

No. 847,221.

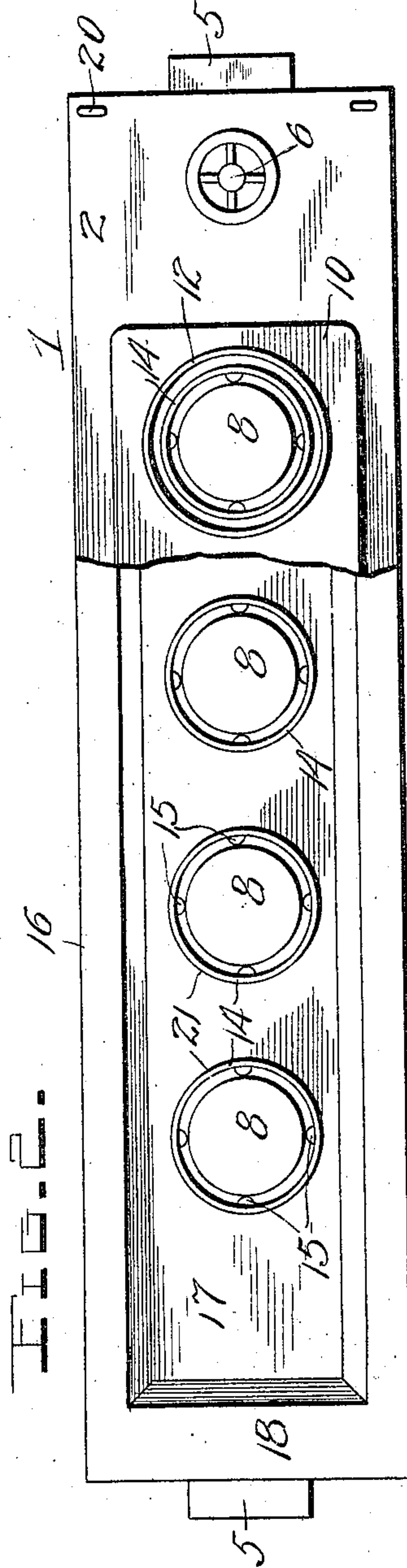
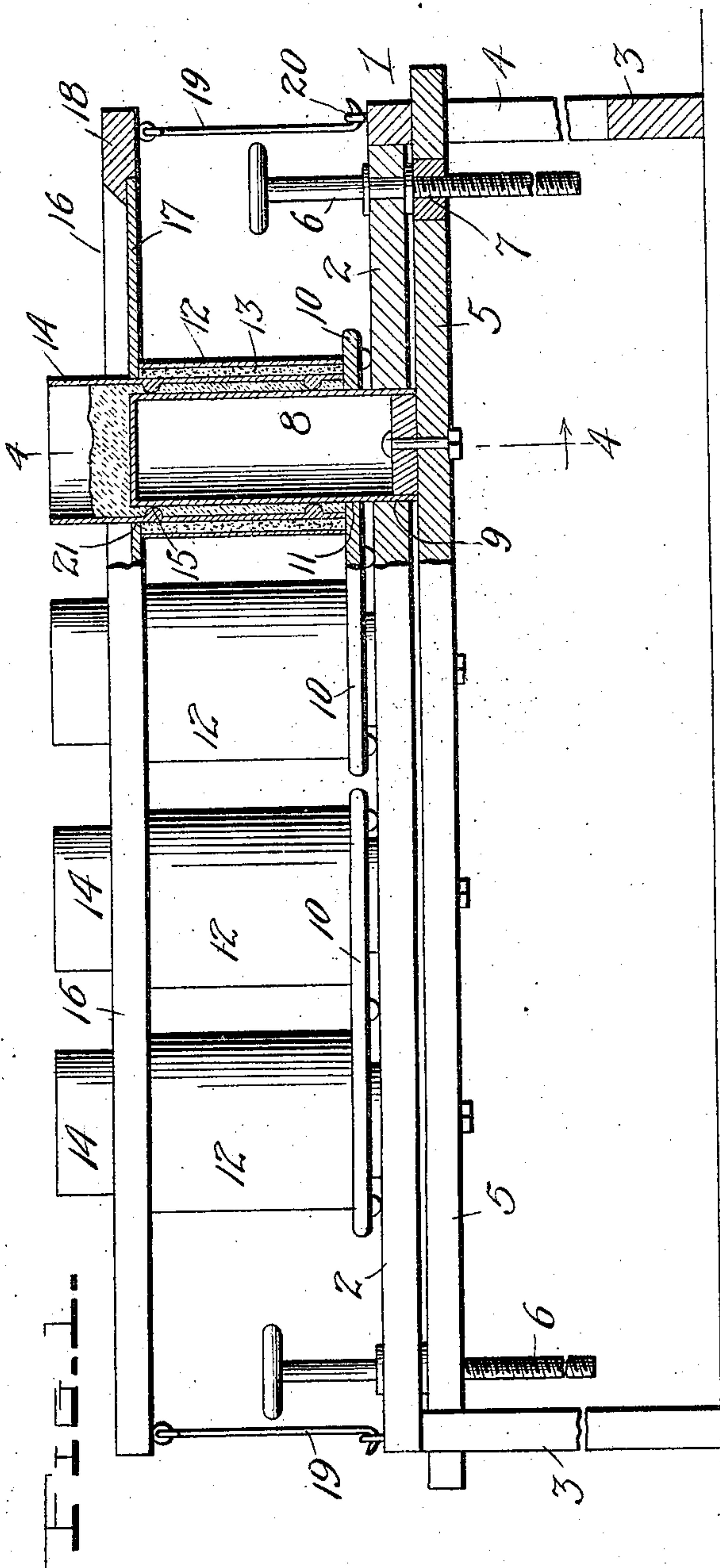
PATENTED MAR. 12, 1907.

A. ALEXANDER & J. FREDERICKSEN.

MOLD.

APPLICATION FILED AUG. 6, 1906.

2 SHEETS—SHEET 1.



Witnesses

Chas. L. Griesbauer.
L. O. Hilton

by

A. B. Wilson & Co.

Attorneys

Inventors
A. Alexander and
J. Fredericksen.

No. 847,221.

PATENTED MAR. 12, 1907.

A. ALEXANDER & J. FREDERICKSEN.

MOLD.

APPLICATION FILED AUG. 6, 1906.

2 SHEETS—SHEET 2.

FIG. 3.

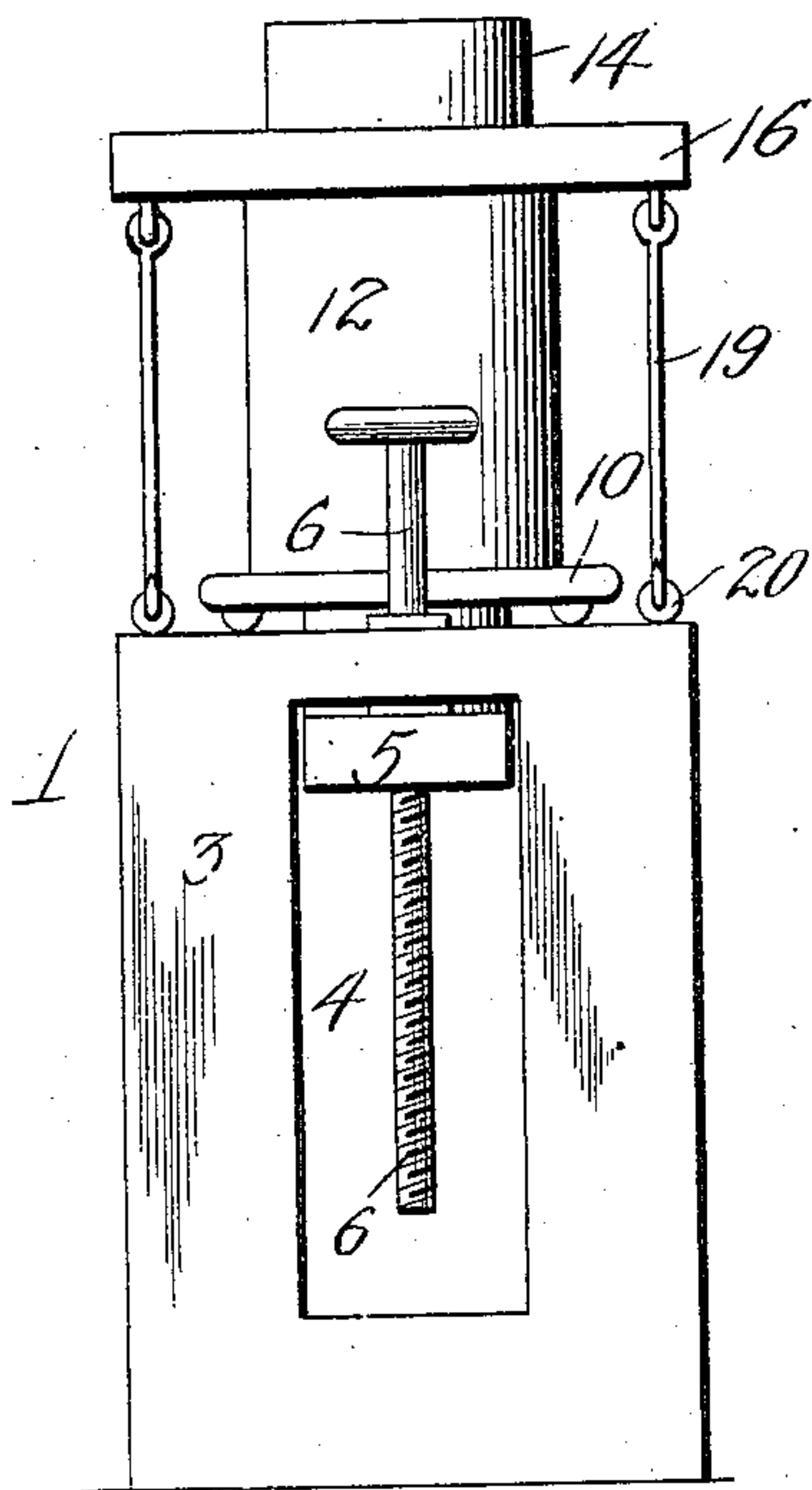


FIG. 4.

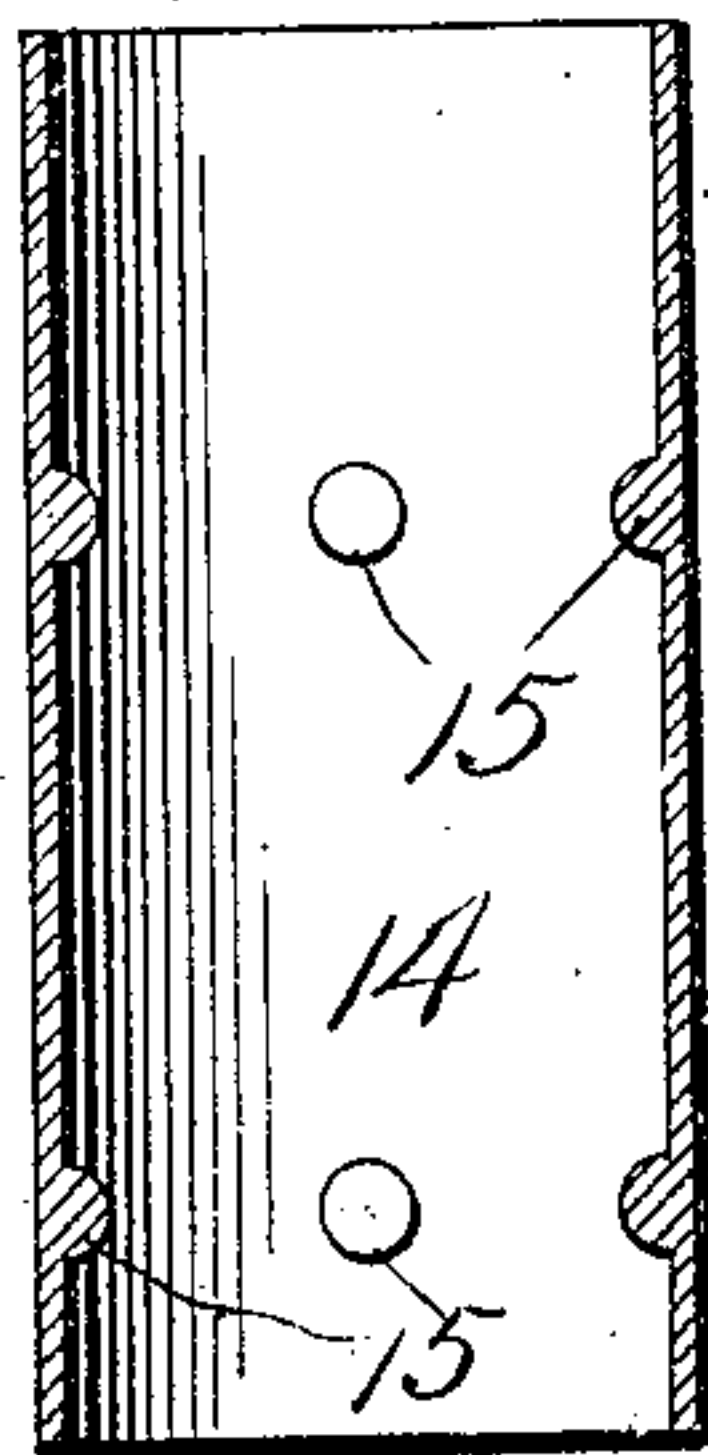
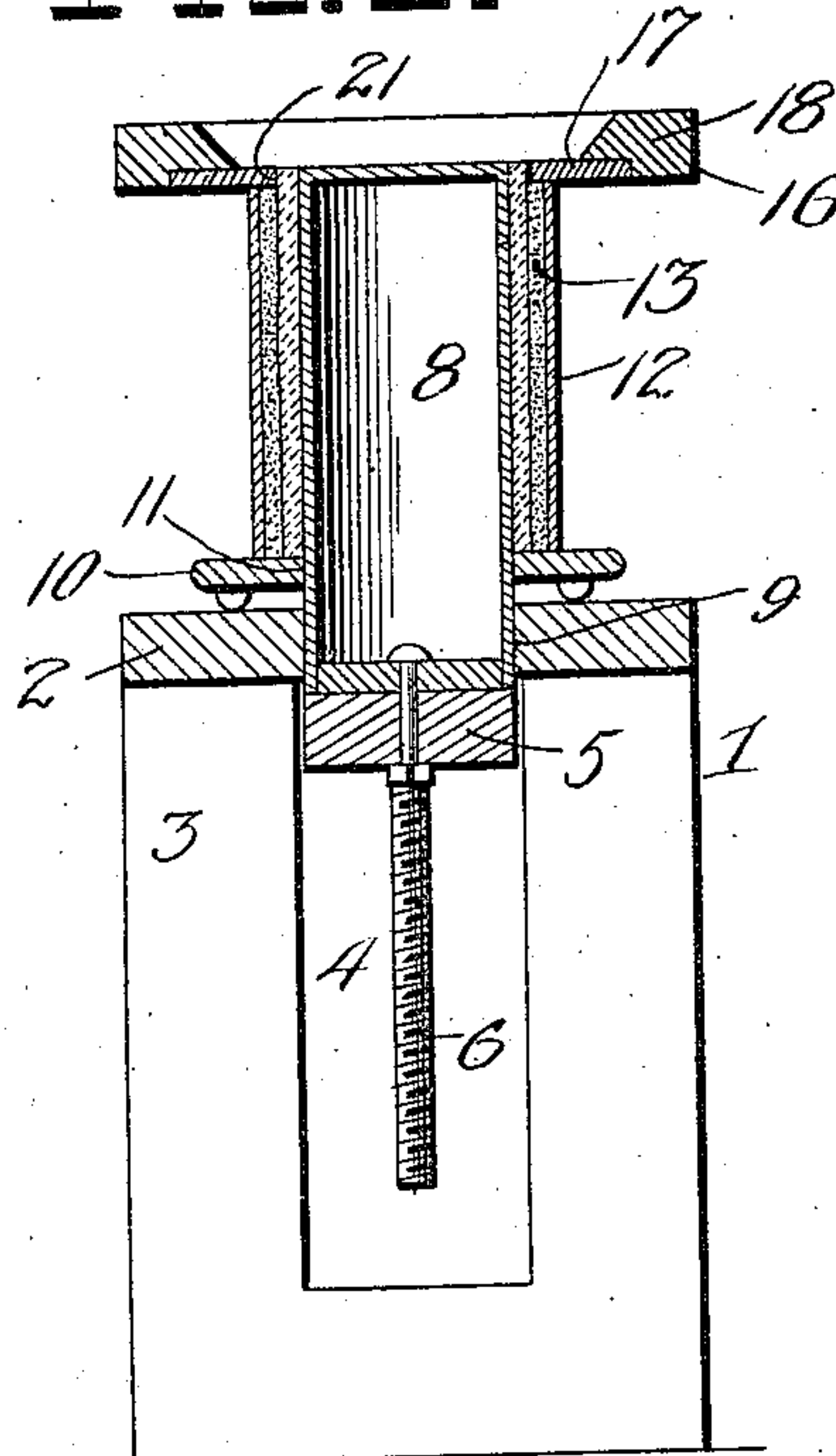


FIG. 5.

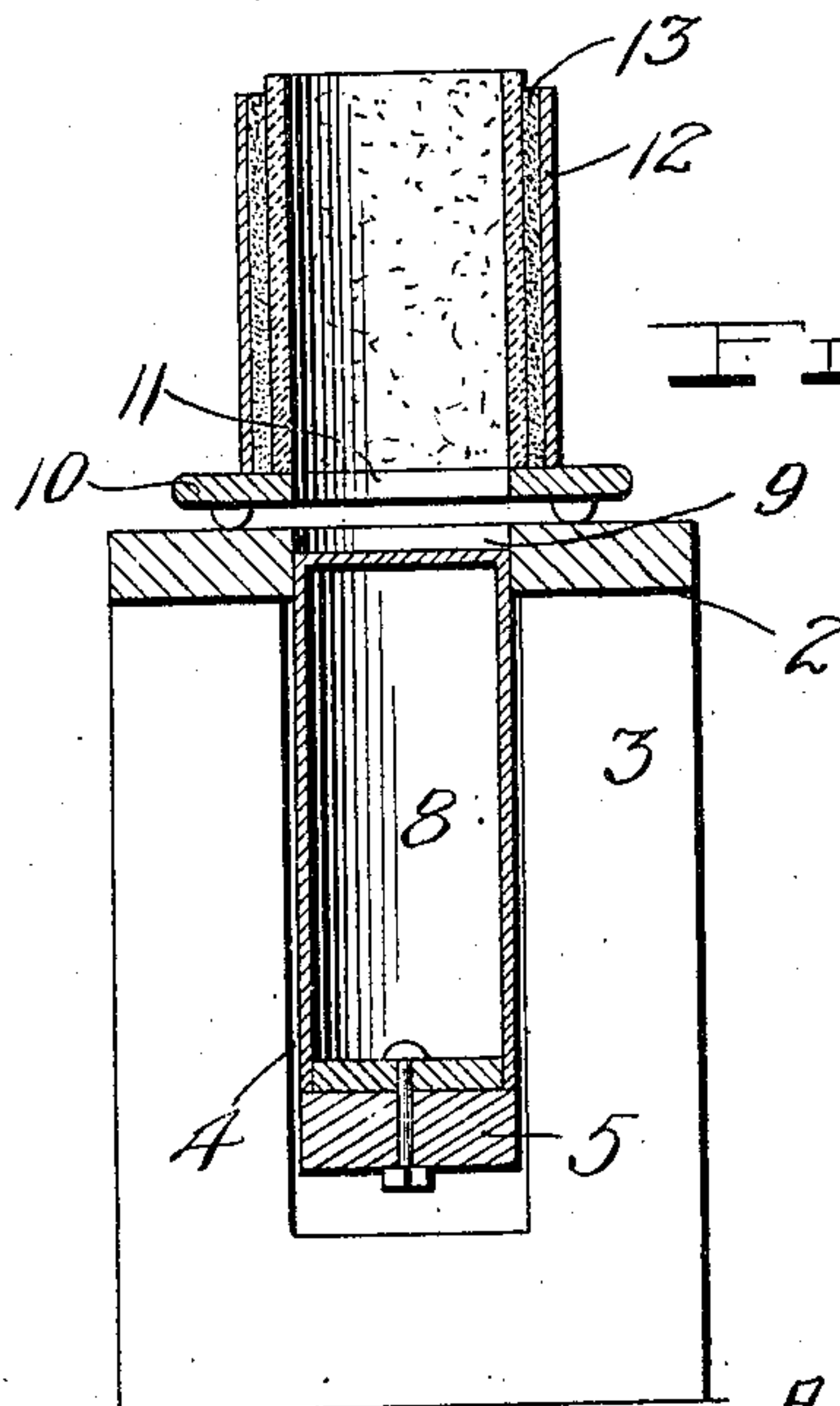


FIG. 6.

Witnesses

Chas. L. Griesbauer.
L. O. Hilton

Inventor
A. Alexander and
J. Fredericksen.

by *A. B. Wilson & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

ALPHEUS ALEXANDER AND JAMES FREDERICKSEN, OF JEWELL, IOWA.

MOLD.

No. 847,221.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed August 6, 1906. Serial No. 329,430.

To all whom it may concern:

Be it known that we, ALPHEUS ALEXANDER and JAMES FREDERICKSEN, citizens of the United States, residing at Jewell, in the county of Hamilton and State of Iowa, have invented certain new and useful Improvements in Molds; and we do declare the following to a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in molds for making tiles or other hollow articles of cement or plastic material.

The object of the invention is to provide a molding-machine of this character which will produce tiles having smooth finished edges and surfaces.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of the improved molding-machine. Fig. 2 is a top plan view of the same, parts being broken away to more clearly illustrate the construction. Fig. 3 is an end elevation. Fig. 4 is a vertical transverse sectional view taken on the plane indicated by the line 4-4 in Fig. 1 and showing the pattern element or cylinder removed. Fig. 5 is a detail view similar to Fig. 4, showing the top trough or tray removed and the core lowered; and Fig. 6 is a detail sectional view through one of the pattern elements or cylinders.

Referring to the drawings by numeral, 1 denotes the frame or support, consisting of a horizontal top or table 2, supported at its ends by vertical legs 3. The latter are formed with vertical slots 4 to guide the ends of a longitudinally-extending beam 5, which serves as a core-carrier. The latter is adjustable vertically by means of screws 6, swiveled in the top or table 2 and having their threaded lower ends engaged with stationary nuts 7 in the carrier 5. Upon this carrier are bolted, as shown in Fig. 1, one or more cores 8, which, as shown, are of cylindrical form and are adapted to project through openings 9, formed in the table 2.

One or more removable mold-bottoms 10 are provided upon the table 2, said bottoms being in the form of flat trays having feet

to rest upon the table 2 and openings 11, through which the cores 2 project.

The numerals 12 denote casings, here shown as cylindrical in form, to contain the mold proper, 13, which is of molder's sand or the like. The cylinders 12 confine the sand of the molds between their inner faces and the outer faces of pattern elements or cylinders 14, which are inserted between the cores 8 and the cylinders 12, as shown in Figs. 1 and 2 of the drawings. Upon the inner faces of the pattern-cylinders 14 are formed or provided spacing lugs or projections 15, which space the same from the cores 8 and hold them concentric therewith. The outer cylinders or casings 12 are held concentric with the parts 8 12 and are clamped securely upon the mold bottoms or trays 10 by a top trough or tray 16. The latter consists of a sheet-metal bottom 17, surrounded by a rectangular rim or flange 18, and it may be detachably secured in the position shown in Fig. 1 by any suitable means. As shown, hooks 19 are provided at each of its corners to receive eyes 20 upon the table 2. The bottom plate 17 of the tray is formed with openings 21, which fit the pattern-cylinders 14 snugly, so that when the tray or trough 16 is secured upon the top 2 by means of the hooks 19 it will not only clamp the cylinders or casings 12 in position, but also close the space filled by the sand 13.

The operation of the invention is as follows: In molding tiles or similar articles the screws 6 are operated to elevate the cores, as shown in Fig. 1, and the mold-bottoms 10 are then placed in position. The pattern-cylinders 14 are then placed over the cores and the sand-mold casings 12 then placed over the cylinders 14. The space between the cylinders 12 and 14 is tightly packed with sand, and the trough 16 is then placed and secured in its position. (Shown in Fig. 1.) The cement or other plastic material from which the tile is to be formed is then poured in the top of each of the cylinders 14, a sufficient quantity being placed in each one to form one of the tiles. The pattern-cylinders 14 are then withdrawn, so that the plastic material may run down between them and the cores and fill the spaces between said cores and the sand molds 13. After the cylinders 14 have been withdrawn the surplus plastic material upon the upper side of the bottom 17 of the tray 16 is scraped off, so that the

top edges of the molded tiles are squared, it being noted that the tops of the cores 8 are flush with the upper surface of the tray-bottom 17. After the plastic material has become set the screws 6 are operated to lower the cores, as shown in Fig. 5, and the hooks 19 are disengaged by the eyes 20 to permit the tray or trough 16 to be removed. The mold bottoms or trays 10 may then be removed from the table 2 and set aside to allow the plastic material to harden. After it has become sufficiently hard to stand alone the cylinders 12 may be removed, and the sand 13 as it dries will drop from the finished tiles. It will be noted that by employing the pattern elements or cylinders 14 and removing them after the plastic material has been placed therein, as above described, said material will form against the cores and the outer walls of sand without washing or otherwise injuring the sand walls.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined by the appended claims.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A molding-machine having a vertically-movable carrier provided with a core projecting from its upper side, a bottom plate above said carrier and having an opening through which said core may project and move, relatively fixed means to support said bottom plate and permit of the removal thereof, a sand-mold casing upon said plate and a removable pattern element upon said plate between said core and said casing.

2. A molding-machine having a vertically-movable carrier provided with a core projecting from its upper side, a bottom plate above said carrier and having an opening through which said core may project and move, relatively fixed means to support said bottom plate and permit of the removal thereof, a sand-mold casing upon said plate, a removable pattern element upon said plate between said core and said casing, and projections upon said pattern element to engage said core and space the same therefrom.

3. A molding-machine having a vertically-movable carrier provided with a core projecting from its upper side, a bottom plate above said carrier and having an opening through which said core may project and move, relatively fixed means to support said

bottom plate and permit of the removal thereof, a sand-mold casing upon said plate, a removable pattern element upon said plate between said core and said casing, and a top plate engaged with the top of said casing and formed with an opening through which said pattern element may project and move.

4. A molding-machine having a frame, a vertically-movable carrier provided with cores projecting from its upper side, a bottom plate supported by the frame above the carrier and having openings through which said cores may project and move, sand-mold casings upon said plate surrounding said cores, removable pattern elements supported upon said plate and spaced from said cores, and a top trough engaged with the tops of said casings and formed with openings through which said pattern elements may project and move.

5. A molding-machine having a frame, a vertically-movable carrier provided with cores projecting from its upper side, a bottom plate supported by the frame above the carrier and having openings through which said cores may project and move, sand-mold casings upon said plate surrounding said cores, removable pattern elements supported upon said plate and spaced from said cores, and a top plate adjustably connected to said frame and engaged with the tops of said casings, said top plate being formed with openings through which said pattern elements may project and move.

6. A molding-machine having a frame, a vertically-movable carrier provided with cores projecting from its upper side, a bottom plate supported by the frame above the carrier and having openings through which said cores may project and move, sand-mold casings upon said plate surrounding said cores, removable pattern elements supported upon said plate and spaced from said cores, a top trough engaged with the tops of said casing and formed with openings through which said pattern elements may project and move, hooks for detachably connecting said top trough to said frame and screws for raising and lowering said core-carrier in said frame.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

ALPHEUS ALEXANDER.
JAMES FREDERICKSEN.

Witnesses:

B. S. MILLETT,
I. J. SAYRS.