

# J. McIntyre, Imp<sup>d</sup> Mortar Mill.

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PATENTED JUN 28 1870

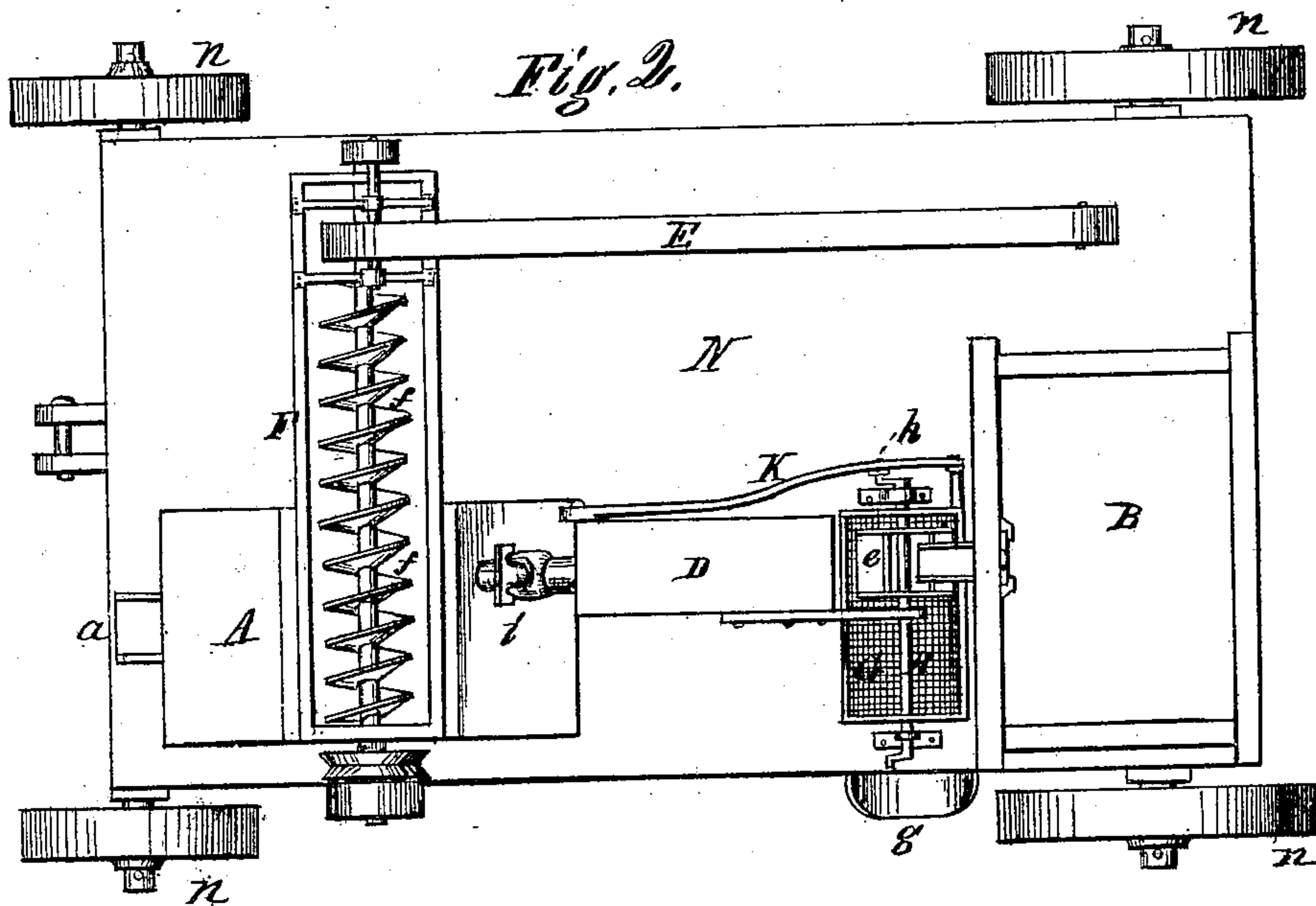
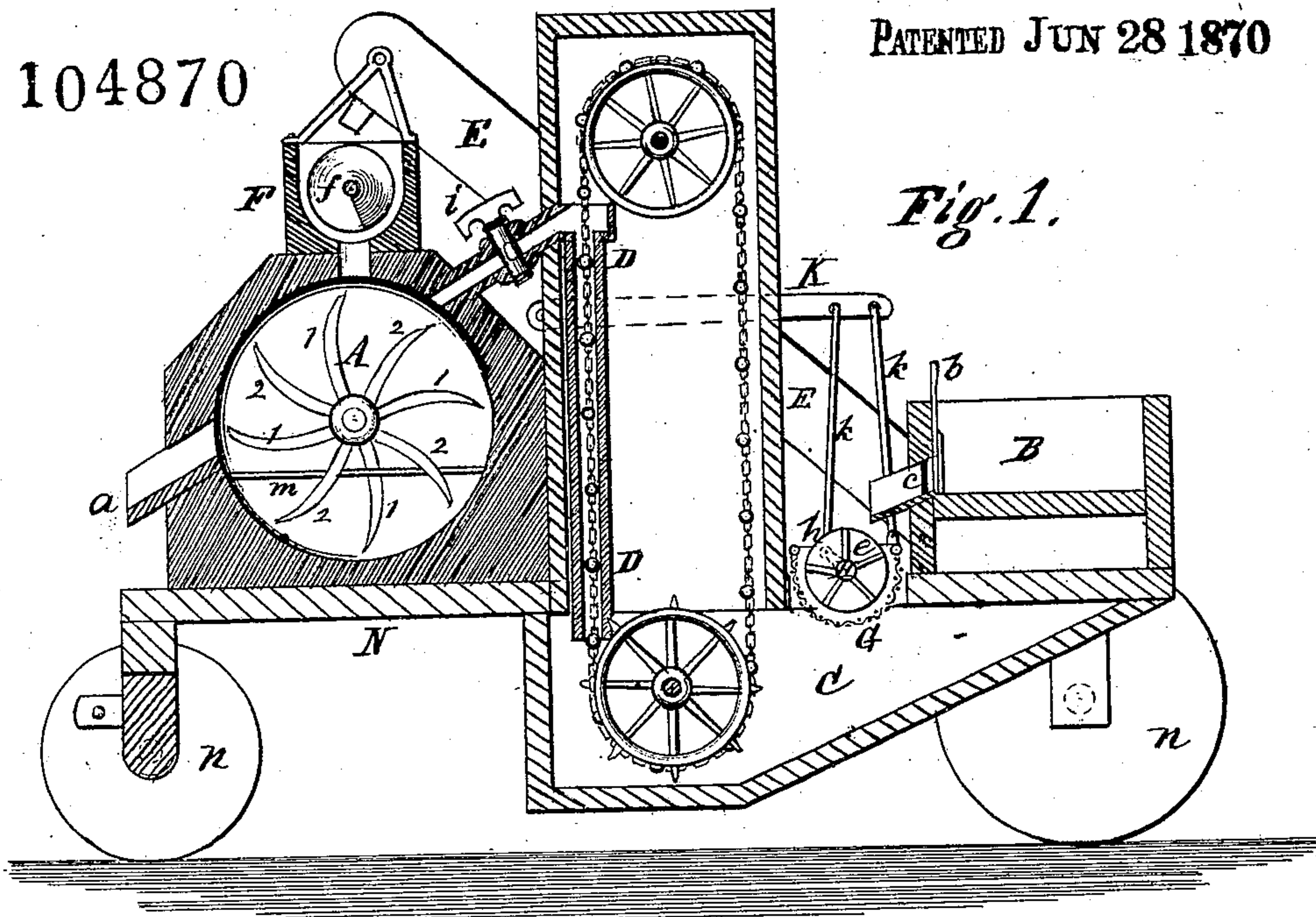
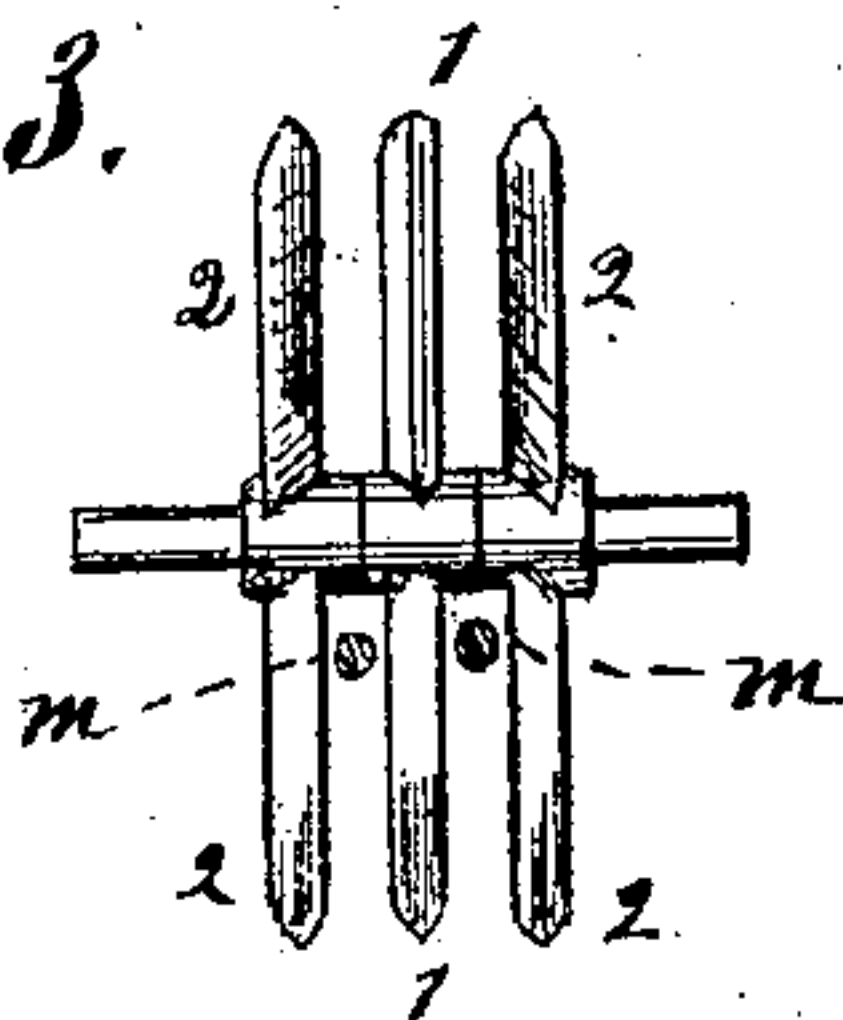


Fig. 3.



Witnesses.

John H. Coats  
H. A. Morley

Inventor.

John McIntyre



# United States Patent Office.

JOHN MCINTYRE, OF SYRACUSE, NEW YORK.

Letters Patent No. 104,870, dated June 28, 1870.

## IMPROVEMENT IN MORTAR-MILLS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN MCINTYRE, of Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Mortar-Mills; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a sectional side view of my invention;

Figure 2 is a plan view; and

Figure 3 is a detail view.

Similar letters of reference indicate like parts in the several figures.

In the accompanying drawing—

A is the mixing-mill;

B is the vat for slaking the lime;

C is the tank for holding the paste or slaked lime; and

D is a chain-pump for delivering the paste to the mill A.

E is an elevator that supplies sand to a conveyer F, the said conveyer feeding the sand to the mill.

The lime-slaking and feeding devices are constructed as follows:

The lime and water are supplied to the vat B, and as the lime becomes slaked it flows under an adjustable gate, *b*, fig. 1, and through a coarse screen, *c*, that prevents the large pieces of lime from leaving the vat B, and as the lime leaves the vat it falls upon a revolving beating wheel, *e*, that is suspended within a trough-shaped wire screen, *G*. The coarse part of the lime is worked and beaten up into a paste by the wheel *e*, and falls into a paste-tank, *C*, that is situated below the screen *G* and beater-wheel.

Any lumps that are not pulverized by the wheel *e*, so as to pass through the screen, work along to the open end of the screen and are discharged from the machine by a spout, *g*, fig. 2.

The screen *G* is suspended on the shaft *H*, so as to swing or rock thereon, and the rocking movement is obtained by a swinging lever, *K*, that is operated by a crank, *h*, and suitable connecting-rods, *k k*, fig. 1.

This rocking movement of the screen *G* prevents it from becoming clogged and works any unpulverized lumps along so that they are discharged from the screen and spout *g*.

From the tank *C* the paste is elevated and fed to the mill, as wanted, by the chain-pump *D*, the flow

of paste to the mill *A* being regulated by a valve or cock *i*.

The elevator *E* is made with small buckets so that the pile of sand is fed to the conveyer gradually, and the screw conveyer *f* distributes the sand in the box *F*, so that it is fed evenly into the mill.

When making hair-mortar, the hair is fed into the mill by hand.

The mixing device *A* is a rotating wheel made up of arms 1 and 2, as shown by face view, fig. 3, the central arms 1 having their faces beveled so as to throw the mortar outward on each side; and the outside arms 2 2, having their faces beveled in the opposite direction, to return the mortar to the central arms, and in this manner the mortar is beaten and finally delivered from the spout *a*.

Fixed rods, *m*, are also arranged between the series of arms, to prevent the mortar from being carried around bodily with the arms.

The lower wheel of the chain-pump can be provided with a series of fingers or projections, to agitate or beat the lime-paste in the tank *C*.

The mill is mounted on a platform, *N* and wheels *n*, so as to be taken to the various points where the mortar is required as the location of the building-work is changed.

Having thus described my invention,

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

1. The combination of mill *A*, provided with stirrers or blades 1 2, and stationary rods *m*, with the conveyers *f* and *E*, and tanks *B* and *C*, all constructed and arranged as and for the purposes set forth.

2. The rocking trough-screen *G* and pulverizer *e*, in combination with the rods *k*, *k*, and *K*, all constructed and arranged as and for the purpose set forth.

3. The arrangement of the tanks *B* and *C*, pump *D*, screen *G*, conveyers *E* and *F*, and mill *A*, with knives 1, 2, *m*, when all these parts are constructed and operated as and for the purpose herein shown and described.

4. The arrangement of the cylinder *A* of the fixed bars *m*, and the single inclined arms 2 2, alternating with the double inclined arms 1, all constructed and operating as and for the purposes set forth.

The above specification of my invention signed by me this 31st day of May, 1870.

Witnesses:

JOHN MCINTYRE.

JOHN H. COATS,

F. A. MORLEY.