

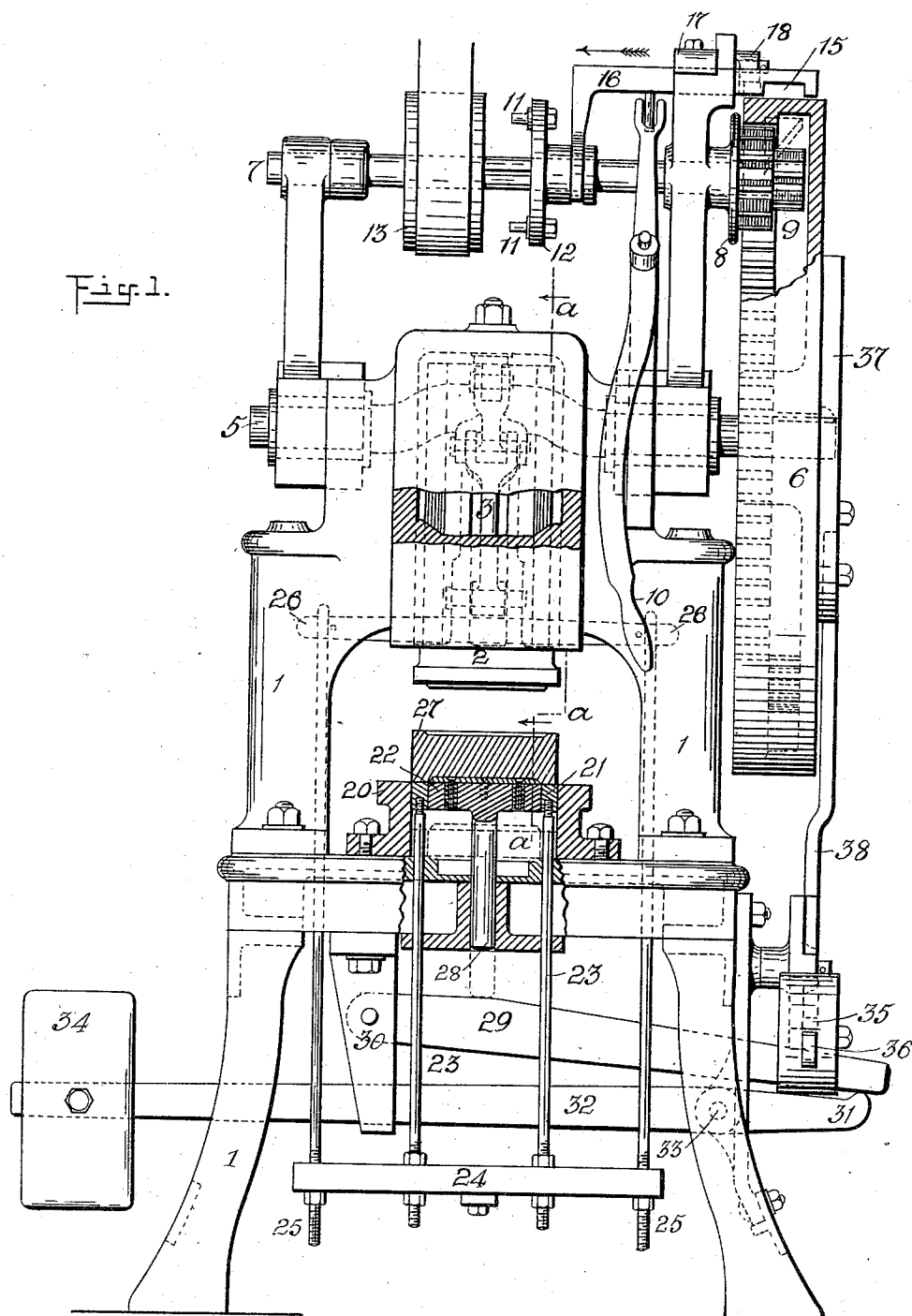
(No Model.)

4 Sheets—Sheet 1.

T. C. FAWCETT.
BRICK PRESSING MACHINERY.

No. 542,729.

Patented July 16, 1895.



WITNESSES:

J. J. Mogg
Walter Allen

INVENTOR:

Thomas C. Fawcett
by Herbert W. Jenner
att'y.

(No Model.)

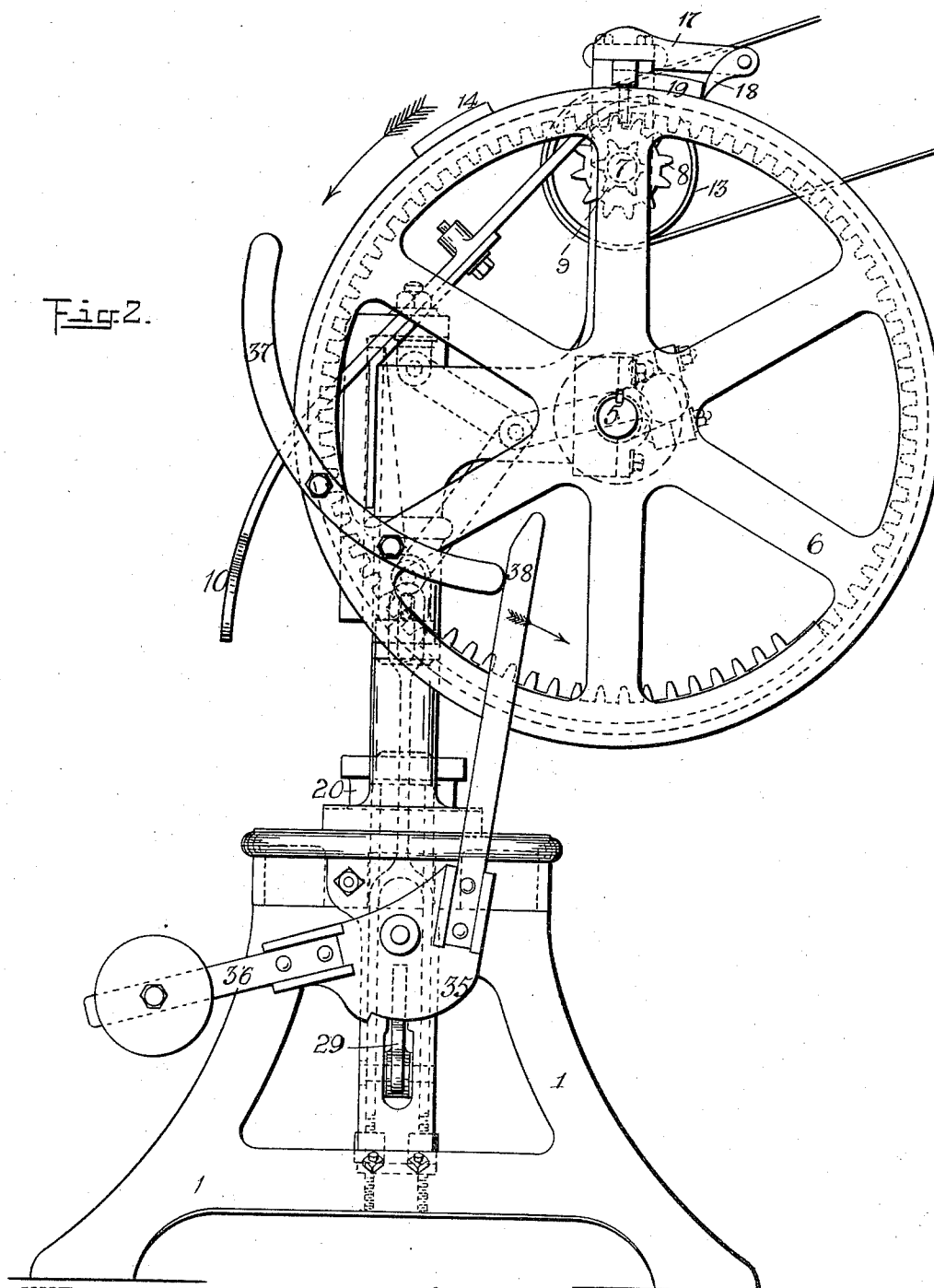
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Fig. 2.



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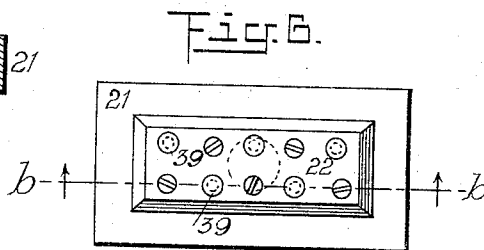
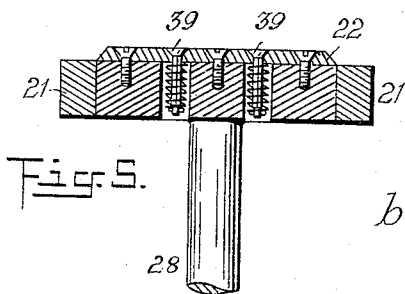
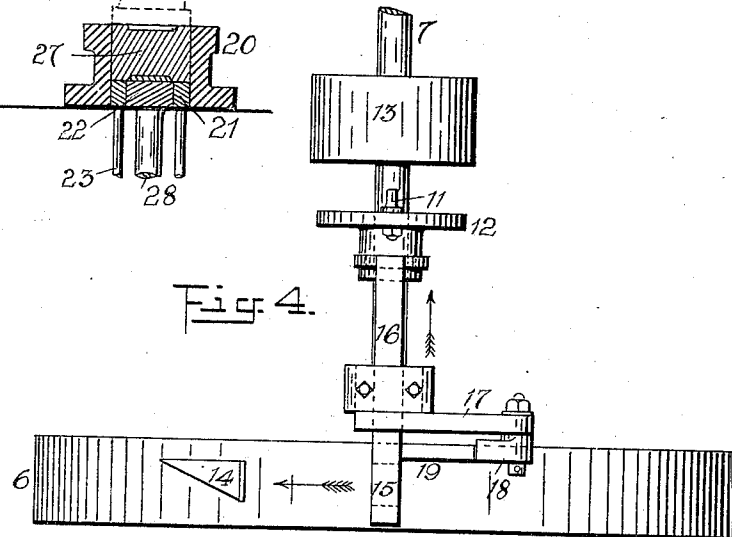
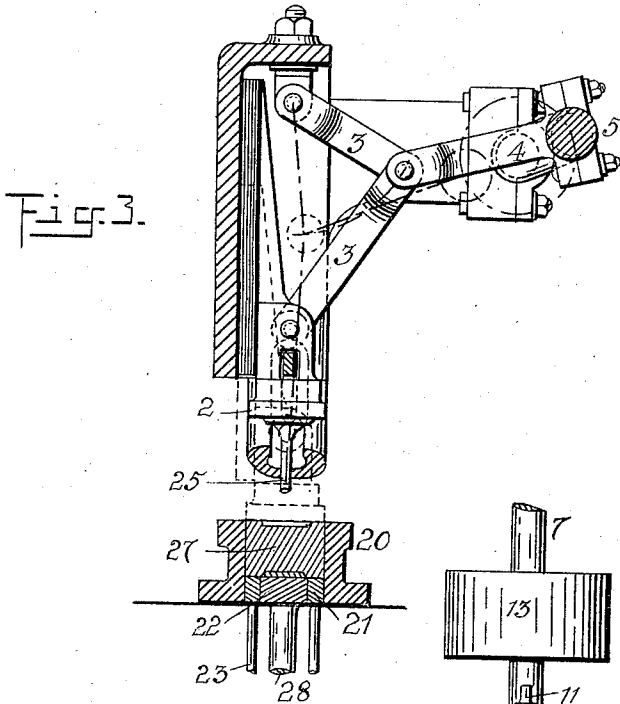
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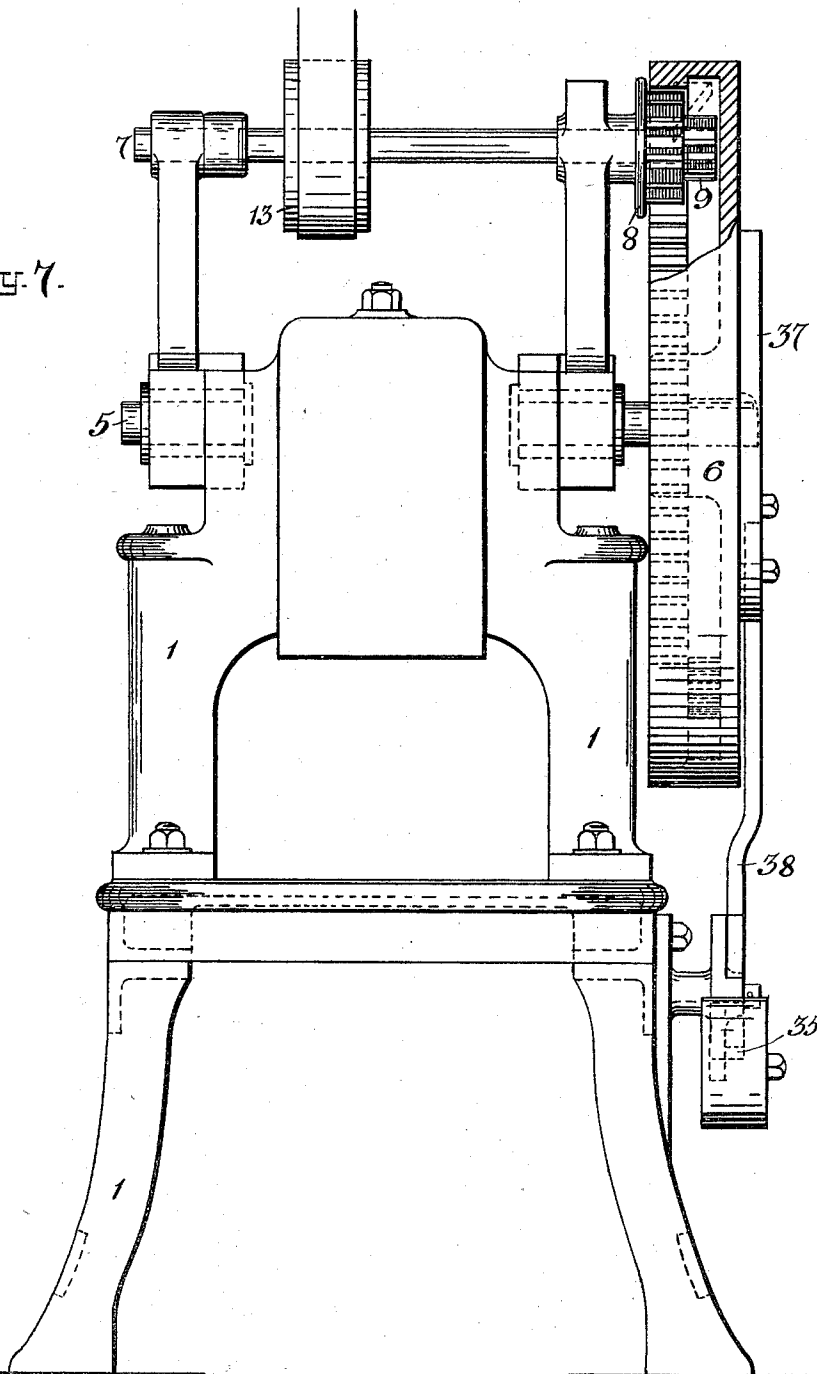
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Fig. 7.



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UNITED STATES PATENT OFFICE.

THOMAS C. FAWCETT, OF LEEDS, ENGLAND.

BRICK-PRESSING MACHINERY.

SPECIFICATION forming part of Letters Patent No. 542,729, dated July 16, 1895.

Application filed January 25, 1895. Serial No. 536,189. (No model.)

To all whom it may concern:

Be it known that I, THOMAS CONSTANTINE FAWCETT, a citizen of Great Britain, residing at Leeds, in the county of York, England, have invented certain new and useful Improvements in Brick-Pressing Machinery; and I do hereby declare the following to be 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 in brick-pressing machinery is intended to supersede those machines worked by screw and operated by manual labor.

My new machine comprises apparatus for pressing the brick, also for equalizing the density of the brick, and for stopping the machine automatically when a brick is completed.

In order that my improvements may be clearly understood, I will refer to the accompanying sheets of drawings, wherein—

Figure 1 is a front elevation of a brick-pressing machine. Fig. 2 is a side elevation; Fig. 3, a vertical section on line *a a* of Fig. 1; Fig. 4, a plan of self-acting stopping mechanism; Fig. 5, a section on line *b b* of Fig. 6; Fig. 6, a plan of same; Fig. 7, a front elevation of friction driving mechanism.

Referring to the drawings, 1 represents the standards or framework of the machine.

2 is the upper pressing-plate, made to move up and down by toggle-jointed levers 3, actuated by crank 4 from the main shaft 5 of the machine. On the crank-shaft 5 there is fixed an internal toothed driving-wheel 6. There are two segments of teeth in this wheel of two diameters from the center, as shown in Fig. 2. There are also fixed on the top driving-shaft 7 two cog-wheels 8 and 9, of different diameters, adapted to gear with the teeth in the internal wheel 6, so that a slower speed and greater power are imparted to the machine during the action of brick-pressing; but the remaining movements of the machine will be quicker because of the altered diameter of the internal wheel and also because of the altered diameter of the driving cog-wheel 9.

In order to press a brick effectually I propose to work the toggle-levers 3 slightly past

and beyond their dead-centers after assuming a vertical position.

The machine is started by the workman, who operates the handle 10 and forces sideways the studs 11 on plate 12 on the driving-shaft 7, (a groove and a key permitting the sliding to be effected.) The studs 11 enter into holes in the driving-pulley 13, which runs loose upon the shaft 7. After the studs enter the holes the shaft is made to revolve; but by the time the pressing operation has been effected and the upper pressing-plate withdrawn from a brick a cam 14 on the outside of the internal toothed wheel 6 enters into a slot 15 in one end of the bar 16, whereby the said cam draws this bar 16 sidewise and withdraws the studs 11 from the driving-pulley 13, whereby the machine is stopped. The wheel 6 has a tendency to rebound and run back, and a lever 17 is employed carrying a pawl or catch 18, which, when the said wheel 6 runs back, comes into contact with the block 19 on the periphery of wheel 6, whereby any further backward movement of the wheel is prevented.

When the machine is started by moving the handle 10, the lever 17 and catch 18 are drawn sidewise clear of the block 19, setting free the internal toothed wheel 6.

From the above description it is evident that the machine works intermittently, stopping at one part of its revolution to permit a brick to be introduced into position and then restarting again; but the machine may have a continuous but slow motion imparted to it, as shown in Fig. 7, where in this case the starting-handle 10 and sliding part 12 are dispensed with.

For the purpose of insuring that all bricks are of the same thickness, whether the quantity of clay in the mold be always the same or not, I employ means for indenting the brick, such indentations being deeper or more shallow, according to the quantity of clay in the mold; but whatever depth the indentations may be the exterior of the brick is the same thickness.

Within the brick-molding die 20 is a rectangular pressing-plate 21, and within the rectangular plate is the indenting plate or piston 22, which has an upward motion of its own

independent and apart from the rectangular bottom pressing-plate 21. This rectangular bottom pressing-plate is attached by vertical rods 23 to a cross-bar 24, which cross-bar is connected by other vertical bars 25 to a second cross-bar 26 passing through the upper pressing-plate 2, such rectangular bottom pressing-plate rising and falling with the upper pressing-plate actuated by the crank 4 of the machine. When the upper pressing-plate begins to ascend, the bottom pressing-plate also ascends and takes with it the newly-pressed brick 27; but when the pressing-plate 21 is at the bottom of the die 20 the foot of the spindle 28 of the indenting-piston 23 is resting upon a lever 29, as shown in dotted lines in Fig. 1. This lever is hinged at 30 and the opposite end thereof is resting upon the toe 31 of lever 32, hinged upon a fulcrum 33 and provided with a weight 34. When the bottom pressing-plate 21 is at the bottom of the die 20 with all the pressure of the upper plate 2 upon it, the weight 34 is prevented from raising lever 29 and piston 28 by means of a holding-cam 35, weighted at 36; but by the time the upper pressing-plate 2 commences to leave the brick the cam 37 on driving-wheel 6 comes into contact with lever-arm 38 and causes the eccentric or cam 35 to be removed off the toe of lever 29, whereupon the weight 34 is set at liberty and raises lever 29 and piston 28, causing the piston 22 to follow after the brick and indent it. Thus the brick is of equal thickness, notwithstanding the varying quantity of clay that is in the mold, the depth of the indent in the brick being more or less, according to the quantity of clay in the mold.

In order to enable the newly-molded brick to leave the molding-box with clear sharp edges, I form valves 39 in the head of the piston 22, (see Figs. 5 and 6,) which valves will open by suction when the new brick is being removed, and thus atmospheric air will be admitted, whereby the brick will freely leave the mold.

I claim as my invention—

1. In a brick pressing machine, the combination, with a driving shaft, and a toothed pinion secured thereon; of a toothed driving wheel gearing into the said pinion and provided with a cam and a stop block on its periphery, a slidable starting bar 16 for the said cam to engage with thereby automatically stopping the machine, and a pawl carried by the said starting bar and dropping behind the said stop block when the machine stops, thereby preventing any reverse movement of the driving wheel, substantially as set forth.

2. In a brick pressing machine, the combination, with a lower reciprocatory presser plate, and an indenting piston slidable in the said presser plate and provided with a depending stem; of the pivoted lever 29 under the said stem, a cam 35 operating to release the said lever when the said presser plate commences its upward movement, and operating mechanism—such as a weighted lever—for raising the aforesaid lever and piston, substantially as set forth.

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

THOS. C. FAWCETT.

Witnesses:

JOHN H. CLOUGH,
ARTHUR B. CROSSLEY.