

M. WINGER.

Bark Mill,

No. 42,811.

Patented May 17. 1864.

Fig. 1,

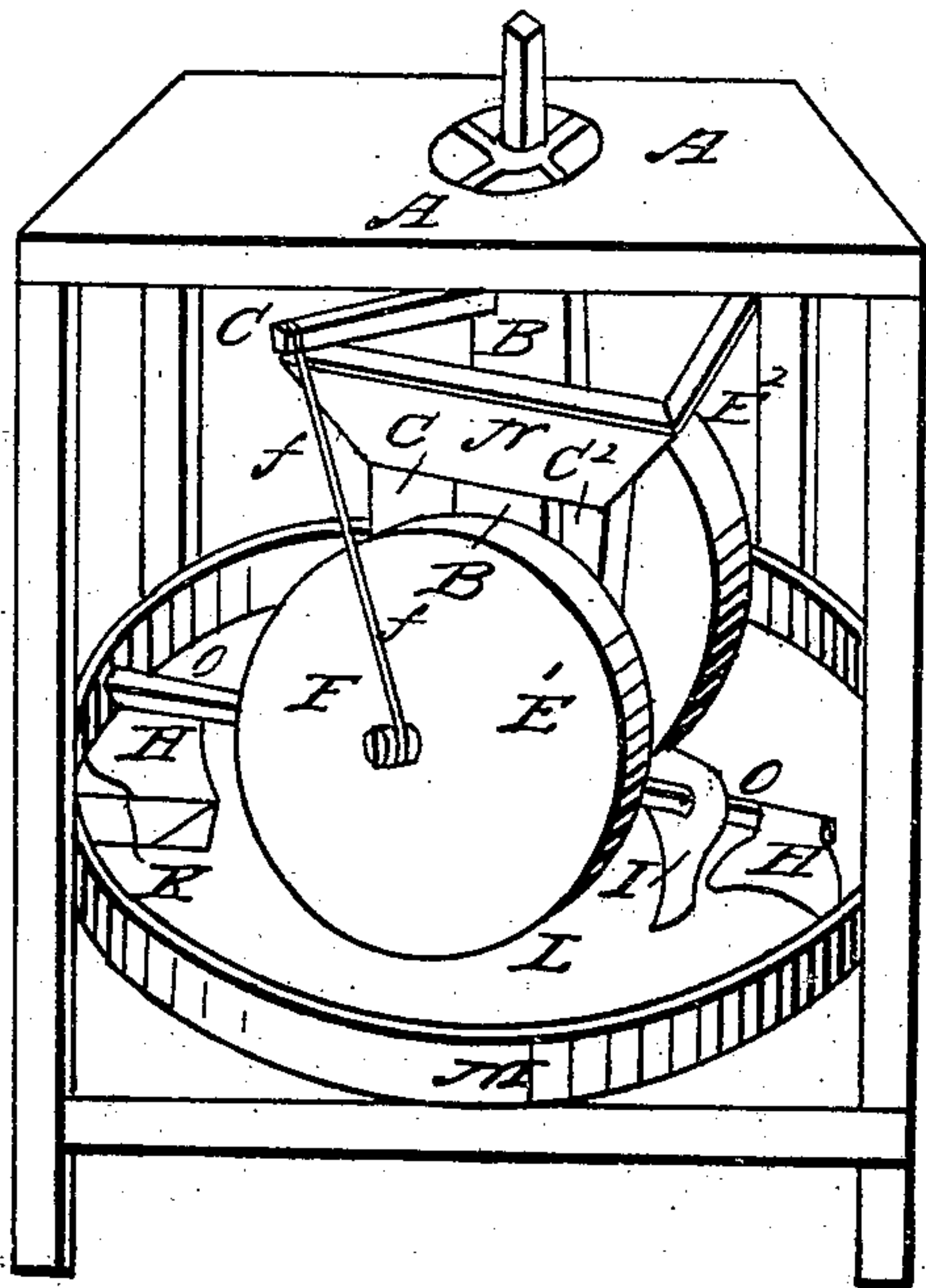


Fig. 2,

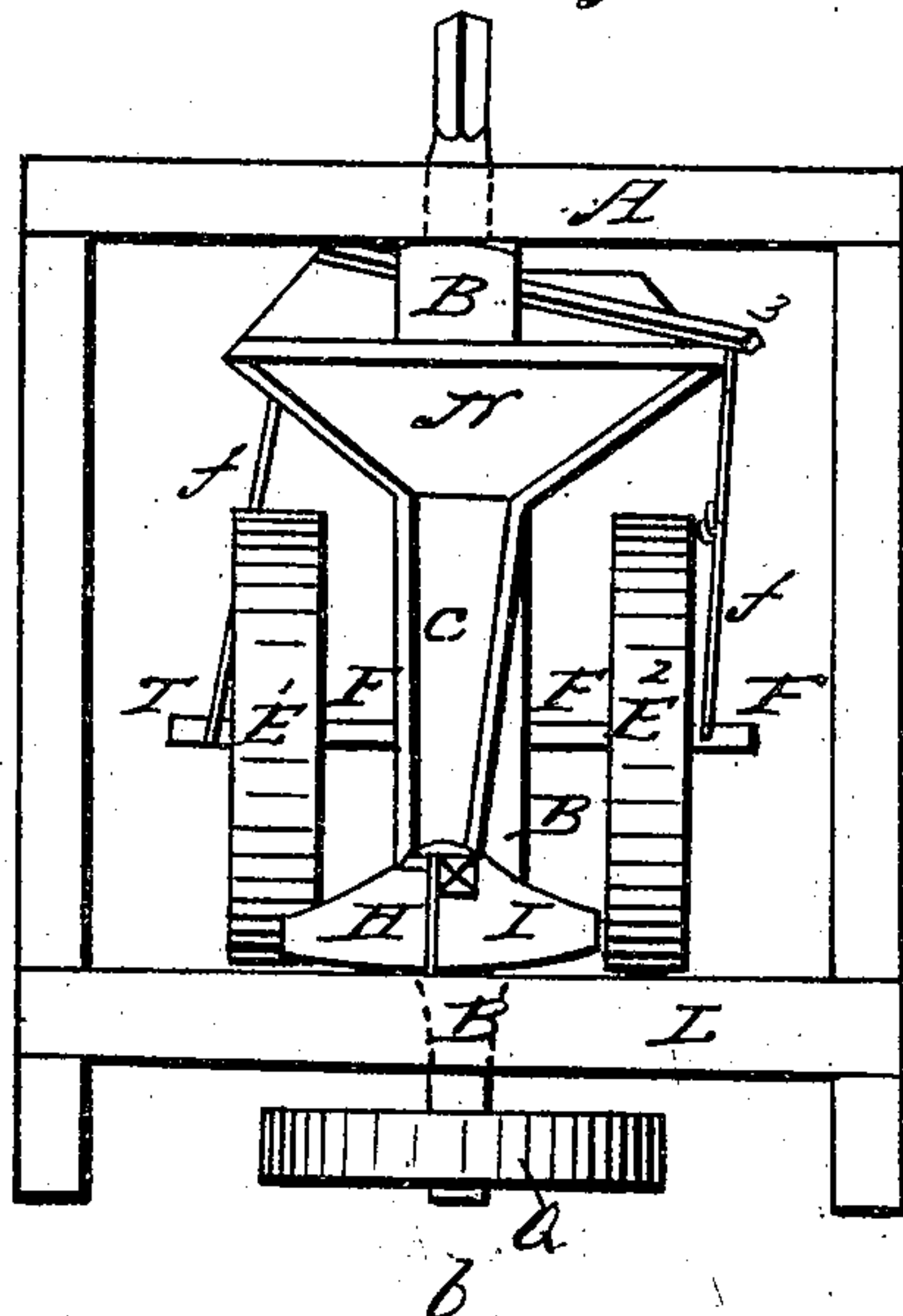


Fig. 3,

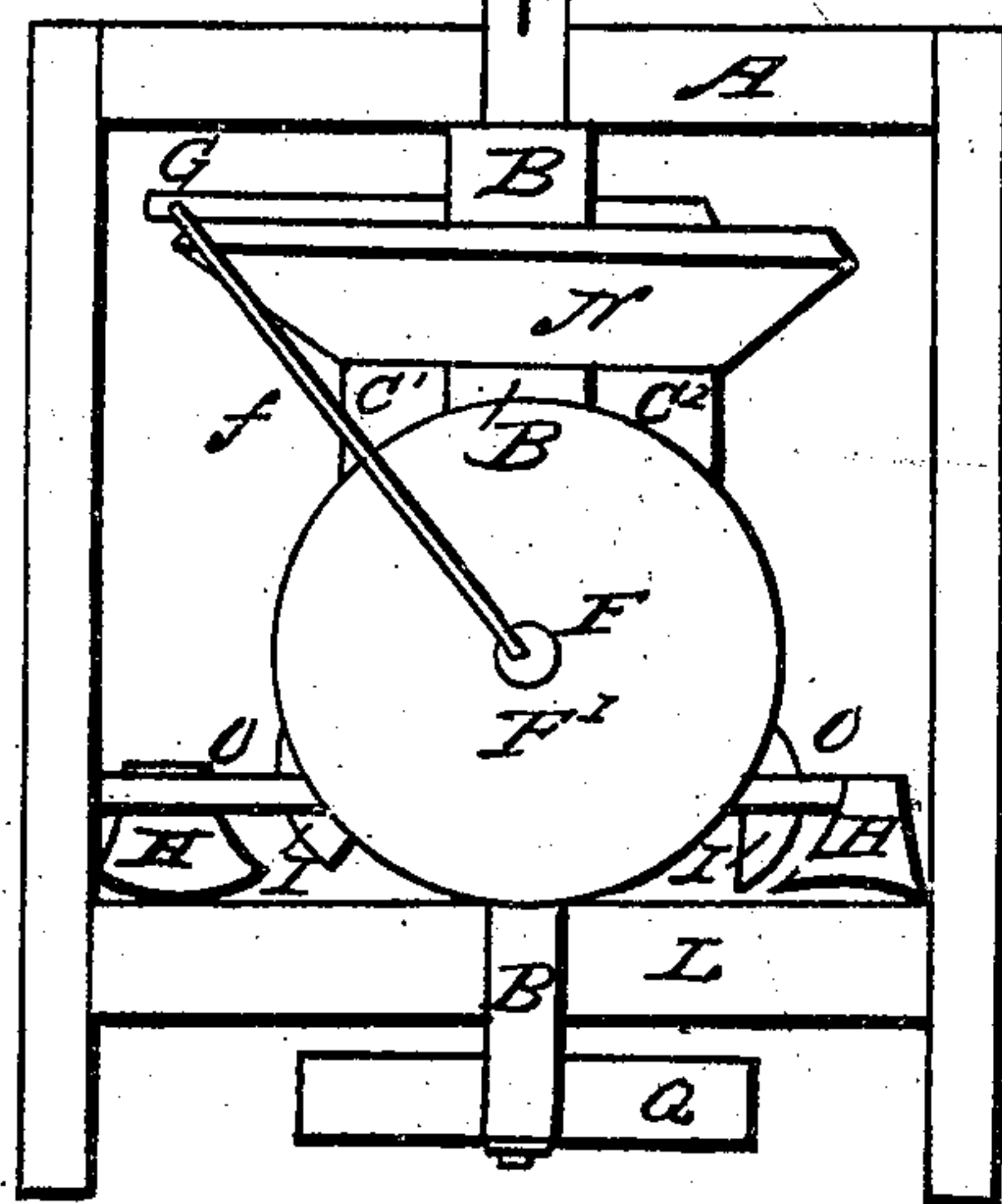
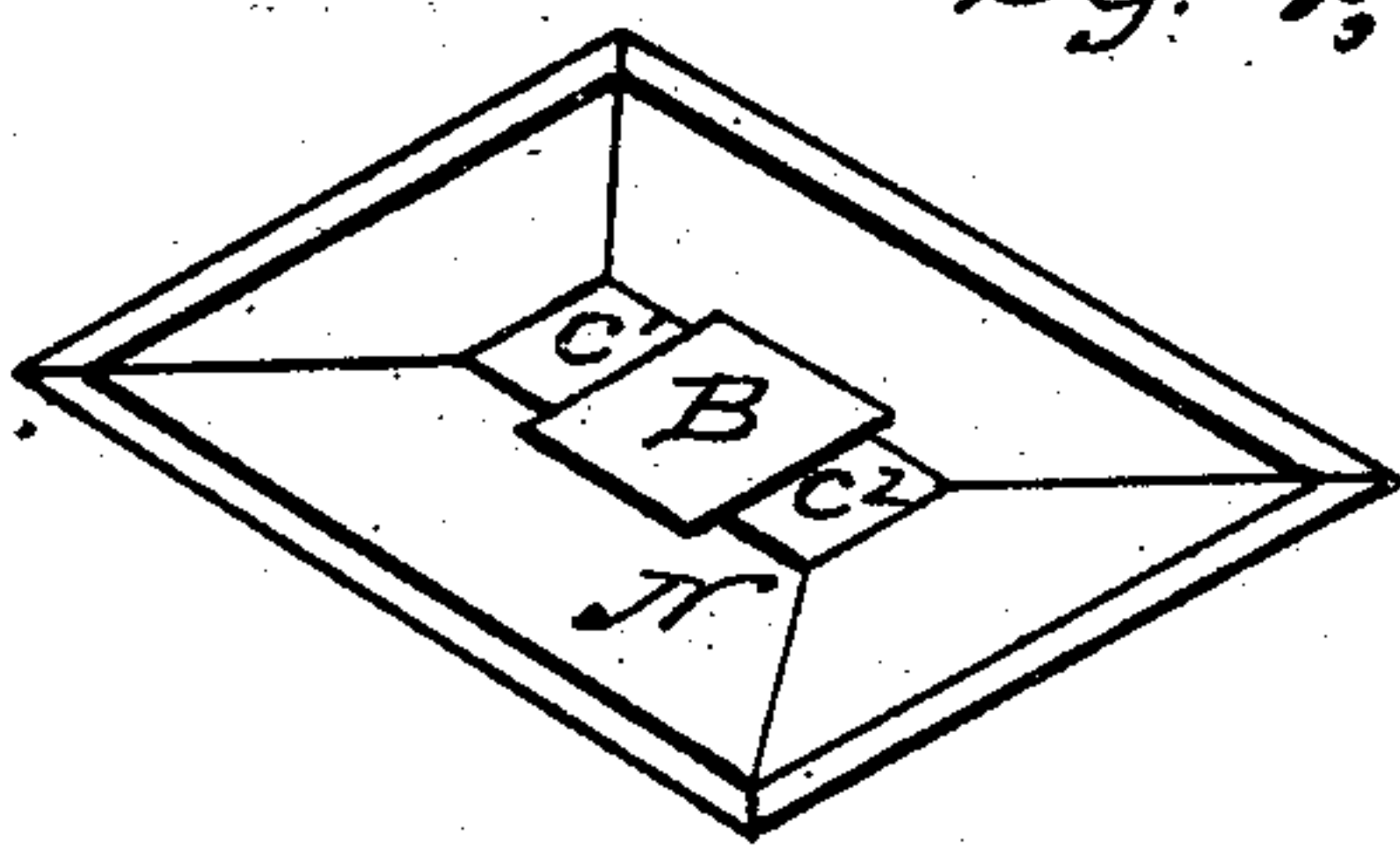


Fig. 4,



Witnesses:
P. Martin Heitler
Henry Miley

Inventor:
Martin Winger

UNITED STATES PATENT OFFICE.

MARTIN WINGER, OF EPHRATA, PENNSYLVANIA.

IMPROVEMENT IN BARK-MILLS.

Specification forming part of Letters Patent No. 42,811, dated May 17, 1864.

To all whom it may concern:

Be it known that I, MARTIN WINGER, of Ephrata, in the county of Lancaster and State of Pennsylvania, have invented new and useful improvements on mills for grinding quercitron, or oak, and other bark, for dyeing and other purposes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of its several parts in place; Fig. 2, a vertical section showing the rollers and hopper in one position; Fig. 3, the same, giving a front view of the roller and hopper-spouts; Fig. 4, a top view of the hopper shaft and spout openings.

The construction may be more fully set forth as follows:

The upper floor or top, A, Fig. 1, has openings around the box or bearing of the perpendicular shaft B. This shaft has a square terminus, *b*, to which may be attached an ordinary iron crushing-mill to prepare the bark for the rollers *E' E²* beneath, by means of the hopper N and spouts *C' C²*. The shaft has also a box or bearing in the bed or floor L, beneath which there is a strap-pulley, Q, Figs. 2, 3, to which motion may be imparted by means of steam, water, or horse power. The hopper N, with its spouts *C' C²*, is connected to the shaft B, as shown. There is also an axle, F, through the shaft, which supports the weighty crushing rollers *E' E²*. These rollers also revolve on said axle while traversing their circular course around with the shaft. There is also a cross-beam, O, through the shaft, at the base of the hopper-spout, to which beam, or the projecting ends on either side, there are affixed two scrapers, I H, resting with their edges on the bed L, surrounded by a rim, M, on the bed, to prevent the ground bark from spreading beyond its limits, while there is an opening, K, in the bed L in the track of the outer scraper, H, through which opening the ground bark is discharged in its appropriate receiver, from which it may be removed by elevators or otherwise. There is

also a diagonal piece, G, across the top of the hopper, through the shaft B. The ends of the cross-piece G are connected with the outer ends of the axle F by means of linked iron rods or otherwise, serving as guides in steadying the motions of the rollers, since the hopper, spouts, cross-pieces, and axle of the rollers are all connected to and revolve with the shaft.

The operation is such that as the coarse bark comes upon the bed it spreads out, coming under the grinding-rollers *E' E²*, and is thoroughly crushed, being kept in the track of the rollers by the inner curved scrapers, I, until so finely ground that it gets forced outward by the accumulated mass and pressure of the rollers coming in the track of the outer scrapers, H, which gathers it and conveys it to the discharging-spout K in the bed L. By the use of these scrapers the labor of a hand is dispensed with, as in the ordinary use of rollers it requires the constant attendance of a man or boy with a shovel to keep shoveling the coarser or unground bark under the rollers and shoveling the finer-ground portions from the bed and filling in with the shovel, requiring a continual vigilance and laborious operation. This, like the hopper-boy, performs its office to admiration, the whole forming a combination of the greatest utility and peculiarly adapted to the purpose for which it is designed, as tested by practical application in my extensive establishment for supplying the market with the ground quercitron.

I am aware that rollers on an axle are not new for grinding bark, &c., nor do I claim such.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the hopper N and its tube or tubes with the shaft B and cross-beam O, provided with scrapers I H, all arranged and operating substantially in the manner and for the purpose described.

MARTIN WINGER.

Witnesses:

P. MARTIN HEITLER,
AMANDA C. HEITLER.