No. 816,414. PATENTED MAR. 27, 1906.

B. WITMER.

CIDER PRESS.

APPLICATION FILED MAR. 14, 1905.

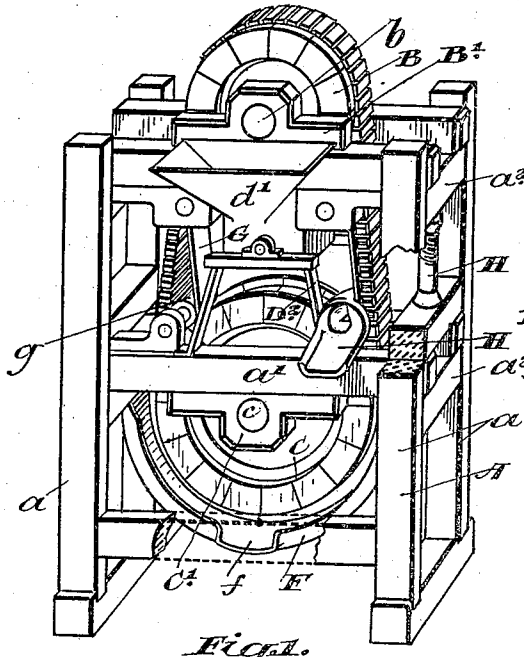


Fig. 1.

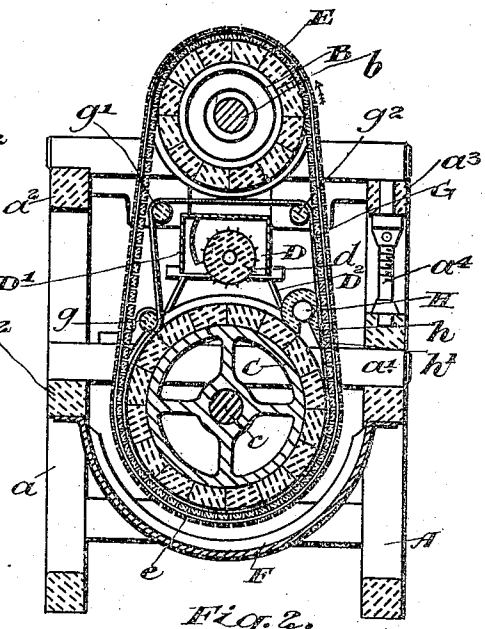


Fig. 2.

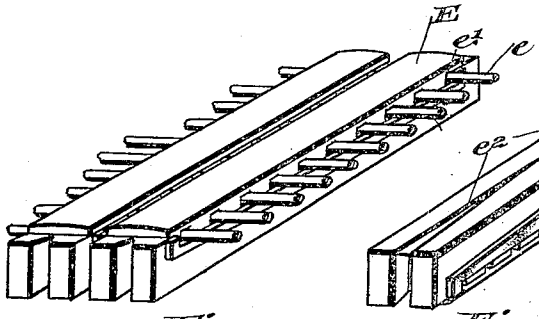


Fig. 3.

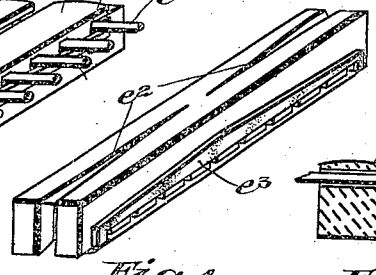


Fig. 4.

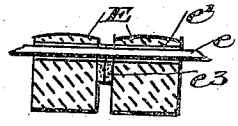


Fig. 5.

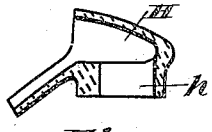


Fig. 7.

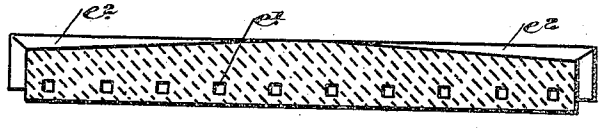


Fig. 6.

Witnesses.
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UNITED STATES PATENT OFFICE.

BENJAMIN WITMER, OF PLATTSVILLE, CANADA.

CIDER-PRESS.

No. 816,414. Specification of Letters Patent. Patented March 27, 1906.

Application filed March 14, 1905. Serial No. 250,094.

To all whom it may concern:

Be it known that I, BENJAMIN WITMER, of the village of Plattsville, in the county of Oxford, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Cider-Presses, of which the following is a specification.

My invention relates to improvements in cider-presses; and the object of the invention is to devise a simple and compact press of this class which will express the juice from the ground apples during the period of grinding and at the same time discharge the pomace or residue, and thereby effect an economy in time and labor; and it consists, essentially, of a suitable frame, grooved wheels secured on suitable shafts, one above the other, journaled in the frame, the upper journal being adjustable, an endless belt of a particular construction extending around the upper and lower wheels, a supplemental textile belt extending within the aforesaid belt and around the lower wheel and supported in suitable idlers, a grinder interposed between the wheels and a combined scraper and discharge for the pomace located so as to contact with the inner side of the textile belt and the grooved wheel, the parts being arranged and constructed in detail, as hereinafter more particularly explained.

Figure 1 is a perspective view of a cider-press constructed in accordance with my invention. Fig. 2 is a vertical section. Fig. 3 is a detail of two slats of the belt looking from the outside. Fig. 4 is a detail of a slat looking from the inside. Fig. 5 is a cross-section through Fig. 3. Fig. 6 is a longitudinal section through a slot. Fig. 7 is a detail of the discharge for the pomace.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the frame of the press, which comprises the uprights a, longitudinal bars a', and cross-bars a^2.

B is the upper wheel, and C is the lower wheel, which are preferably made in sections, as indicated, or may be otherwise made of any suitable material or in any desired manner. The wheels B and C are grooved wheels and are secured to the shafts b and c, respectively, which are journaled in suitable bearings B′ and C′, secured to the frame.

D is the grinder, which comprises the casing D′, the grinding-wheel d, and the feed-hopper d'. The casing D′ is supported on suitable standards D^2, as indicated, above the wheel B.

E is an endless belt which is made up of a plurality of slats having rounded outer sides. The slats are connected together by endless flexible wire cables e, extending through holes e' in the slats. The inner side of the slats is formed with grooves e^2 e^2, which extend from the central longitudinal center of a slat outwardly to the ends through which such grooves extend. The longitudinal portion of the grooves is inclined, and such grooves are provided to carry the juice, as will hereinafter appear when the position of the slats is reversed as they pass underneath the lowermost wheel C.

e^3 represents rubber strips which are provided between the slats e and are resilient, so that as the slats pass around the wheel they press together somewhat, and thereby keep the belt practically unitary. It will be noticed that the strips e^3 are inclined toward each end, and thereby serve to guide the juice outwardly toward each end.

F is an arc-shaped trough extending underneath the wheel C and suitably secured to the frame, being provided at one or both sides with spouts f, by which the juice is discharged into any suitable receptacle.

G is the inner belt, which is preferably made of any suitable fabric and extends around the groove in the lower wheel C and over the idlers g, g', and g^2.

H is a spout which is suitably secured and fitted over the wheel C, being provided with an open bottom having the spring scraping edges h and h', the scraping edge h being designed to scrape the wheel and the scraping edge h' the belt G of pomace.

The bearings B′, supporting the shaft b of the wheel B, are located on the upper bars a', one end of which rests on the stationary cross-bar a^2 and the other end of which rests on the adjustable cross-bar a^3, which is vertically adjustable by means of the jack a^4 of any suitable construction.

By the means above described the belt E may be kept at the proper degree of tightness.

Having now described the principal parts involved in my invention, I shall briefly describe the operation of the same. The apples are fed into the hopper d' and pass through the grinder and onto the wheel D, passing in between the belt G and the wheel at a point opposite the idler g. The pomace

passes down and the juice is extracted and passes through the belt G, which is of fabric, as hereinbefore described, and out of the end grooves e^2. The pomace passes around and is scraped off by the edges h and h' and passes outwardly through the spout H. The juice, however, passes from the wheel C and grooves e^2 down into the trough F, where it passes out through the spouts f.

Such a press as I describe, it will be seen, extracts the juice at the time when the grinding is being done and at the same time separates the pomace from the juice very efficiently and completely, which is an important desideratum.

What I claim as my invention is—

1. In a cider-press, the combination with the frame, of a pair of wheels, an endless belt connecting the same and a grinder interposed between the wheels and designed to deposit pomace directly onto one of the wheels as and for the purpose specified.

2. In a cider-press, the combination with the frame, of a pair of wheels, an endless belt connecting the same, a grinder interposed between the wheels and designed to deposit pomace directly onto one of the wheels and a trough secured to the frame and located beneath one of the wheels as and for the purpose specified.

3. In a cider-press, the combination with the frame, of a pair of wheels, an endless belt connecting the same, a grinder interposed between the wheels and designed to deposit pomace directly onto one of the wheels and a supplemental belt suitably supported and extending within the main belt around the wheel underneath the grinder as and for the purpose specified.

4. In a cider-press, the combination with the frame, of a pair of wheels, an endless belt connecting the same, a grinder interposed between the wheels and designed to deposit pomace directly onto one of the wheels and a supplemental belt suitably supported and extending within the main belt around the wheel underneath the grinder and a trough secured to the frame and located beneath one of the wheels as and for the purpose specified.

5. In a cider-press, the combination with the frame, of a pair of wheels, an endless belt connecting the same, a grinder interposed between the wheels and designed to deposit pomace onto one of the wheels, a supplemental belt suitably supported and extending within the main belt around the wheel underneath the grinder and a spout having an open bottom with spring edges designed to coact against the wheel and inner belt as and for the purpose specified.

6. The combination with the frame, the wheels and the shafts thereof, the lower one of which has stationary journals in the frame, the upper wheel and shaft thereof and the swinging bearing-support, of a movable cross-bar in said frame adapted to support the end of said bearing-support, and a screw for adjusting said cross-bar, substantially as described.

7. In a machine of the class described, two wheels and the shafts thereof suitably journaled in the frame and an endless belt carried by the wheels and comprising slats connected together by an endless wire cable extending through same and having the side and ends provided with notches as and for the purpose specified.

8. In a machine of the class described, two wheels and the shafts thereof suitably journaled in the frame and an endless belt carried by the wheels and comprising slats connected together by an endless wire cable extending through same and having the side and ends provided with notches and their abutting edges provided with rubber strips as and for the purpose specified.

9. In a machine of the class described, two wheels and the shafts thereof suitably journaled in the frame and an endless belt carried by the wheels and comprising slats connected together by an endless wire cable extending through same and having the side and ends provided with notches and their abutting edges provided with rubber strips and an endless belt supported in suitable idlers and extending around the lowermost wheel inside of the main belt as and for the purpose specified.

10. In a machine of the class described, two wheels and the shafts thereof suitably journaled in the frame and an endless belt carried by the wheels and comprising slats connected together by an endless wire cable extending through same and having the side and ends provided with notches and their abutting edges provided with rubber strips, an endless belt supported in suitable idlers and extending around the lowermost wheel inside of the main belt and a spout having an open bottom having scraping edges designed to come in contact with the wheel and inner belt as and for the purpose specified.

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