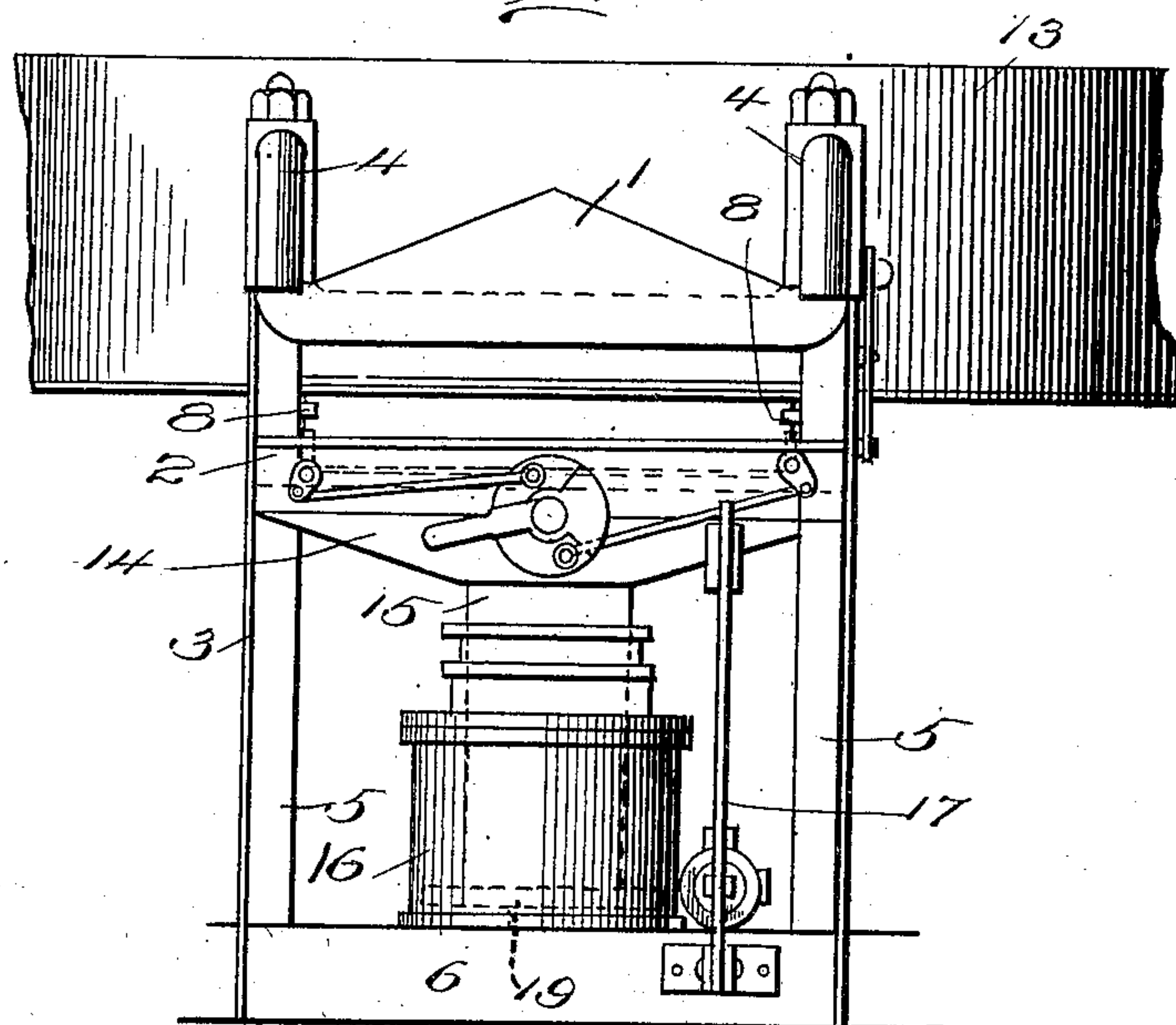


APPLICATION FILED AUG. 28, 1908.

Patented Mar. 30, 1909.

2 SHEETS—SHEET 1.



Witnesses

Witnesses
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CAKE FORMER.

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916,855.

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2 SHEETS—SHEET 2.

Fig. 3.

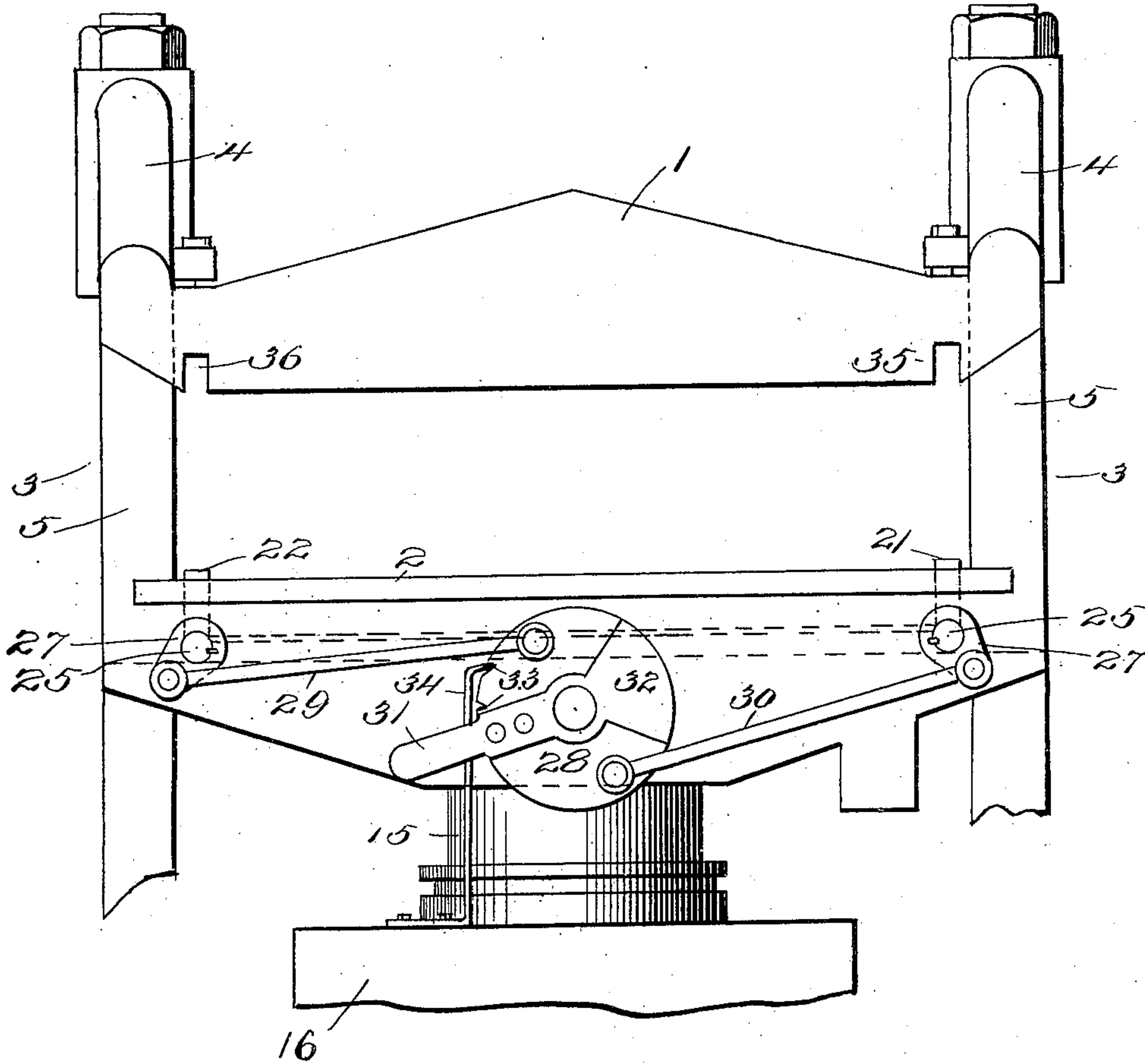


Fig. 4.

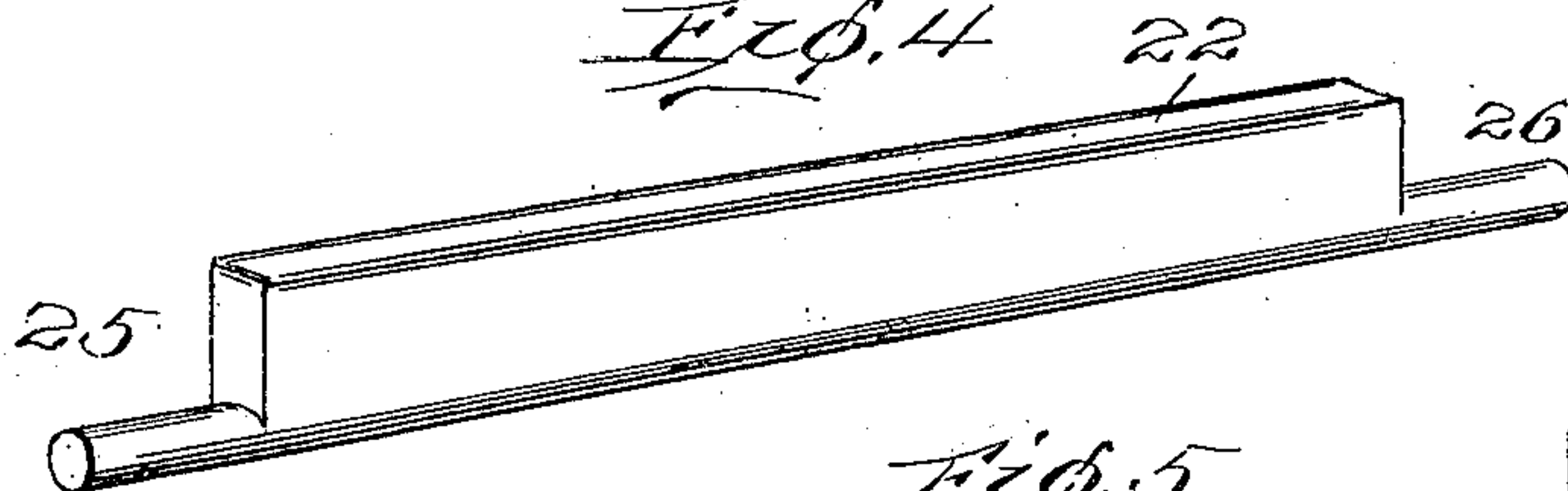
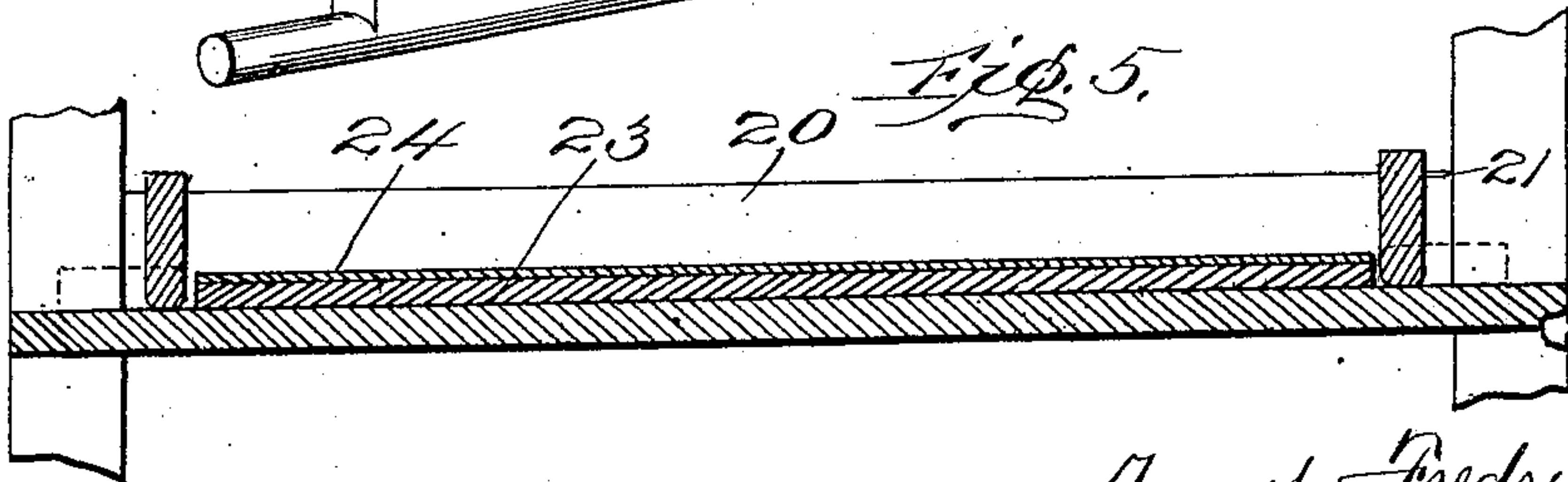


Fig. 5.



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UNITED STATES PATENT OFFICE.

AUGUST FREDRICKSON, OF COLUMBUS, MISSISSIPPI.

CAKE-FORMER.

No. 916,855.

Specification of Letters Patent.

Patented March 30, 1909.

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To all whom it may concern:

Be it known that I, AUGUST FREDRICKSON, a citizen of the United States, residing at Columbus, in the county of Lowndes and State of Mississippi, have invented certain new and useful Improvements in Cake-Formers; 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 relates to improvements in cake-formers for oil-mills, and has for an object provision of a former arranged with a male and female die, and means positioned in the female die for compacting or pressing the ends of the cake previous to the compression of the cake by the male die.

Another object in view is a provision of a cake-former arranged with dies for pressing the cake, a heater located near the pressing dies, a charging-box for conveying the matter to be pressed from the heater to the dies and folding end guides for one of the dies for slightly compressing the matter at each end of the die previous to the final operation of the die.

A still further object of the invention is the provision of the male and female die for forming cakes, the female die being provided with end members adapted to be moved into a position for forming ends for the female die and the means connected therewith for moving the end members into and out of position for forming ends for the female dies.

With these and other objects in view, the invention comprises certain novel constructions, combinations and arrangements of parts as will be hereinafter fully described and claimed.

In the accompanying drawings: Figure 1 is a side elevation of a cake-former constructed in accordance with my invention. Fig. 2 is a front elevation of the structure shown in Fig. 1. Fig. 3 is an enlarged detailed fragmentary front view of the machine shown in Fig. 1, the same showing in detail the dies and the means for operating the movable press contained therein. Fig. 4 is a detailed perspective view of one of the folding ends used in the female die. Fig. 5 is a longitudinal sectional view through the female die.

The present invention is designed to be more particularly an improvement over my

former patent, No. 640,898, issued January 9, 1900; though the improvement may be used with other forms of cake-formers if desired.

Referring to the drawing, 1 indicates the male die, and 2 the female die which may be of any desired configuration, but corresponding, of course, to the shape of the male die. The male die 1 is supported by a standard 3, which extends upward and is bent over at 4 for supporting the die. A pair of uprights 5, 5 are secured to the base 6 and extends upward for bracing the standards 3, and for forming a guide for the female die 2 in its reciprocatory movement. The male die 1 is thus held rigidly in position, but the female die 2 is permitted to reciprocate or move up and down. When in its lowermost position, a charging-box 7 is operated for depositing the matter to be compressed in the female die, and after making such deposit the same is withdrawn from above the die before the die moves upward and engages the male die 1. The charging-box 7 operates upon slide 8, 8 and is connected with a piston 9 that is moved by a suitable piston head mounted in cylinder 10. The steam or pressure of any desired kind may be admitted into the cylinder 10 by movement of rod 11, which will permit steam to enter one end of cylinder 10, and force the charging-box 7 outward or to the position shown in Fig. 1. After the matter contained in the box has been deposited in the female die 2 the steam is admitted into the opposite end of cylinder 10 by any desired means, as for instance, the means shown in my former patent above mentioned, and the box 7 is withdrawn or moved backward until the same takes a position below an opening 12 in a heater 13. The box 7 is open at both ends so that as soon as the box arrives beneath opening 12, a charge is deposited therein and when the box is forced above die 2, the charge is deposited in the die 2.

Die 2 is connected with a head 14 secured to a piston rod 15, which operates in a cylinder 16. After matter has been deposited in die 2, lever 17 is moved and, consequently, operates valve 18 for permitting steam or other pressure to enter cylinder 16. This will act against the piston 19 which is connected with piston rod 15 and will, consequently, force upward piston rod 15, its head 14, and die 2. In this manner die 2 is raised upward until the same engages die

1 and the movement is continued until sufficient pressure has been brought to properly compress the matter in die 2 and form the cake.

5 The dies 1 and 2 are arranged as more particularly seen in Figs. 3 and 5. From these figures it will be observed that the female die 2 is formed with sides 20, 20, with movable ends 21 and 22. End members 21
10 and 22 are, more properly speaking, rocking end pressers and are adapted to be moved down to a horizontal plane during the charging of the die 2. Located in die 2 is a filling member 23 preferably formed of any
15 desired kind of wood also a filling member 24 preferably formed from simply a thin sheet of metal, so as to protect filling member 23 and to form an even surface upon which the cake may be formed. The rock-
20 ing end, members 21 and 23 are provided with stub shafts 25 and 26 which are journaled in the side members 20, 20, shafts 25 of each of the end members is connected with a crank 27. The cranks 27 are con-
25 nected to a plate 28, by links 29 and 30, (Fig. 3) and are adapted to be operated thereby for moving the end members to a vertical or a horizontal position as may be
30 desired. Plate 28 has secured thereto a hand lever 31, used in turning the plate. Hand lever 31 has formed thereon a balance member 32, which is adapted to prevent any ac-
35 cidental movement of the plate 28, by reason of the over-weight of part of the lever. Plate 28 is also provided with a plurality of notches 33, which are adapted to receive a spring catch 34, which in turn are secured to cylinder 16. This spring is designed to
40 rotate plate 28 for moving the rocking end members 21 and 22 to a horizontal position as shown in dotted lines, Fig. 5, when the die 2 has moved to its lower-most position.

In operation after some of the matter has been passed from heater 13 into charging-
45 box 7 and thence moved to die 2 and the box 7 removed to a position below opening 12, lever 17 is operated for causing piston rod 15 to move upward and force upward the die 2 along its guides 5, 5. After die 2
50 has moved upward and compressed the cake, the same will be lowered to its original position as seen in Figs. 1 and 2, and the cake will be removed. As the female die 2 moves to the position shown in Figs. 1 and 2,
55 spring catch 34 will engage one of the notches 33 and will partially rotate plate 28. This will move links 29 and 30 and from thence convey motion through cranks 27 and shafts 25 to the rocking end members
60 21 and 22 and will cause the end members 21 and 22 to move down to the dotted position shown in Fig. 5. The die is then ready for the charging-box 7 to deposit another charge therein, and after such charge has
65 been deposited therein, the matter will be

deposited substantially level to the top of the die or molding box, except at the ends where it scatters out partially over the folding end members 21 and 22. Lever 31 is then moved for rotating plate 28, which
70 will convey motion to the end members 21 and 22 and will move the same to a vertical position as shown in Figs. 3 and 5 and in moving to this position will compress the
75 loose meal or matter being compressed to a substantially solid mass. Previous to the deposit of the meal, or matter to be compressed in the die, a cloth so used in this
80 kind of machine is placed in position so that when the end members 21 and 22 are turned to a vertical position, the cloth will also be brought up across the ends of the cake that
85 is to be formed and by a slight movement of the hand the cloth is lapped over the meal and then the pressure is admitted to cylinder 16 for moving die 2 upward against die
1. As die 2 moves upward and die 1 enters into die 2, the folding end members 21 and 22 enter slots or notches 35 and 36 respectively. After the cake has been pressed suffi-
90 ciently die 2 is brought back to its lower position and the cake removed. Upon the return movement of the die 2, spring 34 will again engage one of the notches 33 and move the end members 21 and 22 to a hori-
95 zontal position. If desired, lever 31 could be connected with the charging-box 7 and thereby provide automatic means for turning up end members 21 and 22, though ordi-
100 narily the operation by hand is sufficient. By thus constructing a die and folding end members as 21 and 22 and operating mechanism therefor, improved means are pre-
105 sented that will cause the cake to be formed uniformly throughout and having its ends compressed equally tight or close as the center part of the cake. The folding end mem-
bers also assist in folding the press cloth around the cake.

What I claim is:—

1. A cake-former comprising a die for receiving matter to be pressed, means for feeding a charge into said die, folding ends for said die, and means for operating said die for pressing the matter contained therein. 115

2. A cake-former comprising a male and female die, means for charging said female die, folding ends for said female die, cranks secured to said folding ends, a link for each of said cranks, a rotating disk connected
120 with said links, means connected with said disk for moving same, and means for moving said female die against the male die for compressing the matter deposited in said female die. 125

3. A cake-former comprising supports, a stationary die connected with said supports, a movable disk co-acting with said stationary die, rocking end members for said movable die, means for moving said end members
130

to a horizontal position when said movable die is receiving matter to be pressed, means for moving said end members to a vertical position after matter has been deposited into said die, and means for moving said movable die against said stationary die for compressing the matter contained in said movable die.

4. A cake-former comprising a stationary die, a movable die, rocking end members for said movable die, means for depositing matter in said movable die, means for moving said end members to a substantially horizontal plane previous to the deposit of said matter in said die, means for moving said end members to a vertical position after the deposit of said matter in said die, and means for moving said movable die against said stationary die for compressing the matter in said movable die.

5. A cake-former comprising a base, standard on said base, a stationary male die secured to and held in position by said standard, a female die operating in conjunction with said male die and having a movement on said standards, means for supplying matter to said movable die, folding end member on said movable die, means for moving said folding end members to a vertical position after matter has been deposited in said die, and means for causing said movable die to

engage said stationary die for compressing the matter contained in said movable die.

6. A cake-former comprising a stationary die, a movable die, means for supplying matter to said movable die, folding end members for said movable die, means for turning to a vertical position said movable end members after said matter has been deposited in said movable die, means for forcing said movable die against said stationary die, and means for moving to a horizontal position said movable end members upon the return movement of said movable die.

7. A cake-former comprising a stationary die, a movable die, rocking end members connected with said movable die, manually operated means for moving said rocking end members in one direction, a catch for moving said manually operated means in an opposite direction, means for depositing matter in said movable die for compression, means for moving said movable die against said stationary die for compressing the matter in said movable die.

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

AUGUST FREDRICKSON.

Witnesses:

CHAS. C. BUDER,
W. D. HUMPHRIES.