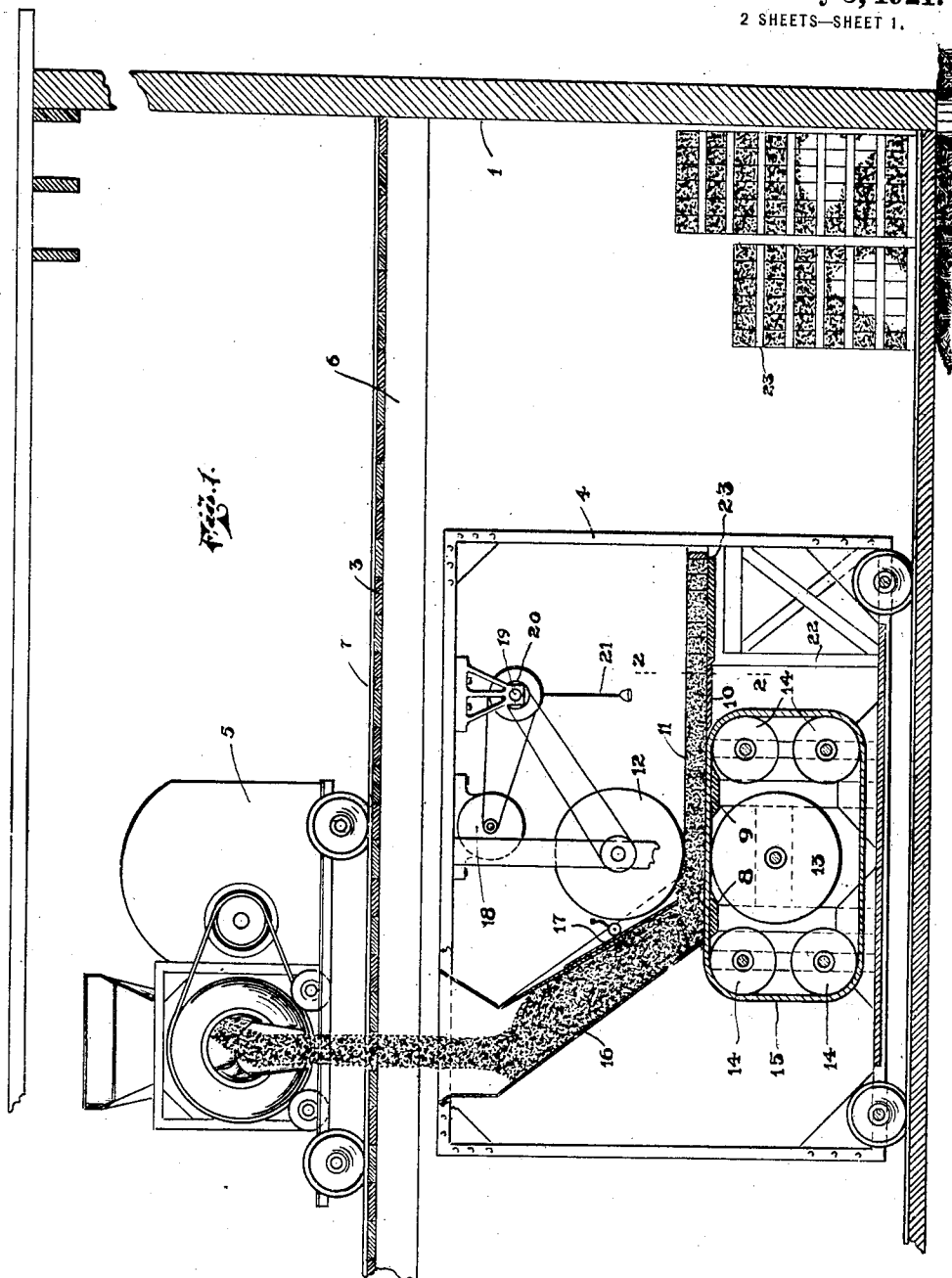


1,376,731.

2 SHEETS—SHEET 1.



Richard Ryan.

BY

S. W. Stevens.

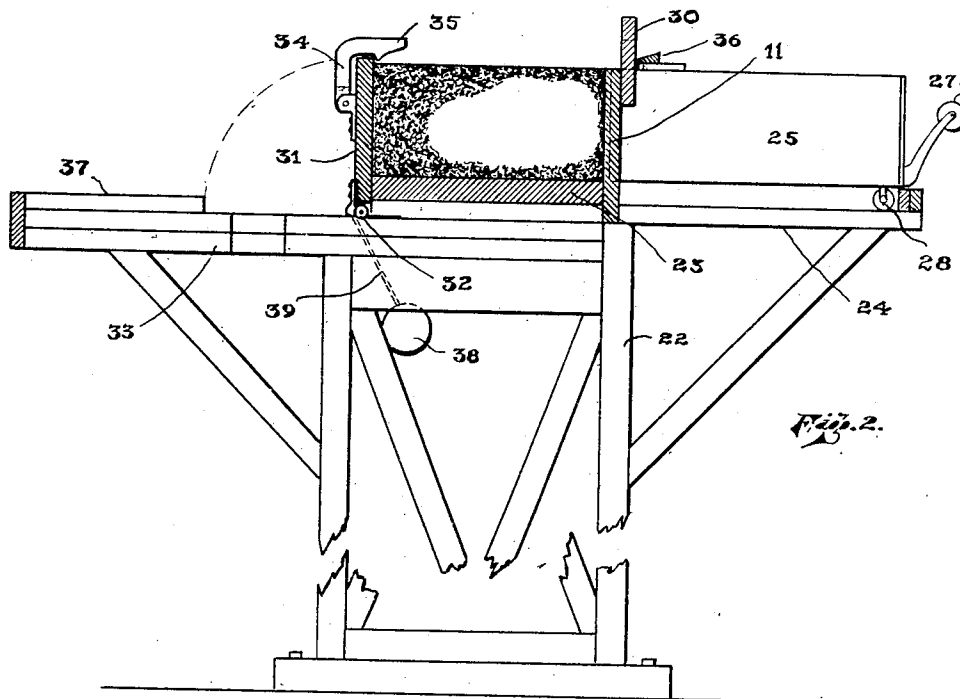
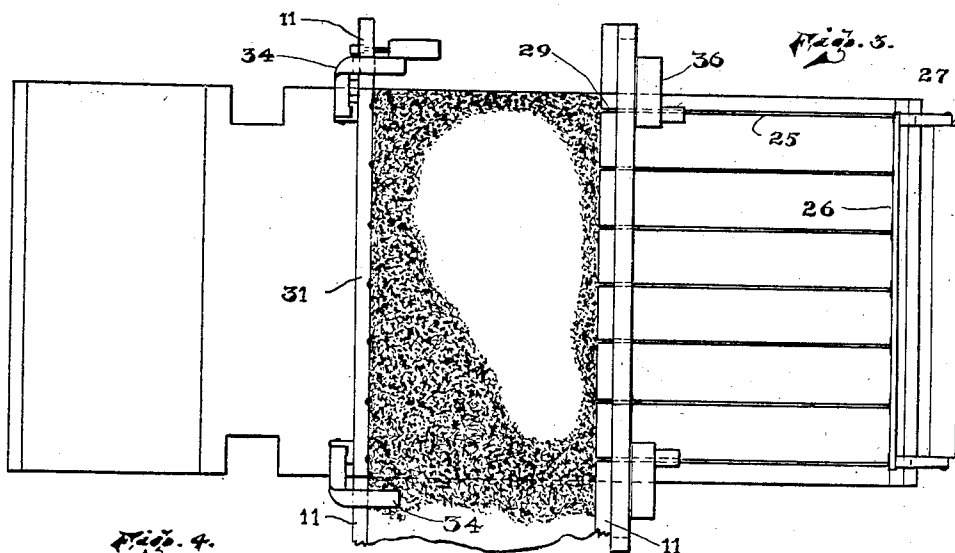
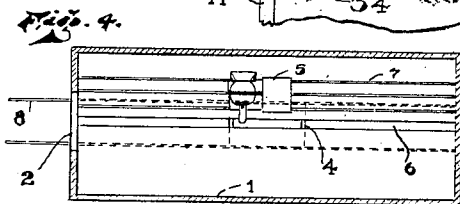
ATTORNEY

R. RYAN.
BLOCK OR BRICK MAKING MACHINE.
APPLICATION FILED SEPT. 12, 1919.

1,376,731.

Patented May 3, 1921.

2 SHEETS—SHEET 2.



INVENTOR

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UNITED STATES PATENT OFFICE.

RICHARD RYAN, OF CLEVELAND, OHIO.

BLOCK OR BRICK MAKING MACHINE.

1,376,731.

Specification of Letters Patent.

Patented May 3, 1921.

Application filed September 12, 1919. Serial No. 323,309.

To all whom it may concern:

Be it known that I, RICHARD RYAN, citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Block or Brick Making Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to block or brick making machines and has special reference to such a machine in which the aggregate employed therein includes cement, the product of which is commonly known as concrete.

While my invention relates particularly to a combination of mechanical elements the employment of such mechanism involves a novel method which forms a part of my present invention.

The principal object is to provide a simple and practical concrete brick forming machine.

Another object is the production of a novel and simple method of simultaneously forming concrete bricks and storing them in a steaming room.

Still other objects and advantages of the invention will appear during the further description thereof.

In the accompanying drawings forming part of this application and in which like reference characters indicate like parts:

Figure 1 is a vertical sectional view through a building or room employed for steaming concrete bricks during the production thereof.

Fig. 2 is a transverse sectional view of the brick-forming trough taken on the line 2—2, Fig. 1.

Fig. 3 is a top plan view of Fig. 2 and

Fig. 4 is a reduced plan view of a building in which my brick-forming machine is employed.

I represents a building of any desired construction built for the purpose of steaming or otherwise treating bricks, such being common in the art. In one end of this building I preferably provide an opening or door 2 sufficiently large to receive the complete brick making machine and which may be placed within the building or removed therefrom as desired or if, in the event of the employment of a large building having a plurality of steaming rooms therein, the

machine may be transferred from one room to the other as is evident.

It is customary practice to form such bricks and subsequently transfer them to the steaming room, whereas in my present invention the bricks are formed as near as possible to the place of final deposit for steaming purposes, thus dispensing with all but a single handling of the bricks. In a building of the character described is formed a second floor indicated at 3, thus dividing the building into two stories the lower one of which is of sufficient height to receive the brick making machine which is carried in rectangular shaped framed structure indicated at 4 and the upper story is of sufficient height to accommodate a suitable concrete mixer and the working thereof, such a mixer being indicated at 5.

An open slot 6 is formed in the floor 3 longitudinally of the room in which the bricks are to be stored, and a track 7 is provided adjacent the slot for the accommodation of the concrete mixer 5. A suitable track is also provided on the main floor of the building or room in which the bricks are being formed and stored. This track is for the accommodation of the brick-making machine which is provided with suitable wheels for coöperation with said track, or if found more convenient it is apparent that the tracks may be wholly dispensed with and both the brick making machine and the concrete mixer operated upon flat flangeless wheels if preferred.

In practising my novel method of making bricks which includes the curing of same in the steaming room, the first step taken is the passing of the brick-making machine into the building or room in which the curing process is to take place together with the concrete mixer in the story above the brick machine and which latter, during the process of brick making is required to afford a continuous supply of concrete to the machine below, the mixed concrete passing through the slot 6 in the floor 3. These machines are placed a suitable distance from the end of the building or room farthest from the entrance and convenient for the pilers to receive the bricks from the machine as they are formed and stack same in the end of the building or room. As the stacking or piling up process of the bricks fill the room the machines are manually

backed away therefrom so that when the room is filled with bricks the machines will be ejected, and ready for subsequent filling of the same compartment or moved to other
5 rooms or buildings for a like purpose.

It is not necessary to describe the structure or operation of the concrete mixing machine as such is not essential to this invention but the brick-making machine involves
10 novel combinations of parts that I will now proceed to describe, it forming an essential part of the invention.

Within the frame 4 is mounted a platform or table, sections of which are indicated at 8, 9 and 10 and upon which is
15 formed a suitable trough, the width of which is the exact length of the bricks to be made, said trough comprising the side walls 11, coöperating with the table top in
20 forming said trough. In approximately the middle of the frame 4 are two large vertically spaced rollers 12 and 13 and upon either side of the latter are two vertically spaced smaller rollers 14, they being parallel with the roller 13 and but a short distance from either side thereof. About these
25 latter five rollers is placed a canvas or other suitable belt, indicated at 15, and which passes over the sections 8 and 9 of the bottom of the trough and forms a movable bottom therefor. Directly above the section 8 of the table top is the feeding end of a
30 suitable inclined spout 16 which feeds concrete on to the belt in the trough. I have shown at 17 a section of the wall of the spout 16 as being vertically reciprocable in any desired manner for the purpose of governing the amount of concrete which is allowed to pass intermediate of the rollers
40 12 and 13 and by which it is obvious the density of the composition forming the bricks may be controlled.

An electric motor is indicated at 18 and drives a counter shaft 19 which in turn operates the feed roller 12 and upon the counter shaft 19 is any suitable form of friction clutch pulley 20 controlled by the rope 21, such pulleys being capable of quick adjustment, as is well known in the art, and by
50 which the roller 12 may be readily stopped and started.

It may be found necessary to apply power to some one of the rollers 13 or 14, but from experience thus far gained I am of the
55 opinion it will answer every purpose to have power applied only to the roller 12 and which when in action will cause the belt 15 to revolve about the rollers 13 and 14 as the concrete is carried forward in the
60 trough.

At the end of the trough and adjacent the bottom section 10 is a frame structure indicated at 22 which supports a suitable platform for the reception of the pallets
65 upon which the bricks are formed, one of

which is indicated at 23 is flush with the bottom of the trough and in receptive position for the bricks. A laterally projecting extension 24 is formed upon one side of the frame 22 which supports the series of thin
70 metal blades indicated at 25 which are designed to be manually forced through the body of concrete when the latter is in the trough on the pallet and ready for forming into bricks.

The knives 25 are attached together at their outer ends by the cross member 26 which carries the operating handle 27 and may or may not be mounted upon suitable rollers or wheels 28 for convenience in reciprocal manipulation.

Slots 29 are formed in one of the side walls 11 of the trough dividing it into sections and which sections are held together by a superimposed member 30, allowing the
85 knives 25 to freely pass through when in the act of dividing the concrete within the trough.

The opposite side wall of the trough and for a distance the exact length of the pallet 23 as indicated at 31 is pivotally mounted upon suitable hinges 32 in the frame 22 and capable of being prostrated upon the laterally projecting extension 33 similar to the extension 24 the same being for the
95 disposition of the pallet carrying the bricks formed thereupon.

Spring controlled dogs or catches 34—34 are mounted upon either upper corner of the side section 31 of the trough and which
100 dogs are designed to automatically catch over the stationary edges of the side wall 11 adjacent the ends of the section 31 when the latter is in its uppermost closed position. These dogs are provided with forwardly extending inclined portions 35 which are engaged by an inclined block 36 carried upon the outermost ones of the knives 25, when the latter about the inner face of the section 31. By this engagement it is evident that the dogs are obliged to release
105 their hold upon the side 11 of the trough when the knives have fully passed through the contents thereof and on further advance of the knives 25 the section 31 will be prostrated to a position parallel and flush with that portion of the frame 22 upon which the pallet is supported, thus permitting of the pallet with its load of bricks being forced directly across said prostrated section onto the platform 37 provided for same.

On withdrawal of the knives 25 the section 31 will resume its position, forming a continuation of the side wall 11, by the
125 action of a suitable counter-weight 38 attached to the arm 39 and carried by the section, or any other convenient means for automatically raising it. Then a fresh pallet is placed within the trough and the feed- 130

ing along of the concrete therein again resumed by the manipulation of the control of the friction pulley 20. When the pallet of bricks is thus prepared an attendant will
5 place same in the pile of like units in the building or room where they are thus stored preparatory to the steaming process.

It is evident that various modifications and changes in the embodiment of the invention here shown may be resorted to without departing from the spirit thereof.
10

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

15 The combination with a portable brick-making machine of the character described having a suitable material feeding device associated therewith, of a downwardly inclined feeding spout in the brickmaking
20 machine, two vertically spaced feeding roll-

ers adjacent the discharge end of the spout, a trough intermediate of the rollers into which the spout discharges, an endless belt intermediate of the rollers, forming a portion of the bottom of the trough and
25 onto which the material is discharged from the spout, means for intermittently operating the brick making machine, means at the discharge end of the spout and adjacent the feed rollers for regulating the amount of
30 material fed into the trough, and means at the opposite end of the trough for forming the contents thereof into a plurality of individual parts, substantially as described.

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

RICHARD RYAN.

Witnesses:

M. L. EVJEN,

W. H. DENHAM.