

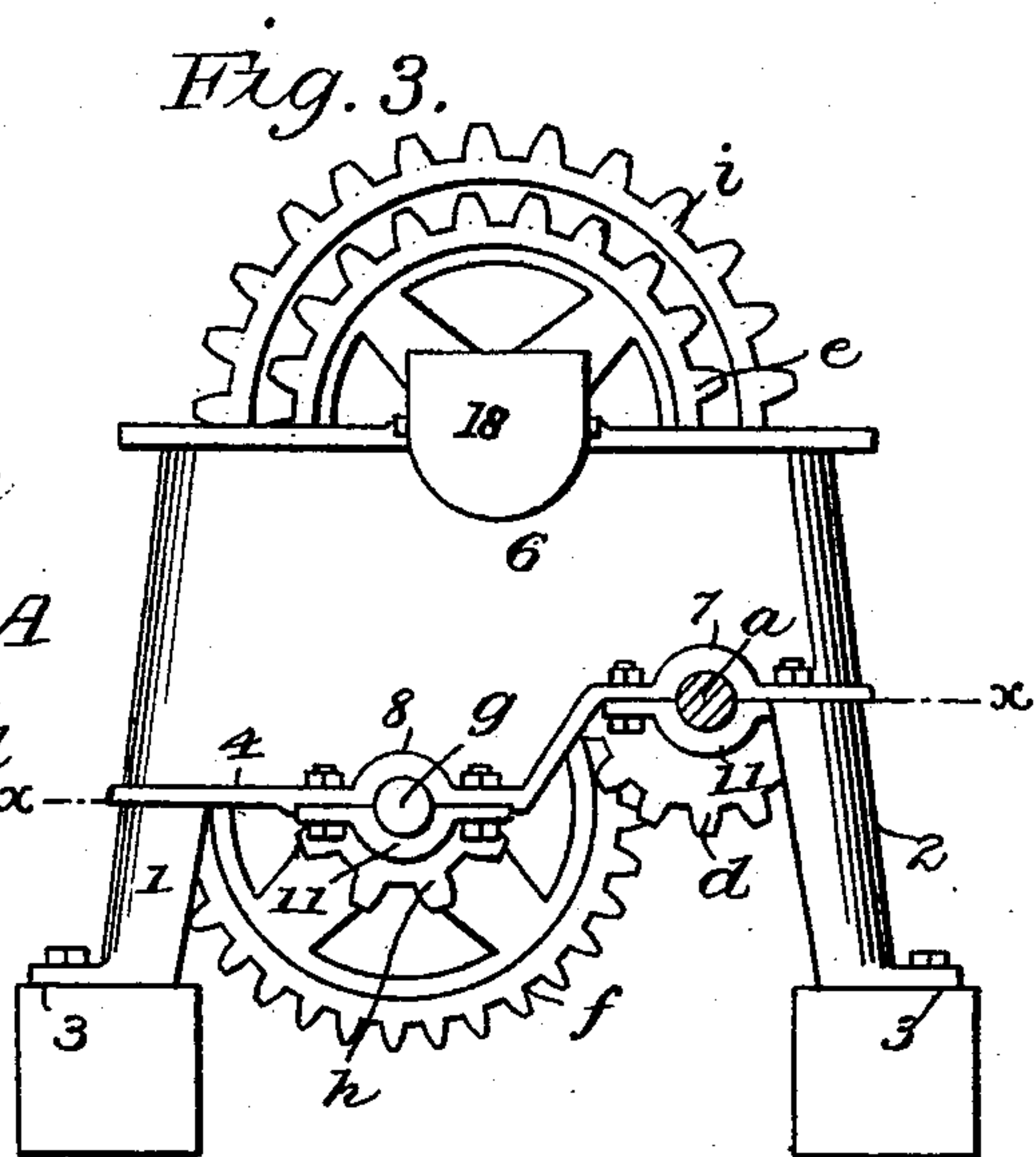
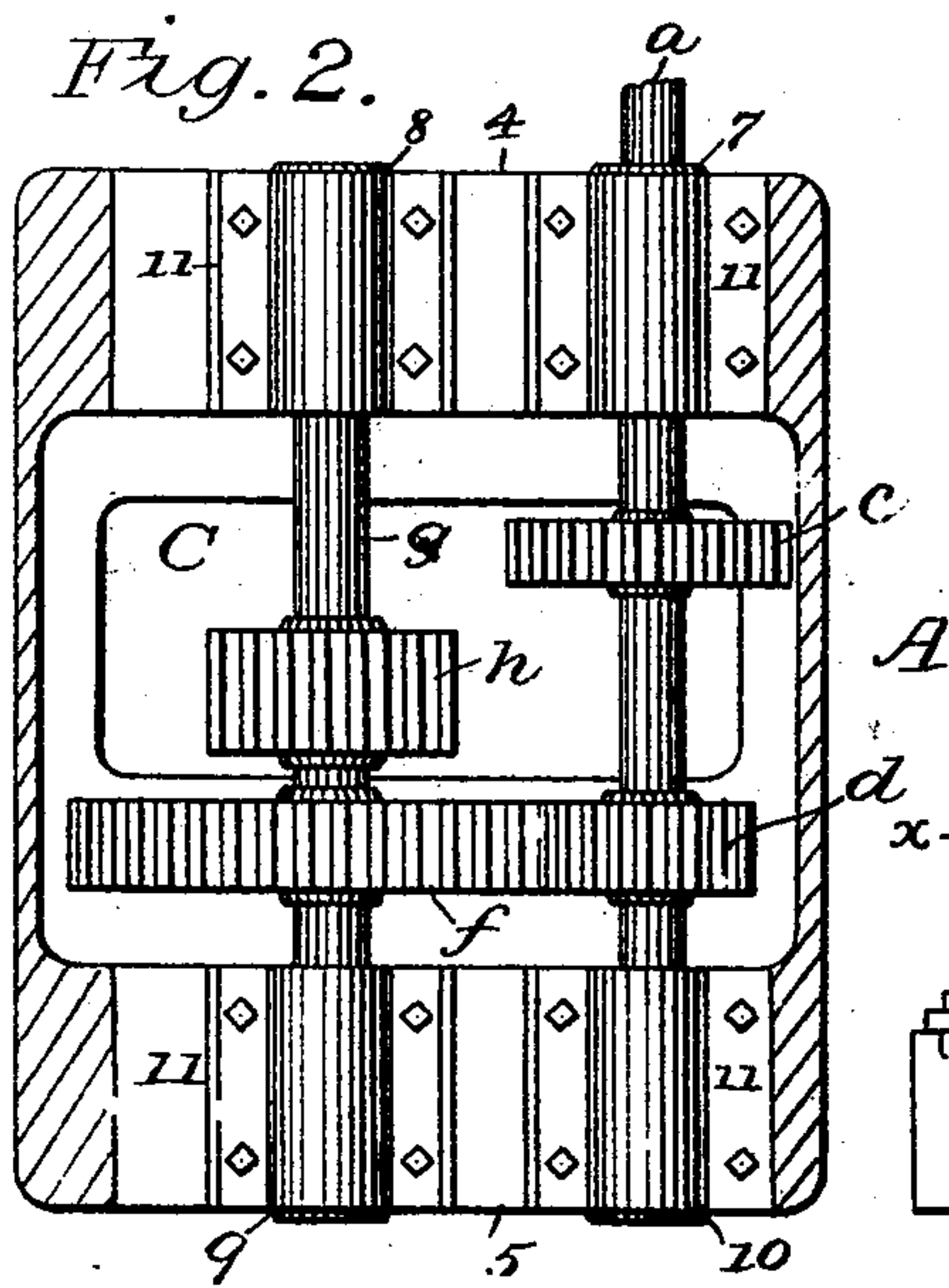
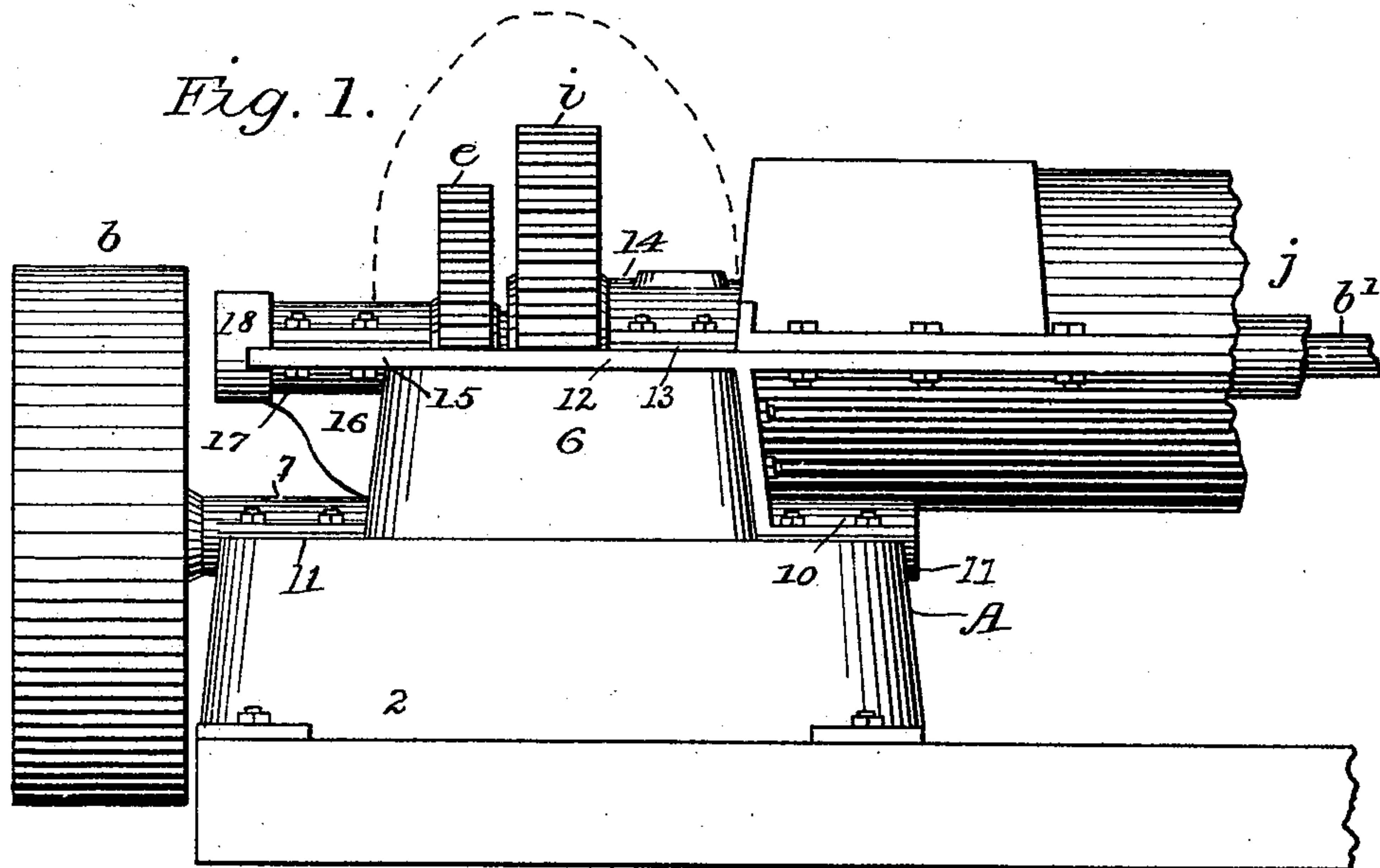
(No Model.)

2 Sheets—Sheet 1.

G. S. TIFFANY.
BRICK OR TILE MACHINE.

No. 507,248.

Patented Oct. 24, 1893.



Witnesses

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Inventor

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

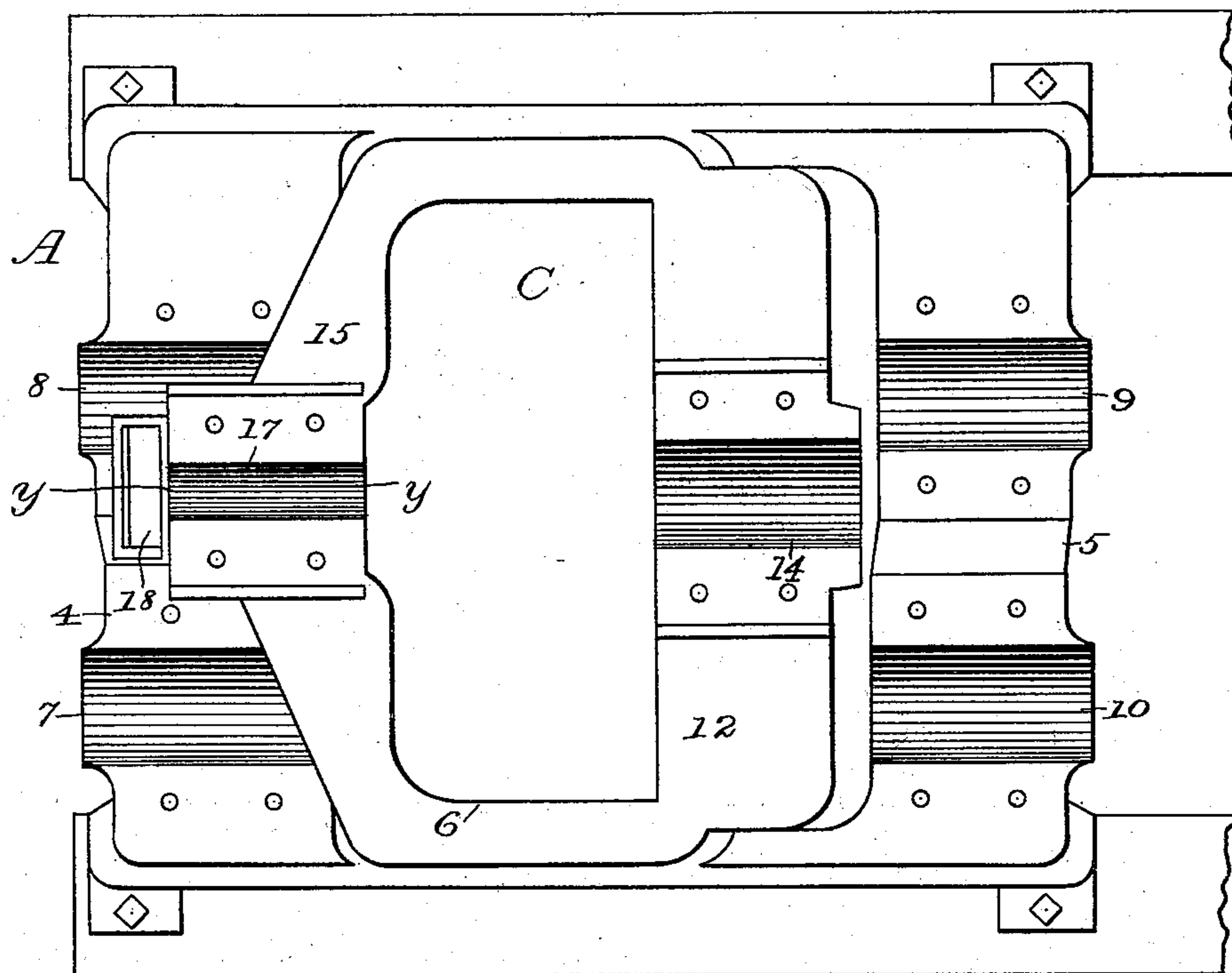


Fig. 5.

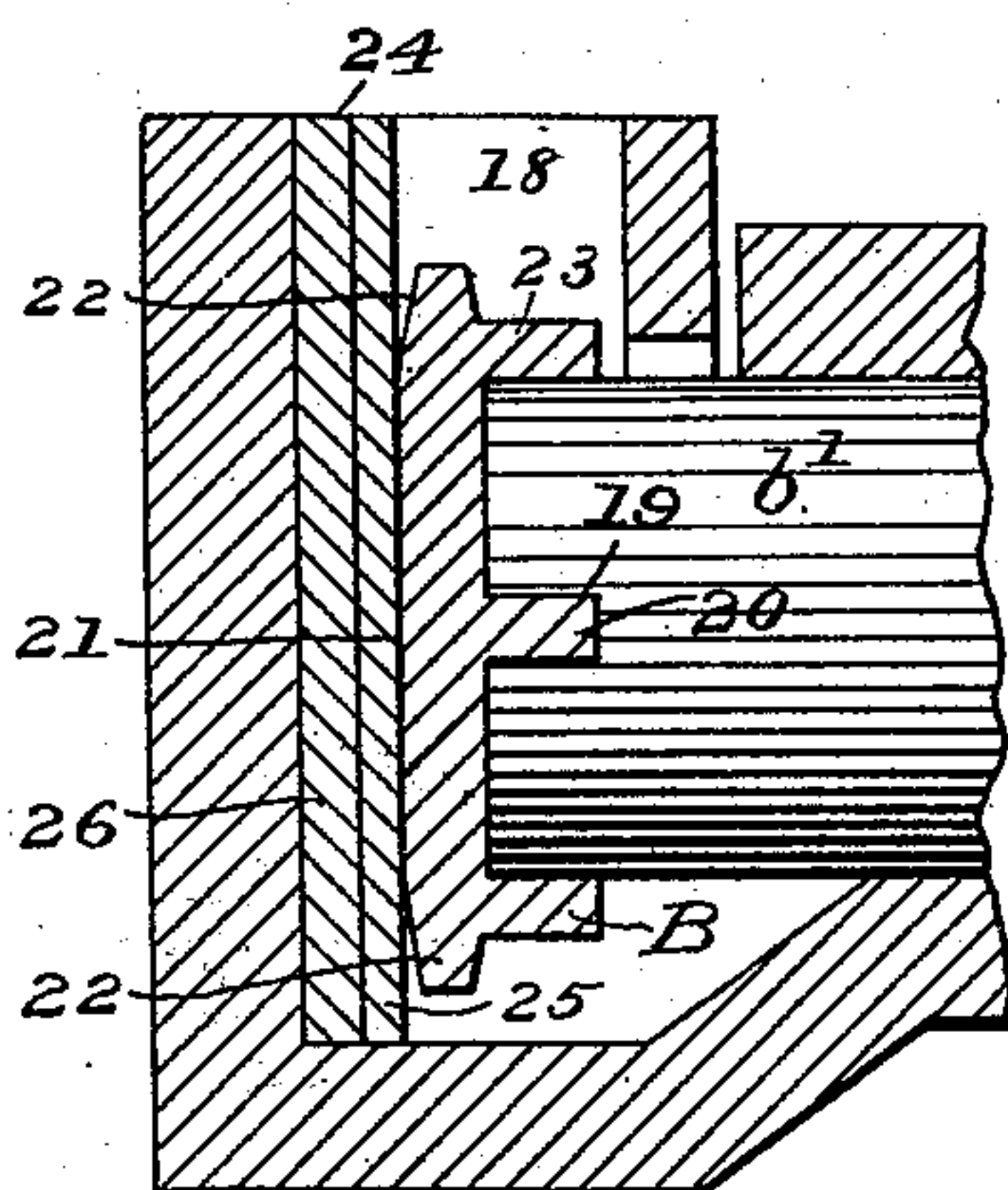


Fig. 6.

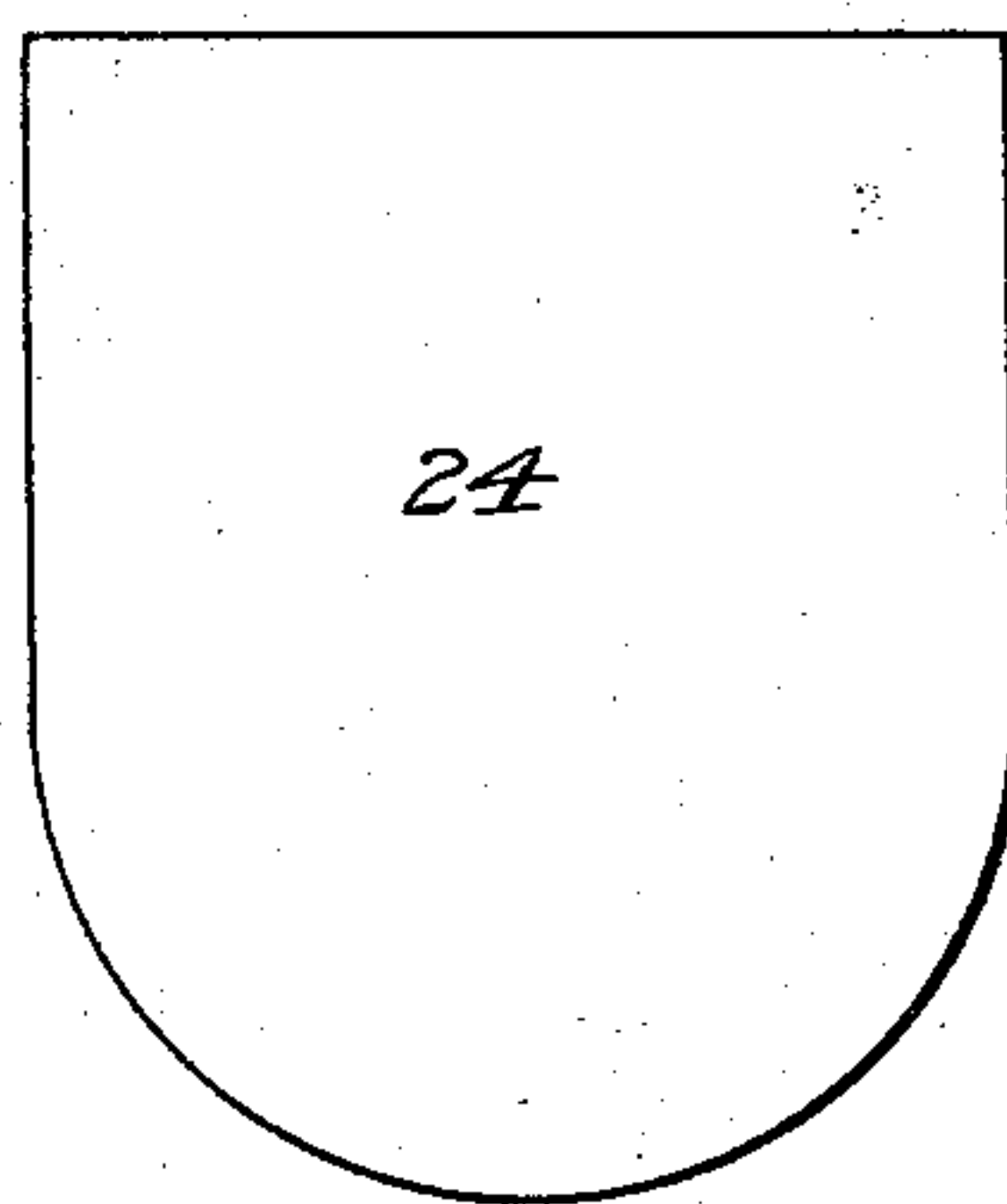
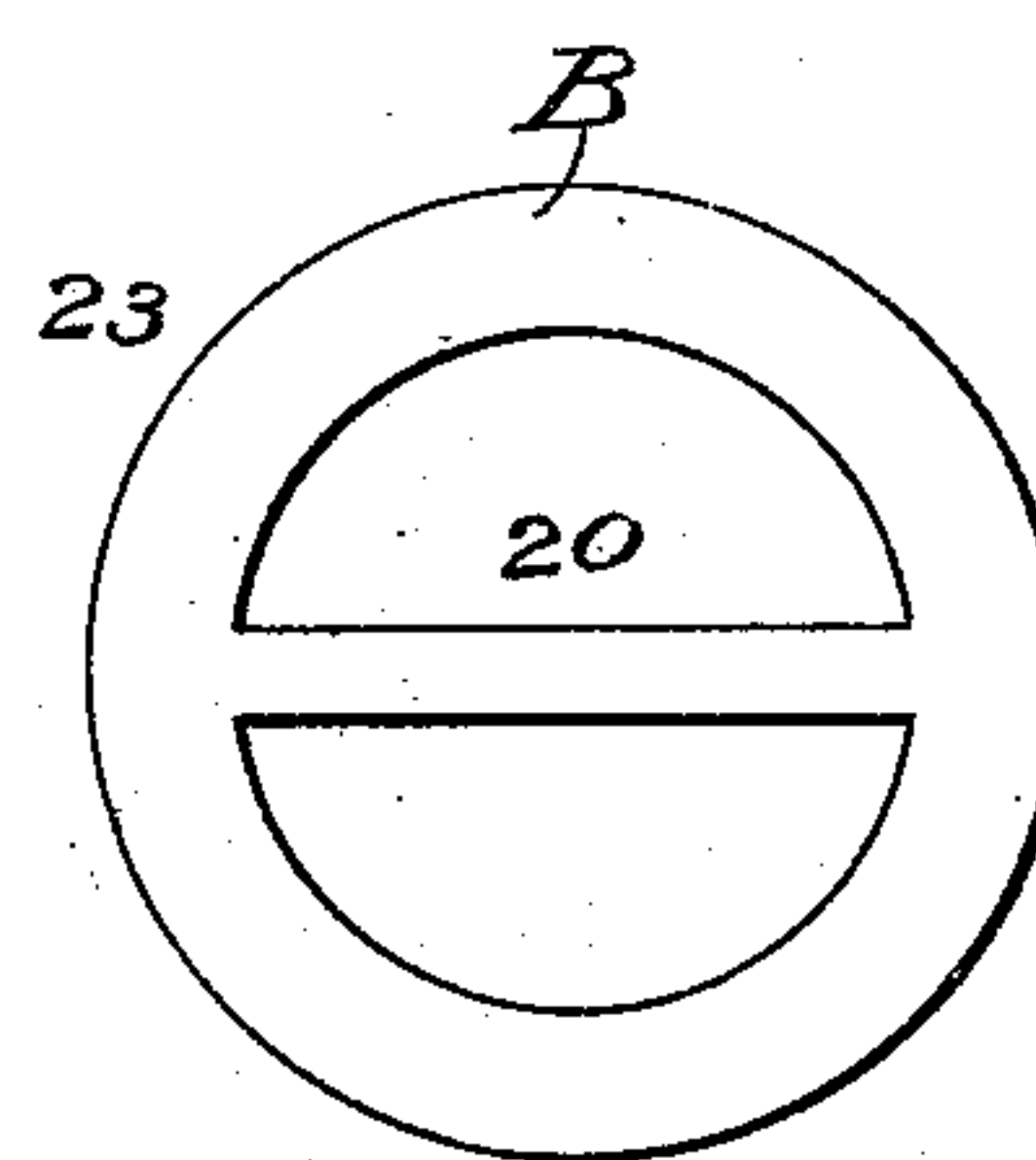


Fig. 7.



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UNITED STATES PATENT OFFICE.

GEORGE SYLVESTER TIFFANY, OF TECUMSEH, MICHIGAN.

BRICK OR TILE MACHINE.

SPECIFICATION forming part of Letters Patent No. 507,248, dated October 24, 1893.

Application filed June 10, 1893. Serial No. 477,218. (No model.)

To all whom it may concern:

Be it known that I, GEORGE SYLVESTER TIFFANY, a citizen of the United States of America, residing at Tecumseh, in the county of Lenawee and State of Michigan, have invented certain new and useful Improvements in Brick or Tile Making Machines, of which the following is a specification.

My invention has relation to machines for making brick and tile, and the objects are to provide an improved frame, and shaft supports for machines of that kind used for tempering the clay, and which discharges the clay in a column or slab through the die; another object is to provide such a machine with an improved end or thrust-bearing for the shaft of the propeller of the machine. These objects are accomplished by the means and constructions hereinafter described; and the novelty claimed is also hereinafter particularly and distinctly pointed out. In the machines of the kind alluded to, the shaft of the screw is made hollow, to receive the oppositely rotated shaft of the propeller, which forces the clay through the die-chamber and die. Heretofore it has been difficult to maintain the alignment of these shafts, and various expedients have been utilized to prevent the displacement, and preserve the alignment, with but temporary success. I have found that with a frame of the construction hereinafter specified, this desired alignment is not only attained, but is insured for a long time. Besides there are other advantages emanating from the construction which greatly improve the machine, and render its repair and the assemblage and removal of the parts more conveniently done.

I have fully and clearly illustrated my improvements in the accompanying drawings, wherein—

Figure 1 is a side elevation of the machine. Fig. 2 is a bottom plan view of the frame, partly in section, on the line $x-x$ of Fig. 3. In this figure the detachable bearings are shown. Fig. 3 is an end elevation taken from the left hand of Fig. 1; the driving pulley being removed. Fig. 4 is a top plan view of the frame, the screw-casing or cylinder being removed. Fig. 5 is a central section on the line $y-y$ of Fig. 4, showing the bearing plate and end-cap bearing of the propeller shaft. Fig.

6 is a detail view of the bearing or thrust plate, and Fig. 7 is an inner face view of the cap-bearing for the shaft.

A designates the frame embracing, or containing my improved constructions. This frame consists of a single piece of casting having the adaptations which make it suitable for the purpose now to be specified. The lower portion consists of two substantial supports, 1, 2, which may be bolted to a foundation, as shown at 3; these supports are connected at their upper ends by strong plates of the metal, as 4, 5, and from the middle portion of this frame rises the shell 6, substantially as shown in the drawings. In the end plates 4, 5, are formed journal-boxes 7, 8, 9, 10, which set over the shafts of the respective gearings, as indicated in the drawings. Under these respective boxes 7, 8, 9, 10 are secured the box-caps 11, which hold the shafts in their bearings, as shown. The shell 6 is partially covered by the extension of the metal at 12, and has formed therein a bearing 13, for the screw-shaft j which is provided with a box-cap 14, seen in Fig. 1; and at the side 15 of the shell 6, the metal is extended in the shape substantially of that seen in Figs. 1 and 4, and braced by a transverse flange 16. In the portion 15, is a bearing 17, in which journals the propeller-shaft b' . The shell 6 has the opening C, which affords room for the upper gearing as shown. The arrangement of the shafts and gearing is substantially the same in this improved frame as in the older construction except that, by the improved construction of the frame, the mechanism can be assembled more compactly than formerly. Describing the gearing mechanism generally, a designates the driving-shaft, carrying a driving pulley b , and having mounted thereon pinions c , d , the former of which meshes with the gear-wheel e , on the center-shaft or propeller-shaft b' , and the latter of which meshes with the gear-wheel f , on shaft g , which shaft g also carries the pinion h which meshes with gear wheel i , on the mill or screw-shaft j .

From this description it will be perceived that every element of the mechanism is mounted on and within, and is secured to, a frame consisting of a single piece of casting, thereby insuring to the whole a strong sup-

port, and an assemblage of parts in such a manner that they are firmly held, in operative alignment.

In the frame, in the portion 15, at the end of the bearing 17, is formed a pocket 18, into which the shaft *b'* projects as shown in Fig. 5 of the drawings. The purpose is to provide a thrust-bearing for this shaft, and to do this, the end of the shaft is formed with a diametrically arranged groove 19, to take a similarly arranged rib 20, on a bearing-cap B. This bearing-cap consists of a disk of suitable metal having a flat bearing-surface 21, from which the surrounding metal retreats, as at 22 to afford means for taking up the lubricant; and on the opposite side to the bearing face is an annular or circular flange 23, and the rib 20, the flange fitting over the end of the shaft, and the rib fitting the groove 19, whereby the cap is held to the shaft and to turn with it, yet so that the shaft may be withdrawn readily when so desired. In the pocket 18 is arranged the thrust-plate 24, of the shape seen in Fig. 6 of the drawings, and composed of a hard-steel bearing-face 25, welded to a wrought-iron plate 26, substantially as shown, and arranged in the pocket 18 to take the end-thrust of the shaft as indicated in the drawings. The pocket 18 extends below the cap and shaft as shown, and serves as a receptacle for a lubricant to the parts, which in rotating carry sufficient of the lubricant around to keep them well and constantly oiled.

It will be perceived that by arranging the upper shaft in bearings on the frame, the may be conveniently removed as occasion may require, and that by securing the lower and driving shaft in the frame by box-caps on the under side, the shafts may be readily taken out by simply removing these caps. Over the top of the frame is a removable cover D, shown in dotted lines, which covers the gearing and prevents dust from accumulating, and at the same time conceals the mechanism from view, or danger of approach when in operation.

Having described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. The frame for a brick-machine, consisting of supports having connecting-plates, 4, 5, formed with journal-bearings, and provided with detachable cap-bearings on the under side of bearings of the connecting-plates substantially as and for the purpose specified.

2. The frame for a brick-machine, consisting of supports having connecting-plates 4, 5, formed with journal-bearings, detachable cap-bearings on the under side of the bearings in the connecting-plates, a shell 6, centrally formed on the supports, having end extensions, and journal-bearings formed in the extensions, substantially as and for the purpose specified.

3. The end bearing for a shaft of a brick-machine, consisting of a cap B, formed with a circular-flange and a diametrically arranged rib 20, in combination with the shaft formed with a diametrically arranged groove 19, to take the rib of the end bearing, as specified.

4. In a brick machine, the combination of a frame formed with bearings, and a pocket at the outer portion of the frame, a thrust plate in the pocket, a shaft formed with a diametrically arranged groove across its end, and a bearing-cap formed with a circular flange to set over the end of the shaft and a rib to engage the groove in the end thereof, as described.

5. The supporting frame for a screw-brick machine, consisting of side supports connected by top plates formed with bearings, a hollow casing centrally arranged and integral with the supports and said plates, and formed with end extensions formed with journal-bearings, and a pocket, 18, in the outer portion of frame, adapted to take and hold a thrust-bearing, as specified.

In witness whereof I have hereto set my hand in the presence of two attesting witnesses.

GEO. SYLVESTER TIFFANY.

Attest:

WALTER C. BURRIDGE,
GEORGE H. TIFFANY.