

W. T. FRANCIS.
CLOTHES PRESS.
APPLICATION FILED JULY 22, 1910.

1,015,167.

Patented Jan. 16, 1912.

2 SHEETS—SHEET 1.

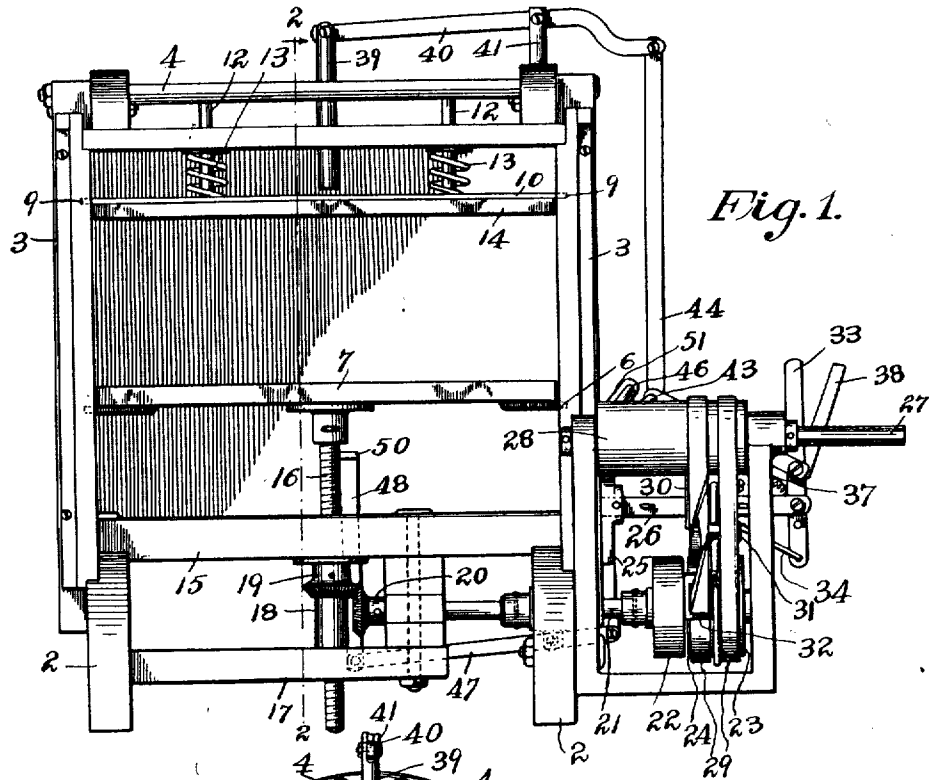


Fig. 1.

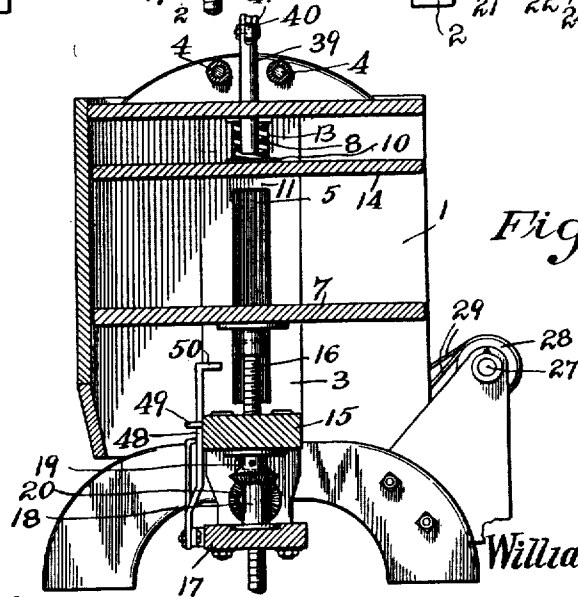


Fig. 2.

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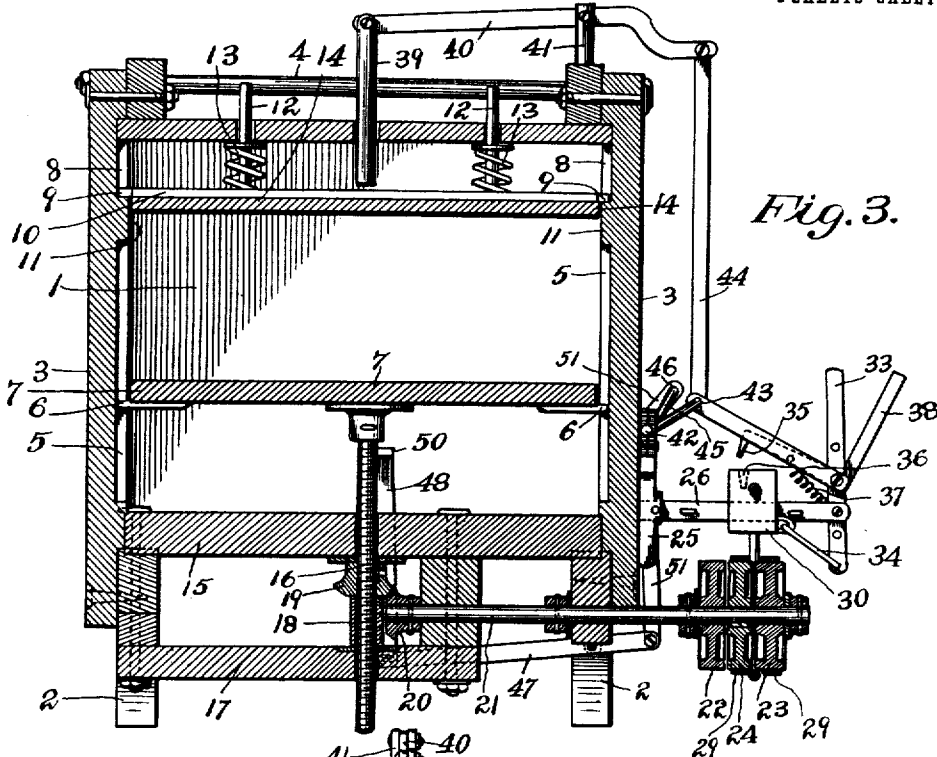


Fig. 3.

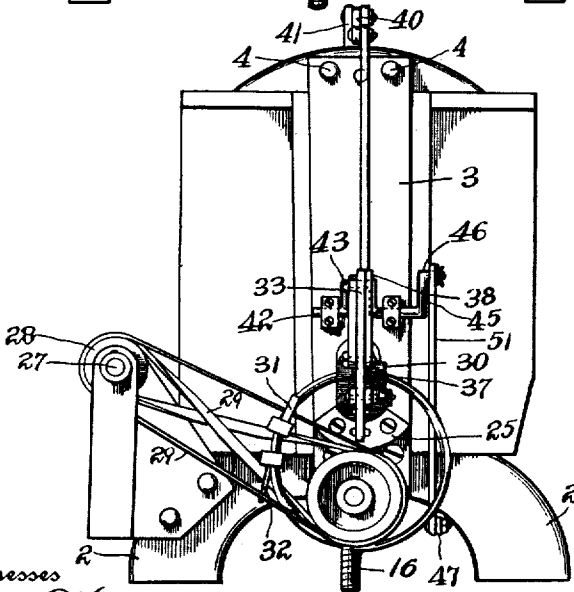


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM T. FRANCIS, OF DANVILLE, VIRGINIA.

CLOTHES-PRESS.

1,015,167.

Specification of Letters Patent.

Patented Jan. 16, 1912.

Application filed July 22, 1910. Serial No. 573,279.

To all whom it may concern:

Be it known that I, WILLIAM T. FRANCIS, a citizen of the United States of America, residing at Danville, in the county of 5 Pittsylvania and State of Virginia, have invented new and useful Improvements in Clothes-Presses, of which the following is a specification.

This invention relates to laundry machines and particularly to presses, the object of the invention being to provide apparatus of this character wherein the clothes to be operated upon will be effectively 10 dampened with the greatest uniformity.

Another object of the invention is to provide a driving shaft and mechanism controlled by the plunger head for throwing the said head into and out of operation. 15

In the drawings, forming a portion of 20 this specification and in which like numerals of reference indicate similar parts in the several views:—Figure 1 is a front elevation of my improved press. Fig. 2 is a detail section taken on the line 2—2 of Fig. 1. Fig. 3 is a similar section taken at right 25 angles to Fig. 2. Fig. 4 is an end view of the press.

The press consists of a receptacle 1 having suitable supporting legs 2. The receptacle is formed with an open front portion, 30 as shown, for a purpose to be hereinafter described. At the top, the vertical sides 3 of the casing are connected by suitable brace rods 4. The sides of the said casing 35 are formed with vertical guide grooves 5 in which the extensions 6 of the horizontal plunger 7 are mounted to travel. Immediately above the said guides, the sides of the casing are formed to provide similar guide 40 grooves 8 in which the extensions 9 of a supporting member 10 are adapted to travel, the said guide grooves 8 being formed to present lower stop shoulders 11 to prevent 45 movement in a downward direction of the supporting member past a predetermined point. The supporting member is provided with a pair of suitably spaced vertical guide stems 12 which are movable in correspondingly formed passages in the top of the casing. These stems are surrounded by exten- 50 sile springs 13 which exert their energy to hold the supporting member at the downward limit of its movement. A head 14 is suitably connected with the supporting 55 member and as illustrated, it is arranged in exact parallel relation to the plunger 7,

Adjacent to the lower ends, the side members of the casings are connected by a horizontal member 15 which is apertured for the reception of the screw 16 of the plunger 60 7. Immediately beneath the member 15 and supported by one of the legs of the casing is an apertured support 17 on which is arranged a vertical sleeve 18. The screw 16 extends through the said sleeve and through 65 the support 17 and as illustrated, the said screw extends through the threaded passage of the operating bevel-gear wheel 19. This gear wheel is in mesh with a similar bevel gear wheel 20 on the driving shaft 21, the 70 latter being supported by the casing 1 at a point immediately beneath the supporting member 15. At the outer end, the driving shaft supports loose pulleys 22 and 23 and a fixed pulley 24. At the end adjacent to the 75 extension of the shaft 21 and at a point immediately above the said fixed and loose pulleys respectively is secured a bracket 25 from which extends a stem 26. An actuating shaft 27 is supported by the casing and 80 mounted thereon is a fixed pulley 28 for operating the driving belts 29 for the fixed pulley 24 on the driving shaft. The stem 26 supports a horizontally adjustable shifting member 30 having guides 31 and 32 for the 85 driving belts.

A lever 33 is pivoted between its ends to the outer extremity of the guide stem 26. This lever is connected preferably by a rod 34 with the belt-shifting member, the said 90 rod being operatively associated with the lower part of such lever. This lever supports a locking dog 35 which is designed for engagement in a recess 36 in the belt-shifting member so as to hold the said 95 shifting member against sliding movement. A spring 37 on the stem 26 exerts its tension normally against the said dog to hold it out of engagement with the belt-shifting member, the said dog being provided with a suitable 100 handle 38 so that it can be moved against the tension of the spring.

Automatically operated means are employed for controlling the movements of the belt-shifting member. This means consists 105 of a vertically movable stem 39 which extends through the top of the casing. The lower extremity of the stem is arranged slightly above the yieldingly supported head 14 and the upper extremity of the stem is 110 pivoted to a rock lever 40 which is pivotally supported on a post 41 at the top of the cas-

ing. A crank shaft 42 is mounted in suitable bearings at one end of the casing and as shown, the crank portion 43 of the shaft is operatively connected with the lower end of a link 44, the upper end of the link being pivoted to the outer extremity of the hereinbefore described rock arm. The crank shaft is formed to provide an arm 45 from which extends a wrist pin 46. A rock arm 47 is pivoted to the casing at the lower end thereof and as illustrated, such arm is pivoted to a vertically movable stem 48 which slides in a guide 49 on the member 15 of the casing. This stem is provided with a finger 50 which is located in the path of movement of the plunger 7. The opposite end of the rock arm 47 is pivoted to the lower end of a link 51, the upper end of the said link being operatively engaged with the wrist pin 46 of the crank shaft.

In operation of my improved laundry press, the clothes to be operated on are dampened in the usual manner previous to placing them in the press. To obtain a perfect uniform dampness of the clothes they are placed on the plunger 7, after which, assuming that the belt 29 is engaged with the fixed pulley of the driving shaft, the said shaft is revolved to transmit power to the driving screw of the plunger, causing the plunger to move upwardly toward the yieldingly supported head 14. It may be stated that the extensile springs for supporting the said head 14 are very strong and capable of responding to a certain given pressure. After the plunger has been moved upwardly to cooperate with the head 14 the clothes will be pressed effectively to present thereto a uniform dampness. Incident to the provision of the head 14 and the peculiar manner of supporting it, it will be understood that after a certain pressure has been applied thereto in movement upwardly of the plunger 7 it will contact with the stem 39 to move it upwardly and to rock the lever 40 and the crank shaft 42 sufficiently to move the belt-shifting member to cause the belt 29 to move onto the loose pulley 22. This movement of the belt shifting member will move the belt 30 off of the loose pulley 22 and associate it operatively with the fixed pulley whereby on continuation of the operation of the machine the plunger will be moved downwardly. When the plunger contacts with the lower element of the belt-shifting mechanism the shifting member of such mechanism will be again moved to cause the belt 29 to be again associated with the fixed pulley.

I claim:—

1. A press comprising a yieldingly sup-

ported head, a plunger movable toward and away from the head, actuating means for the plunger, means arranged in the path of movement of the head, and means arranged in the path of movement of the plunger, both of said means adapted to reverse the movement of the plunger in the operation thereof whereby to impart continuous motion to the plunger.

2. A press comprising a yieldingly supported head, a plunger movable toward and away from the head, actuating means for the plunger including a belt shifting mechanism, means arranged in the path of movement of the head, means arranged in the path of movement of the plunger, both of said means adapted to operate the belt shifting mechanism to reverse the movement of the plunger in the operation thereof, whereby to impart continuous motion to the plunger.

3. A press, comprising a yieldingly supported head, a plunger movable toward and away from the head, an operating shaft for said plunger, fixed and loose pulleys respectively on the operating shaft, driving belts operatively associated with the pulleys, belt shifting mechanism operatively associated with the belts, a crank shaft operatively connected with said belt shifting mechanism, means arranged in the path of movement of the head and operatively connected with said crank shaft, means arranged in the path of movement of the plunger and operatively connected with said crank shaft, both of said means adapted to operate the crank shaft whereby to actuate the belt shifting mechanism to reverse the movement of the plunger in the operation thereof and impart continuous motion thereto.

4. The combination with a driving shaft, a sliding plunger geared thereto and fixed and loose pulleys respectively on the driving shaft, of driving belts operatively associated with the pulleys, belt-shifting mechanism operatively associated with the belts, a yieldingly supported head disposed in the path of movement of the plunger to be engaged thereby in one direction of its movement, and actuating elements disposed in the path of movements of the plunger and head respectively and operatively connected with the belt-shifting mechanism.

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

WILLIAM ^{his} T. FRANCIS.
mark.

Witnesses:

L. W. TRUE,
C. D. COOK.