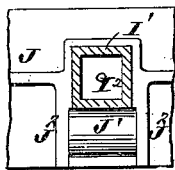


2 Sheets—Sheet 1.

PRESS.

Patented Oct. 21, 1884.



Inventar;

Geo. J. Fritz
By Knight Bros atty.

(No Model.)

2 Sheets—Sheet 2.

G. J. FRITZ.

PRESS.

No. 306,914.

Patented Oct. 21, 1884.

Fig. 4.

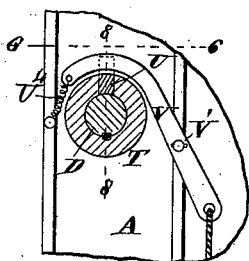


Fig. 5.

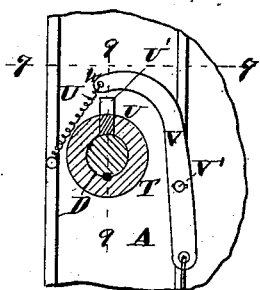


Fig. 6.

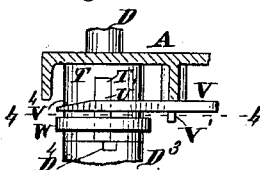


Fig. 7.

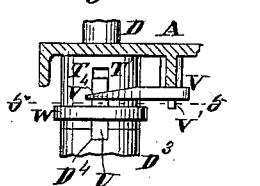


Fig. 8.

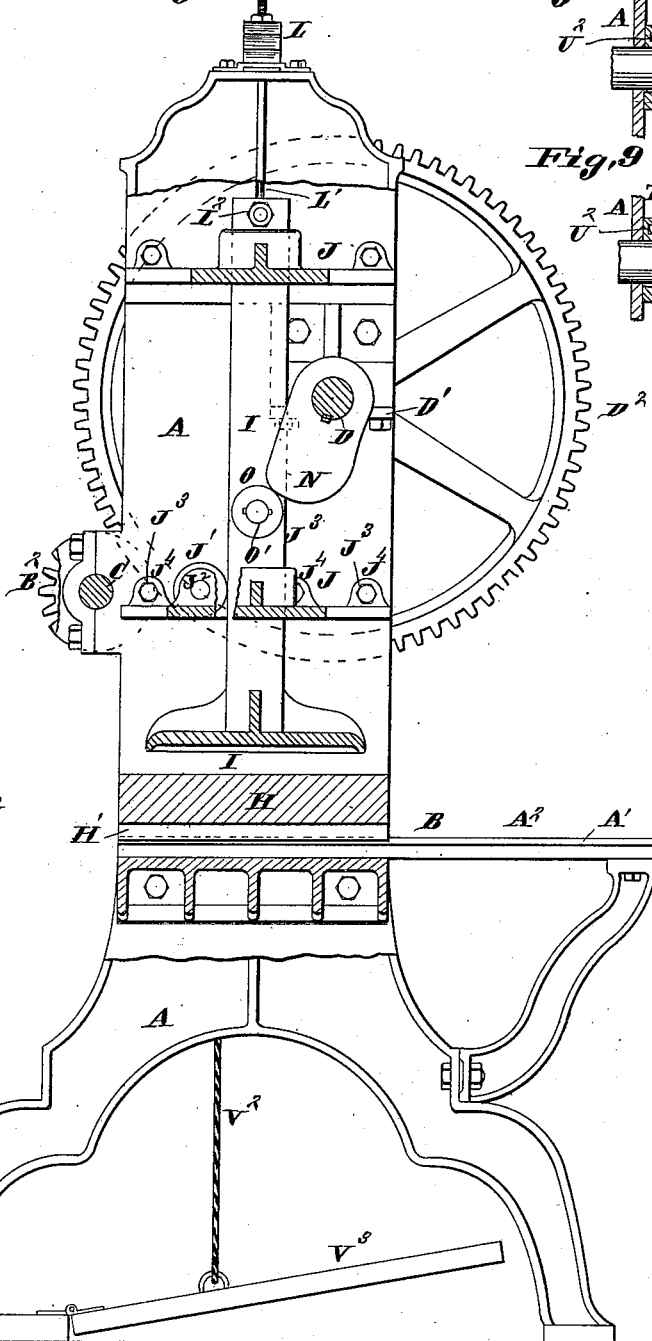
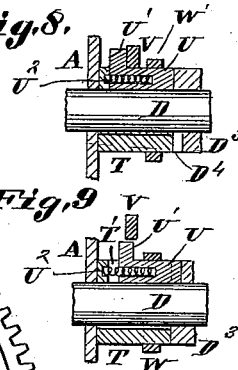


Fig. 9.



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Attys

UNITED STATES PATENT OFFICE.

GEORGE J. FRITZ, OF ST. LOUIS, MISSOURI.

PRESS.

SPECIFICATION forming part of Letters Patent No. 306,914, dated October 21, 1884.

Application filed July 17, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE J. FRITZ, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Presses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a front elevation, part in section. Fig. 2 is a transverse section of one of the platen-beams, taken on line 2 2, Fig. 1. Fig. 3 is a vertical section taken on line 3 3, Fig. 1. Fig. 4 is a section taken on line 4 4, Fig. 6, showing the dog engaged with the clutch. Fig. 5 is a similar view taken on line 5 5, Fig. 7, showing the dog raised from the clutch. Fig. 6 is a section taken on line 6 6, Fig. 4. Fig. 7 is a section taken on line 7 7, Fig. 5. Fig. 8 is a section taken on line 8 8, Fig. 4; and Fig. 9 is a section taken on line 9 9, Fig. 5.

My invention relates to a machine for forming cotton-seed meal, &c., into cakes prior to putting it into the hydraulic press to remove the oil therefrom, and for trussing casks, barrels, &c.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, A represents the frame of the machine, supporting a stationary table, B, a driving-shaft, C, in boxes C', and a cam-shaft, D, in boxes D'. The shaft C has a pinion, B², meshing into a cog-wheel, D², on the shaft D, and it also has a driving-pulley, B³.

H represents a sliding table supported by the stationary table, it having rails or strips H' on its under side fitting on rails A' on the upper side of the table B, the outside rails, H', having grooves to receive projections on the rails A', as shown in Fig. 1, so that while the table H is free to slide back and forth, yet it is held from lateral movement. This movable table is pulled out from under the platen onto the exposed part A² of the stationary table to receive the meal, and then is moved back under the platen, so that the meal will be pressed into a cake by the descent of the platen.

I represents the platen, to which are secured upwardly-projecting beams I', preferably hollow, as shown in Figs. 1 and 2, to allow the

passage of air which escapes from under the platen through perforations I². The beams I' pass up through and are supported by cross-pieces J, secured to the frame A, in which they have vertical movement, being raised by a spring, L, secured to the top or upper part of the frame A, to which they are connected by rods L' L², and being forced down by cams N on the shaft D, which, as the shaft is turned, come against friction-rollers O on pins or short shafts O', that pass through the beams I'. (See Fig. 1.) These cams thus force the platen down to press the meal, and as soon as they pass the rollers the spring L raises the platen, as stated. I prefer to have four of these cams—one on each side of each beam—and there is, of course, a friction-roller, O, for each cam. The upward movement of the platen is limited and regulated by a set-screw, P, passing through the lower cross-piece J. (See Fig. 1.) This lower cross-piece is also provided with friction-rollers J', journaled in lugs J², secured to or formed upon the cross-piece. These rollers are located at the openings in the cross-piece through which the beams of the platen pass, as shown in Figs. 1, 2, and 3, and on the opposite sides of the beams from the cams N. The cams naturally shove the beams away from them, or have a tendency to do so, and the rollers receive this strain or pressure, thus avoiding the friction that would be incident to a fixed support or bearing. The cross-pieces J have lugs J⁴ to receive bolts J³, by which the cross-pieces are secured to the frame A.

I will now describe a clutch device by means of which the cam-shaft is connected to and disconnected from the driving-shaft at will. The cog-wheel D² is loose upon the shaft D, and its hub D³ has a notch or recess, D⁴. (See Figs. 1, 6, 7, and 8.) T represents a collar surrounding the shaft, and keyed or otherwise secured to it, as shown in Figs. 4 and 5. In this collar is a slot, T', receiving a sliding block, U, with a head or projection, U', as shown most plainly in Figs. 8 and 9. When not pulled and held out by a dog or pawl, V, the end of the block is forced into the notch D⁴ of the hub of the cog-wheel by means of a spring, U², (see Figs. 8 and 9,) and when in this position it locks the cog-wheel to and causes it to turn with the

shaft, and it will remain in this position as long as the dog V is held in the position shown in Fig. 5, where it is out of engagement with the block, being held in this position by it being
 5 pivoted at V' to the frame A, and connected by means of a cord or rope, V², to a treadle, V³, which is depressed by the foot of the operator. As soon as the pressure on the treadle is removed, the upper end of the dog is pulled
 10 down from the position shown in Figs. 5 and 9 to the position shown in Figs. 4 and 8 by a spring, U¹, or otherwise. The next time the block comes around after the dog is thus pulled down its head or projection, U', comes
 15 in contact with the tapering or inclined end V' of the dog, (see Figs. 6 and 7,) and is forced back out of engagement with the hub of the cog-wheel, thus allowing the wheel to turn without turning the shaft. As soon as
 20 the upper end of the dog is raised again and the block comes around opposite the notch in the hub, the spring U² operates the block, as stated. The block is held to the collar and the collar strengthened by a ring, W. One beam
 25 only could be used, and by making the table H vertically adjustable, as shown by dotted lines, Fig. 1, (the table B being removed,) and changing slightly the form of the platen, the press makes a good machine for trussing casks,
 30 barrels, &c.

As an equivalent of the spring L a weighted lever may be used, or a weight connected to the platen by a rope passing over pulleys.

I claim as my invention—

35 1. In a press, the combination of the fixed table, movable table, platen provided with beams having friction-rollers, cams secured to a revolving shaft and adapted to depress the platen, and the spring to which the platen is
 40 connected and by which it is raised, substantially as and for the purpose set forth.

2. In a press, the combination of the fixed table, movable table, perforated platen, hollow beams secured to the platen, cross-pieces secured to the frame of the machine, friction-rollers secured to the beams, cams secured to
 45 a revolving shaft, and adapted to depress the platen by bearing against the friction-rollers, and the spring to which the platen is connected and by which it is raised, substantially as
 50 and for the purpose set forth.

3. In a press, the combination of the fixed table and movable table, platen, beams secured to the platen, perforated cross-pieces secured to the frame of the machine, and
 55 through which the beams pass, friction-rollers secured to the lower cross-piece and against which the beams bear, friction-rollers secured to the beams, cams secured to a revolving shaft and adapted to depress the platen, and
 60 spring to which the platen is connected and raised to its upper position, substantially as set forth.

4. In a press, the combination of the movable table, platen provided with one or more
 65 supporting-beams, cams secured to a revolving shaft, and adapted to depress the platen by pressing against bearings on the beam or beams, and a spring, or its equivalent, to which the platen is connected, and by which
 70 it is raised after being forced down by the cams, substantially as and for the purpose set forth.

Witness my hand, at St. Louis, Missouri, this 9th day of July, 1884.

GEORGE J. FRITZ.

In presence of—

GEO. H. KNIGHT.
 SAM'L. KNIGHT.