H. L. WHITMAN.

CIDER-MILL.

No. 178,496. Patented June 6, 1876.

Fig. 1.

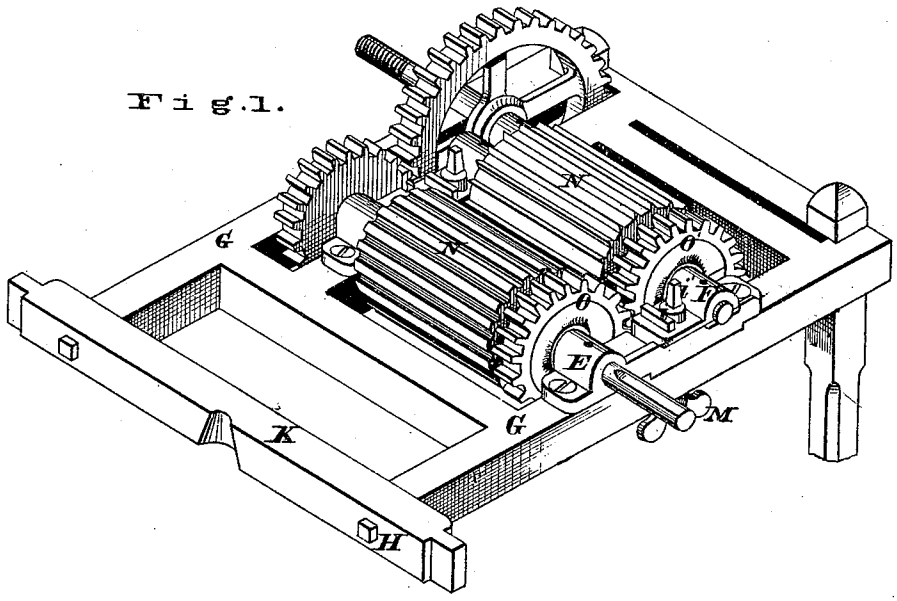


Fig. 2.

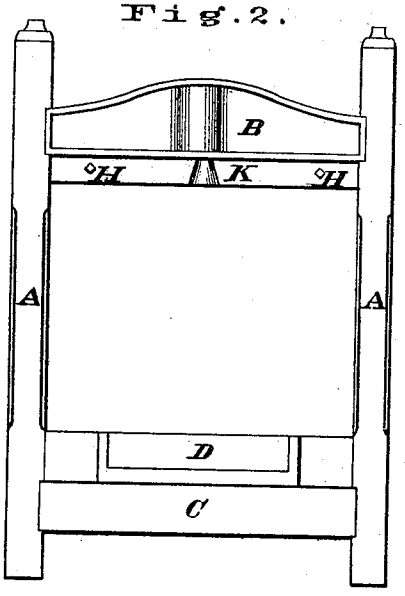


Fig. 3.

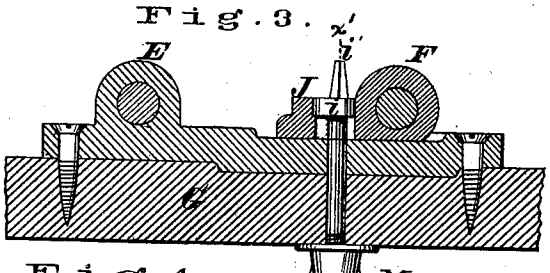
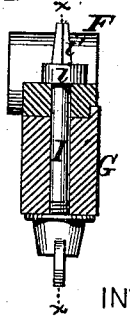


Fig. 4.



ATTEST.

Saml Knight.

Robert Burns.

INVENTOR.

Henry L. Whitman

UNITED STATES PATENT OFFICE.

HENRY L. WHITMAN, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN CIDER-MILLS.

Specification forming part of Letters Patent No. **178,496**, dated June 6, 1876; application filed May 29, 1876.

To all whom it may concern:

Be it known that I, HENRY L. WHITMAN, of the city and county of St. Louis, and State of Missouri, have invented a certain new and useful Improvement in Cider-Mills, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to mills for making cider, wine, &c., and has for its object strength and simplicity of construction, &c., as more particularly described hereinafter.

Figure 1 is a perspective view of the crushing-rollers, top frame, and gearing. Fig. 2 is an end view of the frame of the machine. Fig. 3 is a detail section through the bearings of the crushing-rollers at *x x*, Fig. 4. Fig. 4 is a section at *x' x'*, Fig. 3.

A A are the front posts of the mill-frame, and B the press-screw beam, which is to be of the ordinary construction, of iron, for the introduction of the press-screw. C is the cross-piece or sill which supports the press-bottom D. The rails G, which support the crushing-rollers are connected to the rear posts in any suitable manner. In order to give more free space between the posts A A than the breadth of the rest of the frame, I secure the front end of the rails G in a cross-tie bar, K, of greater length than the width of said frame, and the ends of said bar K are firmly secured to the posts A A, either by mortises, as shown, or by halving together, or any other suitable connections. The tie-bar K is placed just beneath the press screw-beam B.

Heretofore the screw-beam B has been relied upon to form the tie at the upper part of the posts A A, so that the frame could not be finished without said screw-beam being secured in place; but with the provision of the tie-bar K the frame may be finished, and the beam B, with its press-screw and follower-head, may be put in place subsequently. This will be a considerable practical advantage both in manufacturing and in shipping.

The tie-bar K much increases the strength of the frame.

The bearings E and F of the crushing-rollers rest on the rails G. The bearing F is arranged so as to be adjustable on the extension of the bearing E, and has a projection or lug, J, on it, between which and the rounded part of the bearing is a cam, *i*, on a bolt, I, which passes through a slot in the bearing, as shown in Figs. 3 and 4, so that by turning the bolt I the cam is turned and the bearing F thrown nearer to, or farther from, the bearing E, thus adjusting the distance apart of the crushing-rollers N N'. The nut M is used to tighten the bolt and thus hold the bearing F to any position in which it may be set. The bolts I are squared at the upper end *i'*, for a key or wrench to turn them.

The sliding bearing operated by the cam-bolt, as described, though intended more especially for the adjustment of the rollers of a cider-mill, may, evidently, be applied to similar and analogous purposes on other machines.

The crushing-roller N' has longitudinal ribs on its surface, which run into corresponding grooves in the roller N as they revolve. The two rollers are made to revolve with equal velocity by the gear-wheels O O'. These gear-wheels are cast in one piece with their respective rollers, having a circumferential groove between the gear and roll, into which the sides of the hopper fit, so as to have the gears outside the hopper. The gears have one cog for each rib or groove on the rolls, so that they can be easily set together without special adjustment, and cannot be set together wrongly.

Having thus described my invention, I claim—

1. In a cider-mill the rollers N N', one having ribs and the other corresponding grooves, in combination with the gears O O', when said gears are cast in one piece, each with its respective roller and shaft, substantially and for the purpose described.

2. The combination of the posts A A, rails G G, tie-bar K, and press-screw beam B, substantially and for the purposes set forth.

3. The cam-bolt I, with its cam *i*, in combination with the sliding bearing F, for the

purpose of adjusting the distance apart of the two rollers, substantially as specified.

4. The cam-bolt I, with its cam *i*, in combination with the sliding bearing F, and nut M, substantially and for the purpose set forth.

5. The sliding journal-box F, with its lug J, in combination with the cam-bolt I, with cam *i*, substantially and for the purposes described.

HENRY L. WHITMAN.

Witnesses:
SAML. KNIGHT,
ROBERT BURNS.