

No. 645,394.

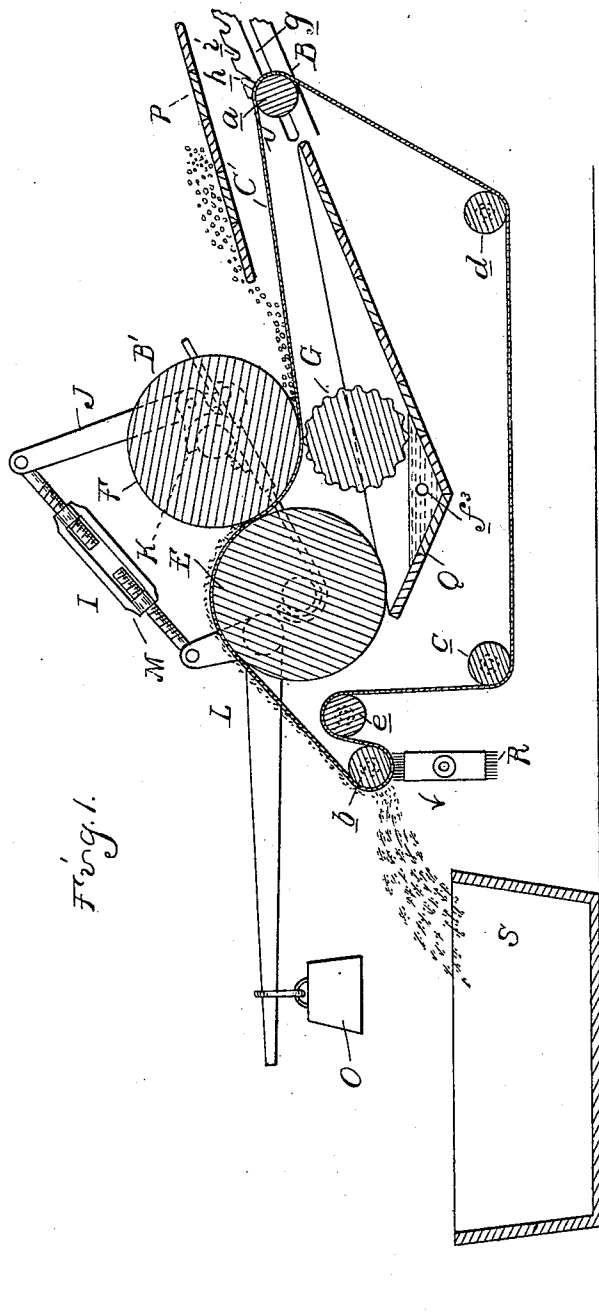
Patented Mar. 13, 1900.

W. H. HOMMEL.
WINE PRESS.

(Application filed July 31, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
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2 Sheets—Sheet 2.

Fig. 3.

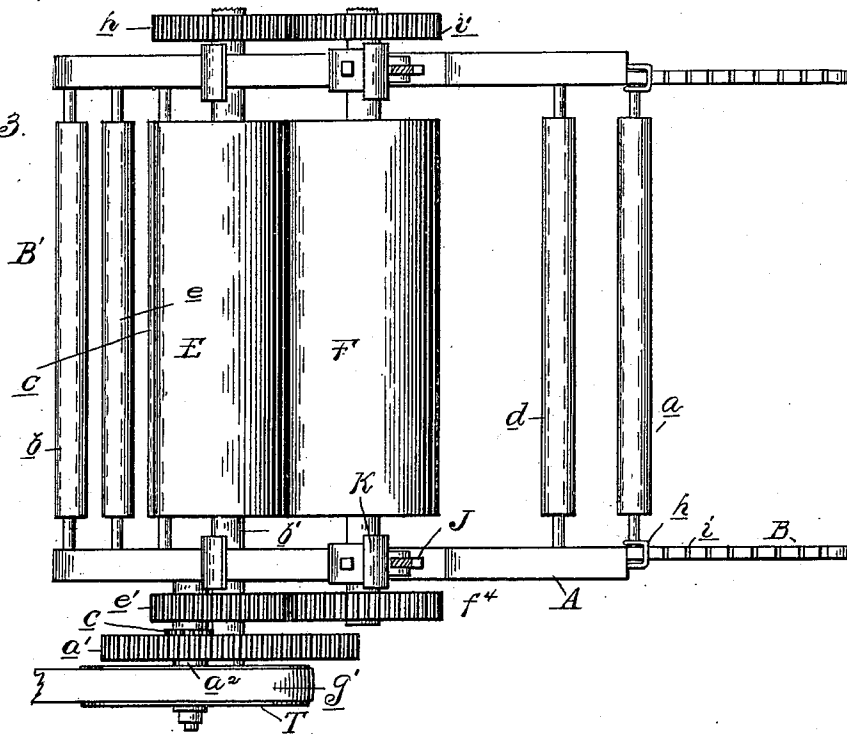
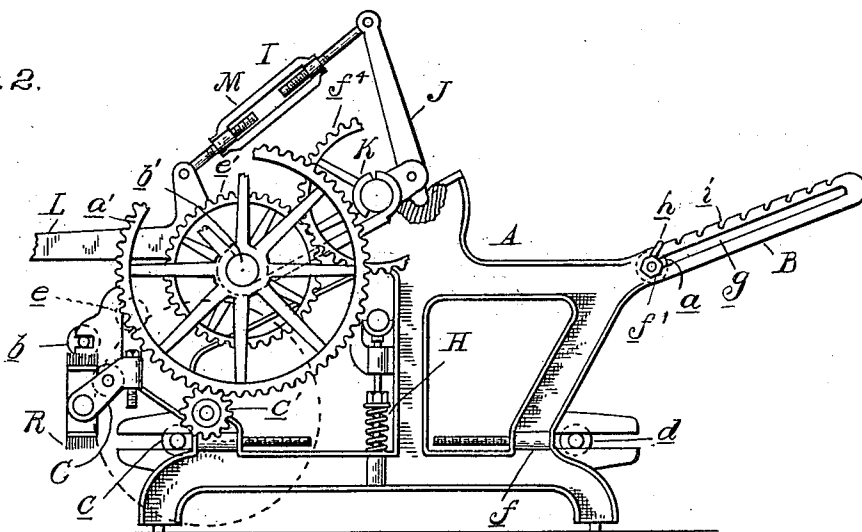


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM H. HOMMEL, OF SANDUSKY, OHIO.

WINE-PRESS.

SPECIFICATION forming part of Letters Patent No. 645,394, dated March 13, 1900.

Application filed July 31, 1899. Serial No. 725,646. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HOMMEL, a citizen of the United States, residing at Sandusky, in the county of Erie and State of Ohio, have invented certain new and useful Improvements in Wine-Presses, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention has reference generally to wine-presses, and relates particularly to that type of press wherein the material from which the juice is to be extracted is continuously operated upon as it is delivered to the press.

The essential object of the present invention is to simplify the construction of a press of this type, whereby the cost of manufacture will be reduced to a minimum.

With this object in view my invention consists in the novel formation of a continuously operating wine-press, and particularly in the peculiar construction of a combined pressing and crushing mechanism therefor.

The invention further consists in the peculiar construction, arrangement, and combination of the various parts of the press, all as more fully hereinafter shown and described.

In the drawings, Figure 1 is a diagrammatic view of the press. Fig. 2 is a side elevation thereof, and Fig. 3 is a plan view of the press with the carrier removed.

In construction the press comprises a supporting-frame A, provided at its forward end with upwardly-extending arms or brackets B and at the opposite end or the rear of the frame with downwardly-inclined supporting-arms C. Upon the frame are mounted for operation a combined crushing and pressing mechanism B' of any preferred construction and a carrier C' of any approved type.

As a matter of preference I employ and have shown the pressing mechanism as consisting of a multiple of pressure-rollers arranged and adapted to operate in the manner hereinafter set forth and the carrier consisting of an endless canvas belt adapted to receive upon it the material that is to be pressed and to convey the same to the pressing mechanism. The carrier thus referred to passes over guide-rollers *a* and *b*, journaled at opposite ends in the framework, extends along the top of the machine through the pressing mechanism B', and is returned along the bottom of the press

over guide-rollers *c* and *d*, as plainly shown in Fig. 1. In order that this belt or conveyer may be maintained at the proper tension, I have provided a tension-roller *e*, journaled in the rear of the frame, and have also provided adjustable bearings, such as *f*, for the several guide-rollers over which the canvas travels. In case considerable slack is found to exist in the carrier, more than can be conveniently taken up by the adjusting mechanism previously described, I have so constructed the guide-roller *a* as to permit of its being shifted substantially in a lateral direction to overcome this defect. The take-up mechanism thus referred to comprises bearings *f'* upon the journals of the roller, which are adapted to slide in a guideway *g*, formed in each of the upwardly-extending arms B, and a hook *h*, engaging over each bearing and adapted to be secured in one of the series of notches *i* formed in the arms.

The reference-letters E and F designate two plain pressure-rollers, constituting a part of the combined crushing and pressing mechanism, which are journaled one in advance of the other, as shown, in the top portion of the frame in traveling contact with one another. Arranged beneath one of these rollers, preferably the advance roller F, is a grooved or corrugated roller G, constituting the crushing device, which is journaled in operative relation to the roller F in spring-bearings H upon each side of the frame. The bearings last referred to constitute a tension mechanism holding the corrugated roller G in engagement with the plain roller F, and a tension device I is employed for regulating the tension between the rollers F and E. This tension mechanism comprises levers J, each fulcrumed in the framework and having connected thereto sliding bearings K, in which the journals of the roller F are mounted, bell-crank levers L, pivoted to the frame, and adjustable links M, connecting the short arms of the bell-cranks to the levers J. A weight O upon the outwardly-extending ends of the levers L holds the plain pressing-rollers in constant engagement. By the use of the adjustable links referred to I am enabled to maintain the long arms of the bell-crank levers in a horizontal position where they are capable of exerting their maximum leverage. By ac-

tuating these links the lever-arms may be thrown out of their horizontal position by a movement in either direction and the tension between the rolls adjusted to a nicety.

5 The carrier before described extends between the corrugated roller G and the roller F and between the latter roller and the roller E, passing over the last-named roller to the guide-roller *b*. The material that is to be
10 pressed and crushed is delivered upon the canvas belt in advance of the rollers from a hopper P, which is preferably in the form of an inclined platform.

The material is conveyed by the carrier first
15 between the plain roller F and the crushing or corrugated roller G, whence the material is crushed, and the juice is collected in a trough Q, arranged beneath the pressing mechanism and above the lower portion of the carrier.

20 The final step of pressing takes place between the plain rollers F and E, and the pressed material is conveyed by the carrier to the roller *b*. At the last-named point a rotary brush R, journaled in the bracket-arms C, is adapted to operate upon the carrier and remove from the
25 latter all the pressed material, so that the canvas will be perfectly free from the pomace and in readiness to receive the new material to be pressed. Any suitable device, such as
30 a tub S, may be placed in proximity to the brush to catch the pomace, and the juice is drawn from the trough through a suitable outlet *f*³.

The pressing-rollers are operated simultaneously through a gear mechanism, which is
35 driven by power applied to a band-pulley T on the shaft *a*², while the rotary brush is driven by separate drive mechanism in order that it may be run at a higher speed.

40 The gear mechanism for the rollers comprises a gear-wheel *a'*, carried by the shaft *b'* of the presser-roller E, a gear-pinion *c'* upon the band-pulley shaft, (said pinion engaging the gear-wheel *a'*), a gear-wheel *e'*, adjacent to the gear *a'* and fixed upon the shaft *b'*, and
45 a gear-wheel *f*⁴, carried by the shaft of the presser-roller F, which meshes with the gear-wheel *e'*. *h'* and *i'* are gear-wheels upon opposite ends of the presser-roller shafts, which
50 are adapted to mesh one with the other.

Power being applied to the band-pulley through the belt *g'*, the two presser-rollers are

positively rotated in opposite directions and constitute the driving mechanism for the carrier. The corrugated roller G is driven by
55 frictional engagement with the roller F.

From the foregoing description of my invention it will be observed that by employing a combined crushing and pressing mechanism, as set forth, the usual means heretofore
60 employed for crushing the material is entirely dispensed with and the mechanism is considerably simplified by utilizing a portion of the pressing mechanism—viz., one of the pressure-rollers—as a part of the crushing mechanism. 65
Thus I have provided a more simple mechanism for extracting the juice from the material which is effective in operation and capable of being manufactured at small cost.

What I claim as my invention is—

70 1. In a press, the combination of the pressing and crushing mechanism comprising two pressure-rollers, and a grooved or corrugated roller arranged in operative relation with one of said pressure-rollers, a tension mechanism
75 for the pressure-rollers, comprising sliding bearings for the journals of one of said rollers, operating-levers for the bearings, bell-crank levers, adjustable connections between the bell-crank and operating levers, an operating device for the bell-crank levers, and an
80 endless carrier passing between the rollers, substantially as and in the manner set forth.

2. In a press, the combination with the pressing and crushing mechanism, comprising
85 two pressure-rollers and a grooved or corrugated roller arranged in operative relation with one of the pressure-rollers, spring-bearings for the corrugated roller, adjustable tension mechanism for the pressure-rollers comprising sliding bearings for the journals of
90 one of said rollers, operating-levers fulcrumed in the framework and connected to the bearings, weighted bell-crank levers, and adjustable links connecting the operating and bell-crank levers, and an endless carrier passing
95 between the rollers, substantially as and for the purpose described.

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

WILLIAM H. HOMMEL.

Witnesses:

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HENRY O. HAHN.