

J. M. SCHENK, DEC'D.
E. M. SCHENK, ADMINISTRATRIX.
MACHINE FOR FORMING CONCRETE BLOCKS.
APPLICATION FILED APR. 22, 1920.

1,380,598.

Patented June 7, 1921.

2 SHEETS—SHEET 1.

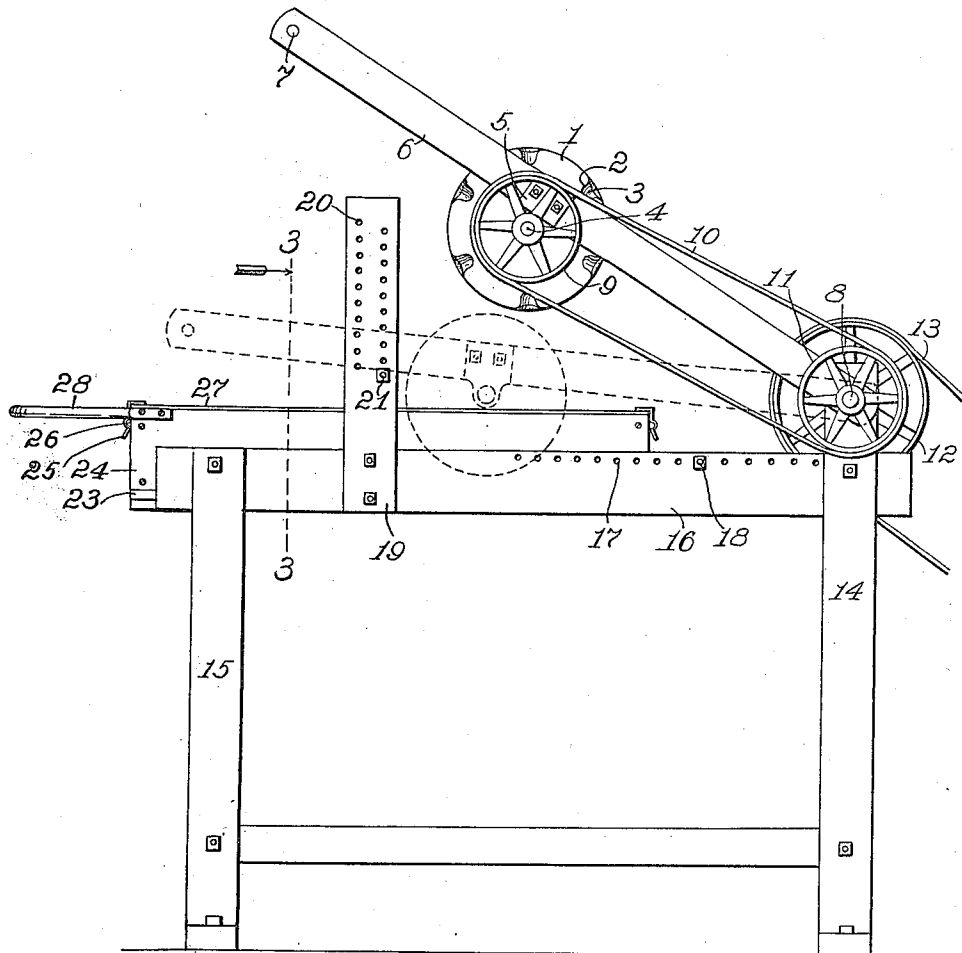


Fig. 1.

Inventor,
Estate of John M. Schenk,
Deceased, by
G. C. Kennedy,
Attorney.

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Fig. 2.

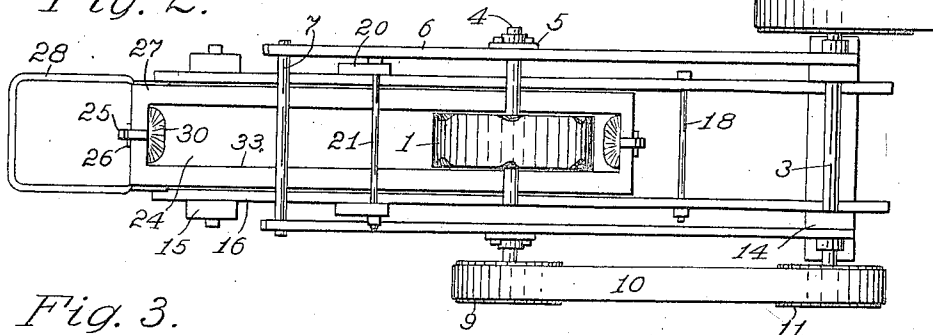


Fig. 3.

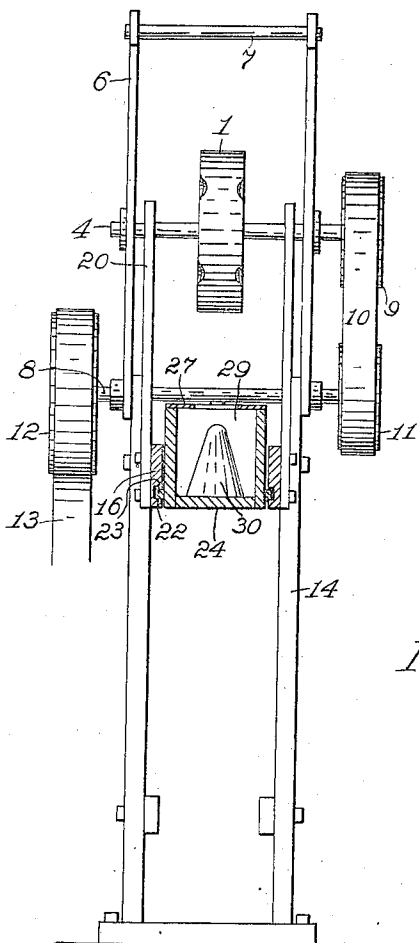


Fig. 4.

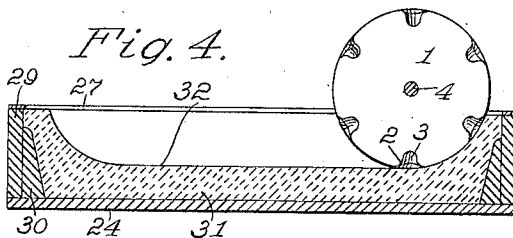


Fig. 5.

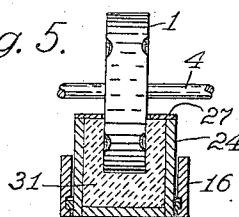
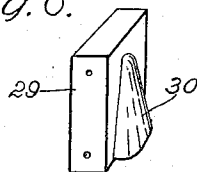


Fig. 6.



Inventor,
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UNITED STATES PATENT OFFICE.

JOHN M. SCHENK, DECEASED, LATE OF WATERLOO, IOWA, BY ELLA M. SCHENK,
ADMINISTRATRIX, ASSIGNOR TO ELLA M. SCHENK, OF WATERLOO, IOWA.

MACHINE FOR FORMING CONCRETE BLOCKS.

1,380,598.

Specification of Letters Patent.

Patented June 7, 1921.

Application filed April 22, 1920. Serial No. 375,829.

To all whom it may concern:

Be it known that I, ELLA M. SCHENK, administratrix of the estate of JOHN M. SCHENK, deceased, a citizen of the United States, and a late resident of No. 1416 Hawthorne avenue, Waterloo, Iowa, a citizen of the United States of America, and a resident of Waterloo, Blackhawk county, Iowa, state that said JOHN M. SCHENK invented certain new and useful Improvements in Machines for Forming Concrete Blocks, of which the following is a specification.

This invention relates to improvements in machines for forming concrete blocks, and the improvements herein shown and described relate to mechanism for producing blocks having elongated troughs or hollows therein.

The improvements have been accomplished by the means as hereinafter described, and as shown in the accompanying drawings, in which Figure 1 is a side elevation of the said machine for forming concrete blocks, and Fig. 2 is a top plan view thereof. Fig. 3 is a vertical cross section thereof, taken on the broken line 3—3 of said Fig. 1, and looking in the direction indicated by the arrow. Fig. 4 is a vertical longitudinal section of the reciprocable mold showing the rotary former-head completing the formation of a troughed block therein. Fig. 5 is a vertical cross section of the mold and its supporting means, with the rotary former-head in operative position therein, and Fig. 6 is a perspective detail view of the interiorly bossed end-wall of the mold.

Similar numerals of reference denote corresponding parts throughout the several views.

The supporting structure for the moving parts of the machine comprises pairs of transversely-spaced standards 14 and 15, to whose top parts are secured fixedly the spaced longitudinal beams 16, which are, along the lower parts of their inner or opposed faces, provided with longitudinally-grooved slideways 22.

The numeral 24 denotes an elongated open top closed bottom mold for concrete blocks, whose end-walls 29 may or may not have

inwardly-directed bosses or sloping projections 30 to form recesses in the ends of blocks.

Longitudinal ribs 23 are mounted along the lower parts of the outer longitudinal walls of the mold, and fit within the slide-way grooves 22 slidably, thus permitting the mold to be moved or reciprocated longitudinally of the machine by means of a looped handle 28 fixed on one end of the mold, manually.

The numeral 27 denotes a cover-plate for said mold, whose outer edges are conterminous therewith, and which may be removably secured upon the mold by means of the spring-clips 25 thereon which take releasably over lugs 26 on the outer end walls of the mold. The cover 27 has a longitudinal opening, medially located, as shown at 33 in said Fig. 2, whereby ledged parts extend inwardly over the hollow of the mold for a distance all around.

A number of horizontally-alined orifices 17 are made in both of the beams 16, to receive a bolt or pin 18 across the interspace of the beams, to thereby adjustably limit the scope of movement rearwardly of said mold along its slideways.

Anterior to these orifices standards 19 are fixedly erected on the beams 16, across from each other, and are provided with a large number of transversely-alined staggered orifices 20, to receive a bolt or pin 21, adjustably at different heights on the standards, for a purpose to be disclosed.

The upper ends of the standards 14 project above the beams 16 and contain orificed bearings for the rotatable shaft 8 on one end of which is fixed a belt wheel 12 driven by a belt 13. On the opposite end of said shaft is fixed a belt wheel 11. The numeral 6 denotes a transversely spaced pair of arms whose forward or free ends are fixedly connected by means of a handle-bar 7. The rearends of said arms 6 are pivotally mounted on the shaft 8 permitting the arms to be swung up or down by manual use of the handle-bar 7. Bracketed bearings 5 are fixed medially on the outer sides of both arms 6 to depend therefrom and in said

bearings is mounted a rotatable shaft 4 carrying on one end a belt-wheel 9, a belt 10 connecting said belt-wheels 9 and 11. Between said arms 6, a rotary former-head 1 is fixed on the shaft 4 to rotate therewith. This former-head is in the shape of a thickened disk whose thickness is but slightly less than the transverse width of the opening 33 in the mold cover 27. A desired number of small recesses 3, equidistantly spaced, are provided in both faces of the former-head 1 and extending through the circumferential angles thereof, thus providing a number of angles or troweling cheeks 2.

When the mold 24 has been mounted slidably on the beams 16, its cover 27 being secured thereon, and a quantity of fresh concrete deposited within the mold, the former-head 1 may be placed in rotation after the transverse bolt 21 has been placed at the proper height across the standards 19, and the arms 6 then swung downwardly to cause the former-head to enter the hollow of the mold through its cover opening 33. The bolt 18 having been previously adjustably located in certain of the orifices 17 of the beams 16, the mold 24 may be pushed back and forth along the slideway manually, while the former head is in rotation.

As shown in said Figs. 4 and 5, the reciprocation of the mold while the former head is rotating therein, permits the latter to rub or trowel the concrete to pack it against the bottom, sides and ends of the mold, and against the under inwardly projecting face of the ledge parts of the cover 27, thus forming an elongated closed end trough 32 within the fresh concrete block thus formed. The recesses 3 with their angles or cheeks 2, aid in the packing and troweling process, by pushing and troweling the fresh material, so that all parts of the block 31 are homogeneously and equally compacted to produce a structure of even and maximum strength.

The block having been thus formed, the bolt 21 may be re-located in higher orifices 20 to support the arms 6 with the former head 1 clearing the mold. The mold may then be withdrawn lengthwise from the slideways 22, its cover plate 27 removed, the mold inverted and the block 31 deposited on some surface to harden.

Having described this invention, what is claimed is:

1. In a machine for forming concrete blocks, an open mold mounted for reciprocation, and a rotary former-head having a plurality of troweling cheeks movable into and out of said mold.

2. In a machine for forming concrete blocks, an open mold mounted for reciprocation, and a rotary former-head having troweling cheeks mounted to swing to and from said mold.

3. In a machine for forming concrete blocks, an open mold mounted for reciprocation, a rotary former-head having troweling cheeks movable into said mold, and means for restricting its scope of movement toward the mold.

4. In a machine for forming concrete blocks, an open mold, a rotary former-head, having troweling cheeks, and means for moving said former-head into said mold with an adjustable limitation of its depth of insertion thereinto.

5. In a machine for forming concrete blocks, relatively fixed supporting means, an open mold mounted for slidable reciprocation upon said supporting-means, and a rotary troweling former-head movably supported on said supporting-means, and operable to be moved into and out of said mold to rotatably trowel a longitudinal trough in its contents.

6. In a machine for forming concrete blocks, a supporting structure having spaced slideways, an open mold having parts seated slidably in said slideways, an arm swingingly mounted on said structure, and a rotary former-head mounted on said arm to be swung into and out of said mold.

7. In a machine for forming concrete blocks, a supporting structure, an open elongated mold slidably removably mounted thereon, a rotary former-head mounted on said structure to be swung into and out of said mold, and means for adjustably restricting the scope of movement of said mold in one direction.

8. In a machine for forming concrete blocks, a supporting structure, an open elongated mold slidably removably mounted thereon, a rotary circumferentially indented former-head mounted on said structure to be moved into and out of said mold adjustably, and means for adjustably restricting the scope of movement of said mold in one direction.

9. In a machine for forming concrete blocks, a supporting structure having slideways, an open mold slidable along said slideways, said mold having an open cover removably mounted thereon, and a rotary former-head mounted to move into and out of the mold through the opening in its cover.

10. In a machine for forming concrete blocks, a reciprocable open elongated mold, a rotary former-head swingingly mounted to be swung into and out of said mold while the mold is being moved in one direction longitudinally about the former-head, the former-head being of less width than the interior width of the mold and having a plurality of troweling cheeks around its circumferential periphery.

11. In a machine for forming concrete blocks, a reciprocable open top elongated

5 mold, removable inwardly extending spaced strips mounted removably on the top edges of the mold, a rotary former-head movable through the interspace of the ledges into the mold, means for variably limiting the scope of movement of the mold in one direction, and other means for variably restrict-

ing the scope of movement of said former-head into said mold.

Signed at Waterloo, Iowa, this 29th day 10 of March, 1920.

ELLA M. SCHENK,
*Administratrix of the estate of John M.
Schenk, deceased.*