the molds, a hopper located above the wheel and registering with each mold when it arrives in position beneath the hopper whereby the mold is filled with plastic material, a second wheel journaled parallel with the mold-wheel having a means whereby the mold-wheel is intermittently revolved to successively bring the molds into line with the hopper and into corresponding other positions, an eccentric carried by said second wheel, a guided plunger in line with and actuated by the eccentric, said plunger fitting the outer ends of the molds having a projection to form a socket in each block to correspond with the pins at the inner ends, and transverse ribs forming depressed channels in the outer ends of the blocks.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM H. FULCHER.

Witnesses:

S. H. NOURSE,
HENRY P. TRICOU.