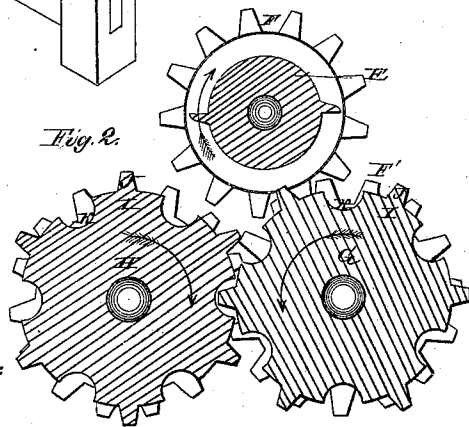
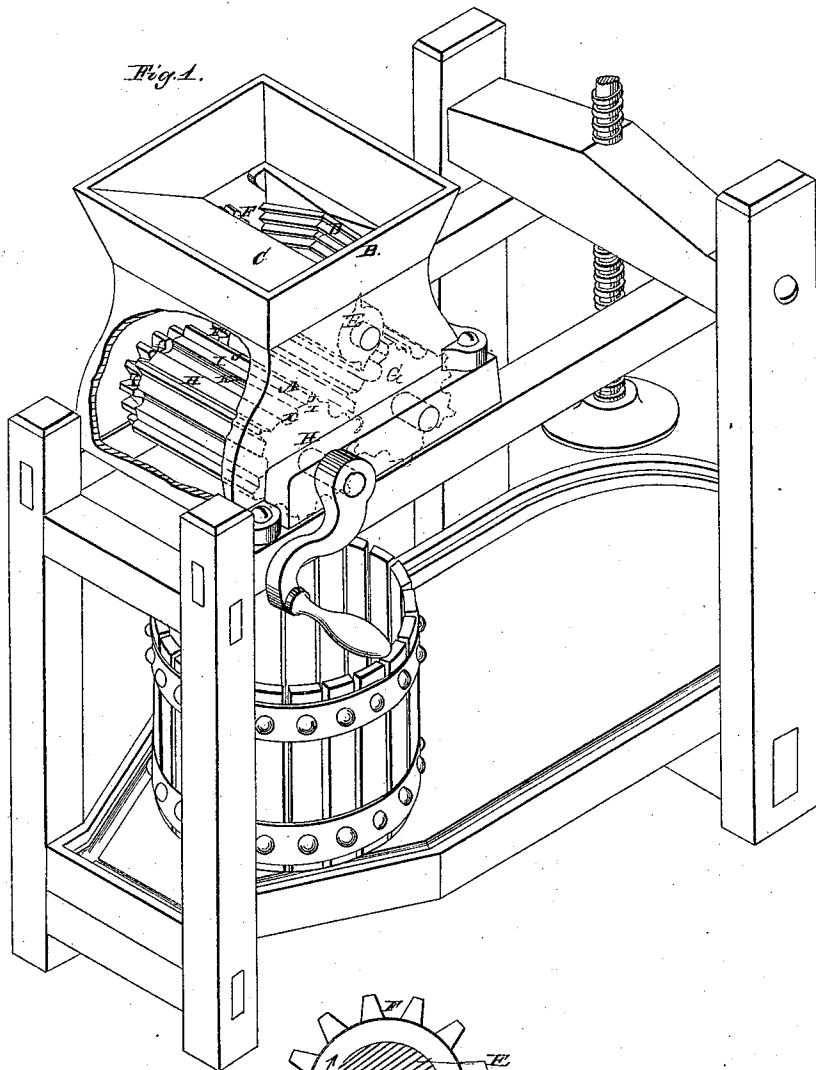


*S. Males,
Cider Mill,*

No. 52,583,

Patented Feb. 13, 1866.



*Witnesses:
H. L. Wood
James H. Layman*

*Inventor:
S. Males
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attys.*

UNITED STATES PATENT OFFICE.

SAMUEL MALES, OF CINCINNATI, OHIO.

IMPROVEMENT IN CIDER-MILLS.

Specification forming part of Letters Patent No. 52,583, dated February 13, 1866.

To all whom it may concern:

Be it known that I, SAMUEL MALES, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in Cider-Mills; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to an arrangement of intermeshing rollers, whose crushing and gearing surfaces are so formed as to mutually clean each other, thus maintaining them in complete efficiency.

Figure 1 is a perspective view of a mill embodying my improvement, a portion of the box being removed. Fig. 2 is a transverse section of my rollers.

A represents a customary inclosing-box surmounted by a suitable hopper, B, whose chute C conducts the apples between a corrugated throat, D, and a breaking and feeding roller, E. One end of the roller E is furnished with cogs F wholly within the box, which cogs gear to similar cogs F' on one of the crushing-rollers, whose cogs also gear with similar cogs on the end of a precisely similar crushing-roller, H.

The periphery of each roller C and H is composed of a number of equidistant cylindrical segments, I, armed along their middles with ribs J, and separated from each other by half-round grooves K. Each rib J of one roller enters and sweeps around a half-round groove, I, in the other roller.

The bottoms *f* of the interdental spaces are chamfered or sloped outward, so as to afford a way of escape for pomace collecting between or upon the cogs, the said chamfered spaces enabling the cogs of one roller to clean the spaces of the other roller.

Operation: The mill being started and apples being fed into the hopper B, the said apples are carried down the chute C between the corrugated throat D and feed-roller E, whence they escape in a partially-broken condition between the rollers G and H, whose ribs J catch and feed down the fragments and cause the same to be crushed or mashed between the coacting cylindrical surfaces of the two rollers. At the same time the ribs J act to completely strip the pomace from said surfaces I and from the grooves K, so as to preserve the full efficiency of these parts at each succeeding revolution.

By forming each roller, together with its gearing, in a single casting, the expense and labor of casting, fitting, and centering each separate wheel are avoided, the mill being at the same time from fifteen to twenty pounds lighter than one whose wheels are outside of the box.

I claim herein as new and of my invention—

1. The combination of the square-faced ribs J and round grooves K in crushing and stripping rollers H and G of the within-described cider-mill.

2. In combination with the crushing and stripping rollers H G, the gear-wheels F F' F', with interdental spaces, whose bottoms *f* are chamfered or sloped outward, as and for the purposes herein specified.

In testimony of which invention I hereunto set my hand.

SAMUEL MALES.

Witnesses:

GEO. H. KNIGHT,
JAMES H. LAYMAN.