

No. 677,200.

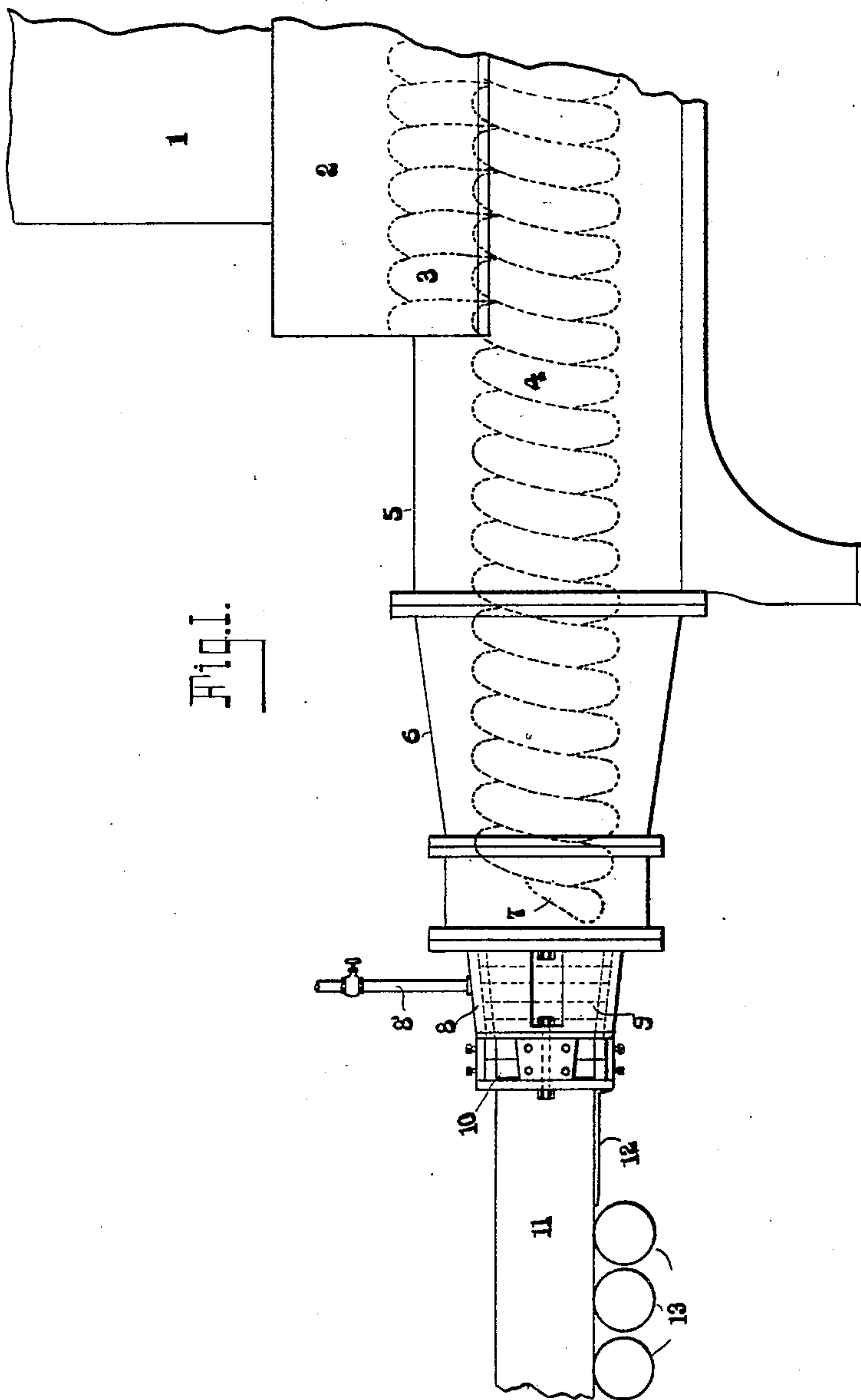
Patented June 25, 1901.

S. G. GAILLARD.
DIE FOR BRICK MACHINES.

(Application filed Nov. 20, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

Geo. H. Harvey.
W. H. Caskey

INVENTOR

Samuel G. Gaillard,
by Wm. L. Pierce,
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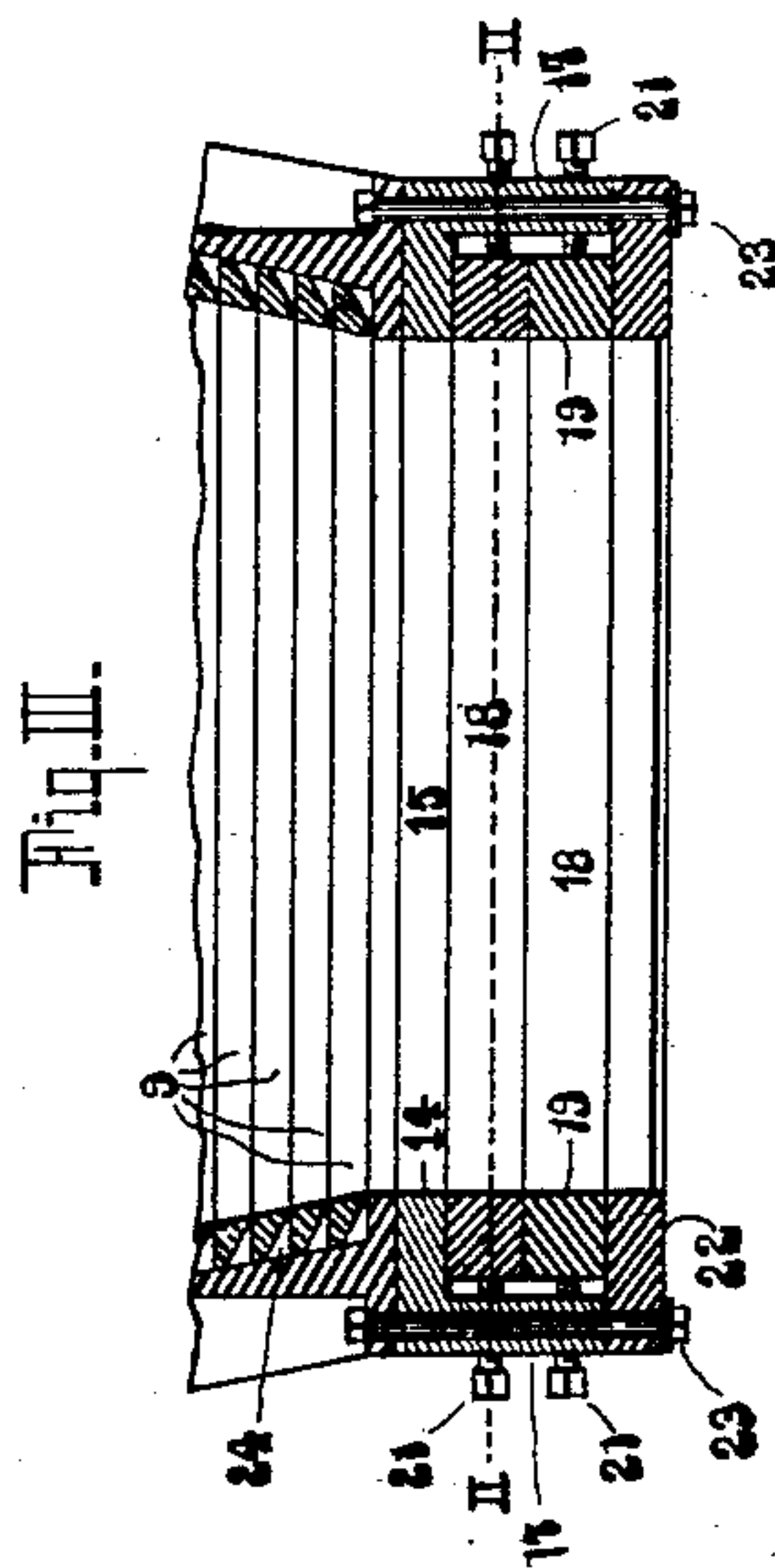
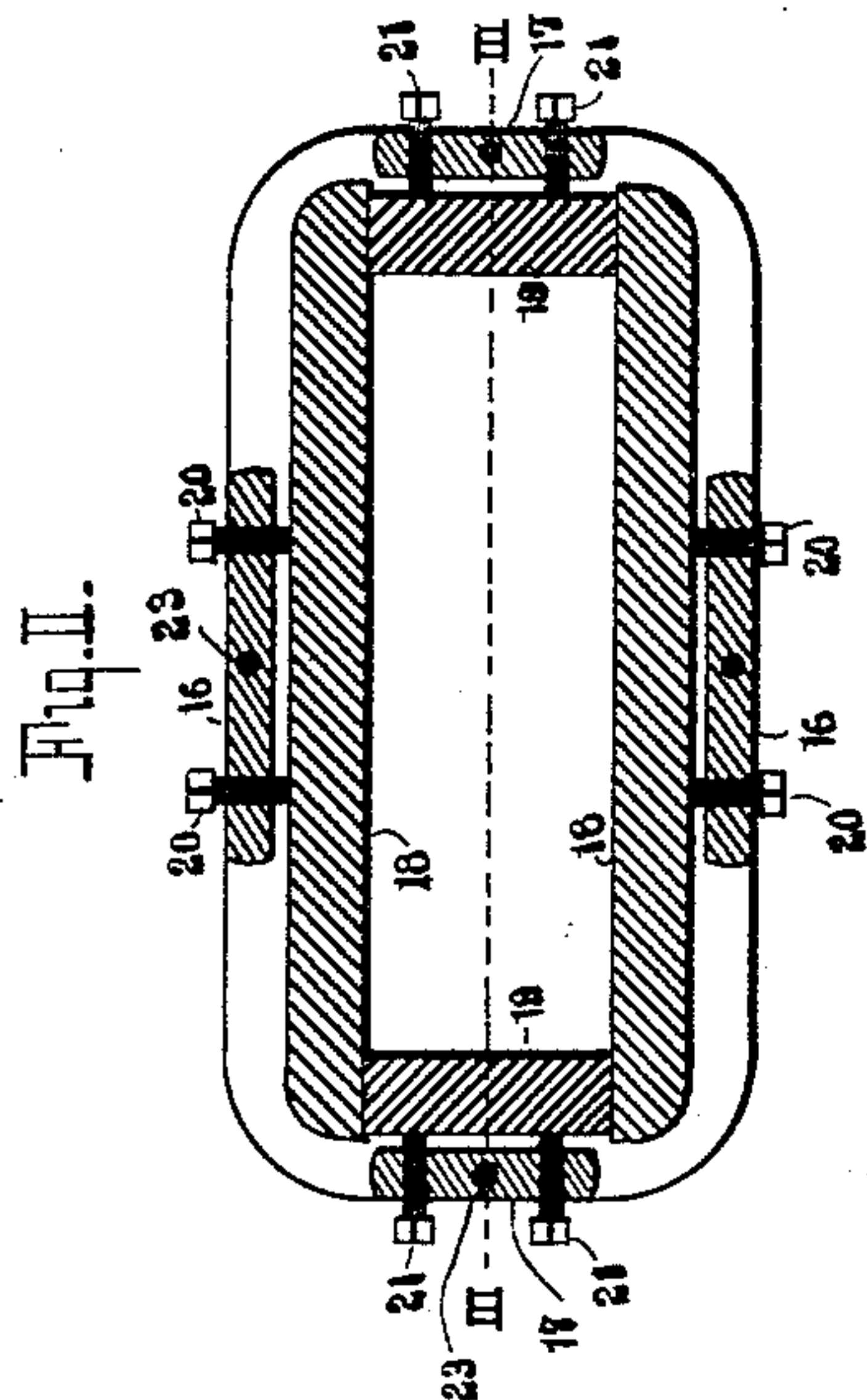


Fig. IV.



WITNESSES

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UNITED STATES PATENT OFFICE.

SAMUEL GOURDIN GAILLARD, OF NEW CUMBERLAND, WEST VIRGINIA,
ASSIGNOR TO THE MACK MANUFACTURING COMPANY, OF SAME
PLACE.

DIE FOR BRICK-MACHINES.

SPECIFICATION forming part of Letters Patent No. 677,200, dated June 25, 1901.

Application filed November 20, 1900. Serial No. 37,096. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL GOURDIN GAILLARD, a citizen of the United States, residing at New Cumberland, in the county of Hancock and State of West Virginia, have invented or discovered new and useful Improvements in Dies for Brick-Machines, of which the following is a specification.

In the accompanying drawings, which make part of this specification, Figure I is a side elevation of a clay-strip-forming machine. Fig. II is a vertical section on line II II of Fig. III, showing the adjustable dies. Fig. III is a horizontal section on line III III of Fig. II. Fig. IV is a perspective of a serrated-face die.

Heretofore in the formation of the rectangular strip of clay used in brick-shearing machines it has been the custom to use solid dies. These dies consisted of a solid casting, technically termed "mouthpiece," and the interior opening or die portion conformed to the four sides of bricks. These castings usually weighed from ten to fifteen pounds. The clay by its passage through the mouthpiece forms what is technically termed "clay strip." This strip is the exact conformation of the four sides of bricks; hence the necessity of having an accurate gage.

In a solid mouthpiece the defect in keeping up an accurate gage is apparent when it is taken into consideration that the clay is being fed continuously to the mouthpiece.

The friction from the clay and the gritty particles passing through wear out the die portion.

In some classes of clay it is necessary to place new mouthpieces on the machines every few hours, though ordinarily they last from one to ten days. The clay before entering the mouthpiece passes through a series of liners. These liners would be affected in a similar manner with the mouthpiece and become useless from the same causes. Under the old practice, therefore, the wearing out of the mouthpiece meant the ordering of a new casting with the usual attendant delays, also generally the ordering of new liners.

The object of the present invention is to make those portions of the mouthpiece which are in contact with the clay of a series of re-

movable and adjustable strips. Further, I have secured a more uniform and better graduated roughness of the inside of the mouthpiece, being the first to provide such roughness by machine or hand tooling, which leaves parallel ribs or fine ridges. The advantages accomplished thereby will be more fully set forth hereinafter.

1 represents the feed-chute; 2, the hopper; 3, the feed-knives; 4, the auger; 5, the auger-cylinder; 6, the auger-barrel; 7, the auger-stem; 8, the liner-box; 8', the steam-inlet; 9 9, the liners; 10, the mouthpiece; 11, the clay strip; 12, the supporting-plate; 13 13, the rolls.

The mouthpiece 10 is constructed as follows:

14 is the back plate of the mouthpiece, having the usual opening 15 therethrough. This back plate 14 is provided with two side lugs 16 16 and two end lugs 17 17, all of which lugs are preferably made in one and the same casting with the back plate.

18 18 are side strips, and 19 19 are end strips, which constitute the wearing portions of the die and are exposed to the direct friction of the clay. These strips are removable and adjustable, being set up to any required sized opening by means of the set-screws 20 20 in the side lugs 16 16 and the set-screws 21 21 in the end lugs 17 17.

22 is the front or retaining plate, which serves to hold the strips from being pushed out by the action of the clay. This front plate is preferably bolted to the back plate through the side and end lugs, with the bolts prolonged, so as to secure the whole mouthpiece to the die-box, said bolts being shown at 23 23.

Clay properly prepared is fed through the chute 1 into hopper 2. Revolving feed-knives 3, meshed into revolving auger 4, feed the clay forward. The interior of the auger-cylinder 5 is serrated. These serrations prevent the clay from being clogged in the auger 4. When the clay comes in contact with the liners 9 9, it is compressed by the continuous passage of clay along the auger, while the tapering of the liners toward the mouthpiece gradually forces the clay into a more compact form, so that the main function of the mouthpiece is

to act as a die as the clay is forced through it. The clay strip that emerges therefrom is a complete formation ready to be sheared crosswise into bricks. Heretofore the rolls
 5 13 13 in the back-and-forward movement of the table in feeding the strip 11 to the shear-knives would leave the clay unsupported between the travel of the rolls and the mouth-
 10 piece, and the clay strip was liable to sag down at this position and cause an unsatisfactory feed of the strip by the rolls. This objection I overcome by means of the plate 12.

It is necessary to relieve part of the friction of the rings 9 9 while the clay is being forced
 15 through them. This I accomplish by means of steam under pressure, which passes into the liner-box 8 from pipe 8'. Fig. III shows spaces 24 24 between the liners, through which the steam can circulate. The liners 9 9 are
 20 ordinary castings and do not fit the box 8 snugly, nor are they steam-tight where they join each other. Consequently the steam has plenty of space in which to circulate in the box and discharge against the clay.

25 Having described my invention, I claim—

1. A mouthpiece for a brick-machine, consisting of a back plate, two sets of removable strips constituting the entire working surface of the die, one set capable of an adjustment
 30 transversely along the length and between the working faces of the second set and a retaining-plate holding said strips from displacement.

2. A mouthpiece for a brick-machine, con-

sisting of a back plate, two sets of removable 35 strips constituting the entire working surface of the die and set-screws in said back plate whereby one set of said strips are adjusted, while both sets of strips are held against lateral displacement by said set-screws and a 40 retaining-plate holding said strips against said back plate.

3. A mouthpiece for a brick-machine consisting of a back plate and strips grooved transversely to the line of feed and constitut- 45 ing the orifice of the die.

4. In a brick-machine, the combination of a box, a series of liners in said box, means whereby steam may be introduced between the liners for reducing the friction of said 50 liners; a mouthpiece secured to said box and adjustable strips, forming the die located in said mouthpiece.

5. In a brick-machine, a box, a series of liners in said box; means whereby steam may 55 be introduced between the liners for reducing the friction of said liners; a mouthpiece secured to said box; adjustable strips forming the die located in said mouthpiece; a series of feed-rolls and a support interposed 60 between said mouthpiece and said rolls.

Signed at New Cumberland, West Virginia, this 14th day of November, 1900.

SAML. GOURDIN GAILLARD.

Witnesses:

EDGAR MINNICH,
 M. N. PRICE.