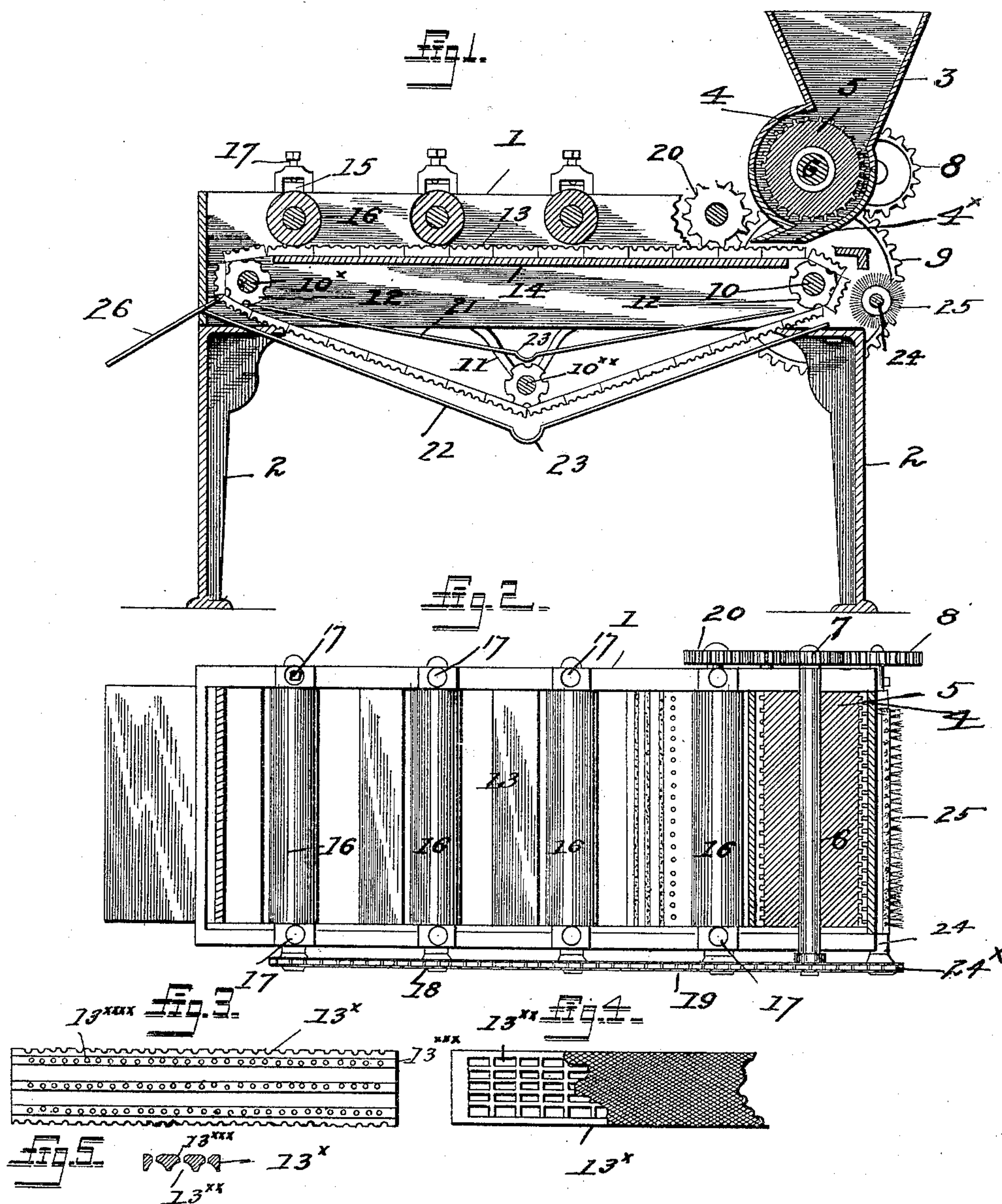


(No Model.)

D. WHITING.
CIDER PRESS.

No. 432,153.

Patented July 15, 1890.



Witnesses
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DAVID WHITING, OF ASHLAND, OHIO.

CIDER-PRESS.

SPECIFICATION forming part of Letters Patent No. 432,153, dated July 15, 1890.

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To all whom it may concern:

Be it known that I, DAVID WHITING, a citizen of the United States, residing at Ashland, in the county of Ashland and State of Ohio, have invented certain new and useful Improvements in Cider-Presses; and I do 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.

My invention relates to improvements in cider-presses; and the leading object of my invention is the provision of a press by means of which the juice is removed from the fruit in a rapid and perfect manner.

A further object of my invention is the provision of a press which will be thoroughly efficient for the purpose intended, which will be strong and durable, comprising few working parts, and which can be manufactured at a low price.

To attain the desired objects the invention, briefly stated, consists of a frame, a feed-hopper, a grinding-cylinder therein, an endless chain of plates, bars, or slats, upon which the fruit is pressed and through which the juice passes, a series of mashing or crushing rollers, and conductors for carrying away the juice.

The invention further consists in the novel construction and combination of parts, substantially as herein illustrated, described, and specifically defined and distinguished by the claims.

In the accompanying drawings I have illustrated a press constructed in accordance with and embodying my invention, although I would have it understood that minor changes may be made in such construction without departing from the spirit of or sacrificing any of the advantages of my invention, and in said drawings, Figure 1 represents a vertical longitudinal section of my machine. Fig. 2 represents a plan view, partly in section, of the machine. Figs. 3, 4, and 5 are enlarged detail views of one of the bars of the endless chain.

Referring by numerals to the drawings, in which similar numerals denote corresponding parts in the several views, the numeral 1 designates the frame of my machine, which is of the form of a rectangular box or receptacle of suitable

size and supported upon legs 2. In one end of the frame is supported the hopper 3, having the enlarged circular chamber 4, in which the grinding-cylinder 5 is arranged and rotates, and from the chamber 4 leads the throat 4^x, which discharges the material on the apron or belt, as will appear. The shaft 6 of the grinding-cylinder carries at one end a gear-wheel 7, which meshes with a gear-wheel 8, which itself meshes with the gear-wheel 9, carried by a shaft 10. The shafts 10, 10^x, and 10^{xx} are journaled in the frame, the latter shaft 10^{xx} being journaled in brackets or hangers 11, depending from the frame, and said shafts carry corrugated rolls 12, around which passes the endless chain belt or apron 13. From this construction it is evident that the endless chain is caused to travel around the corrugated rolls and the chain is supported on a bed or plate 14 at the places where the fruit is crushed or mashed, as will appear.

The endless chain consists of a series of bars, plates, or slats 13^x, which are suitably hinged or otherwise flexibly connected together, and the under face of these plates is formed with recesses or notches 13^{xx}, in which the corrugated rolls engage, and this face is preferably covered with a cloth of wire or other light material, which serves as a strainer. The upper face of the plates is provided with channels, grooves, or ways 13^{xxx}, which are provided with perforations or openings 13^{xxxx}, through which the juice passes.

In the sides of the frame are mounted boxes 15, in which the journals of the mashing or crushing rolls 16 bear, and the bearing-boxes are capable of a vertical adjustment by means of set-screws 17. If desired, springs or other suitable cushions may be provided to give the rolls a yielding bearing. These rolls 16 carry at one end sprocket-wheels 18, over which passes the sprocket-chain 19, and one of said rolls carries a pinion 20, which meshes with the gear-wheel 9 and receives motion therefrom and imparts it by means of the sprocket-chain and wheels to the other rollers.

I provide the machine with the troughs 21 and 22, which are arranged one above the other, as shown, and each is formed with delivery-spouts 23 for conducting the juice.

At one end of the machine is a shaft 24, carrying a brush 25, the function of which is

to remove the foreign matter from the endless chain, and at the other end of the machine is a discharge-spout 26 for conveying the pomace or waste from the machine.

5 The shaft 24, which carries the brush 25, has on one end the sprocket-wheel 24^x, which is operated upon by the sprocket-chain 19 and actuates the brush-shaft, as is evident.

The operation of my machine will be readily understood from the foregoing description, taken in connection with the drawings, and is as follows: The apples or other fruit is placed in the hopper, and is by the action of the grinding-cylinder cut in pieces, and in this condition falls upon the endless chain, the chain carrying the material under the mashing-rolls, which crush the fruit and presses the juice therefrom, which passes through the plates of the chain to the first trough and is discharged, and should any escape the upper or first trough it will be caught and discharged by the lower trough, and the pomace is directed from one end of the machine, and the chain of blocks or plates is kept clean by the brush. It is therefore evident that I provide a machine which embodies all the necessary and requisite features which would commend it as a thoroughly efficient and practical machine.

30 I claim as my invention—

1. A fruit-press consisting of a frame, toothed rollers mounted in the ends of the frame and below the center thereof, a board or plate mounted in the frame, an endless apron or belt supported on the board or plate and passing over the toothed rollers, said apron consisting of plates connected together hav-

ing openings, through which the juice passes, and recesses adapted to be engaged by the teeth of the rollers for moving the apron, a feed-hopper, a crushing-roller therein, mashing-rollers, a shaft carrying a brush for removing the waste from the belt or apron, and a trough for conducting the juice from the machine, all substantially as described.

2. A fruit-press consisting of the frame, toothed rollers mounted therein, an endless apron passing over the toothed rollers and moved thereby, a feed-hopper, mashing-rollers, a discharge-spout at one end of the machine, a shaft at the opposite end carrying a brush, and two troughs below the endless apron having their central portions depressed and formed with gutters or channels for conducting the juice, all substantially as described.

3. A fruit-press consisting of the frame, the bracket depending therefrom, the toothed rollers in the bracket and ends of the frame, the endless belt passing over and moved by the teeth of said rollers, the belt consisting of plates connected together and having channels on their upper faces, recesses on their under faces to receive the teeth of the rolls, a filtering-cloth on said belt, the troughs having the gutters, a feed-hopper, a crushing-roller, and mashing-rollers having adjustable bearings, substantially as described.

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

DAVID WHITING.

Witnesses:

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JAMES C. MARSHALL.