

C. A. Mills.

Motive Power.

110667

Fig. 1.

PATENTED JAN 3 1871

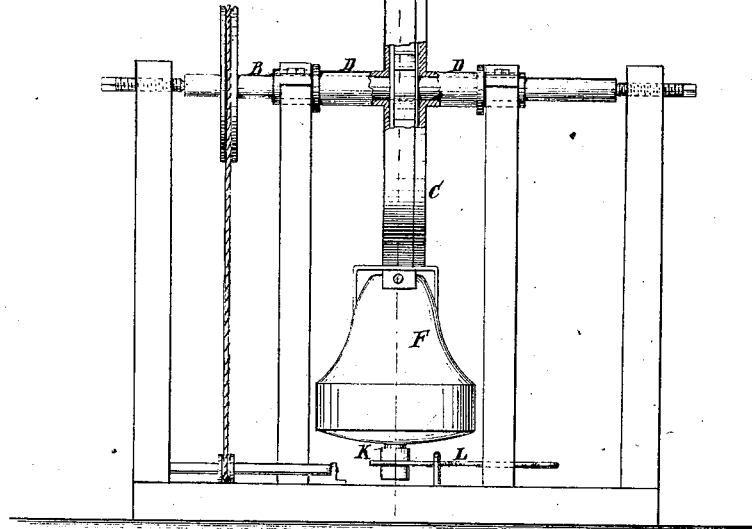
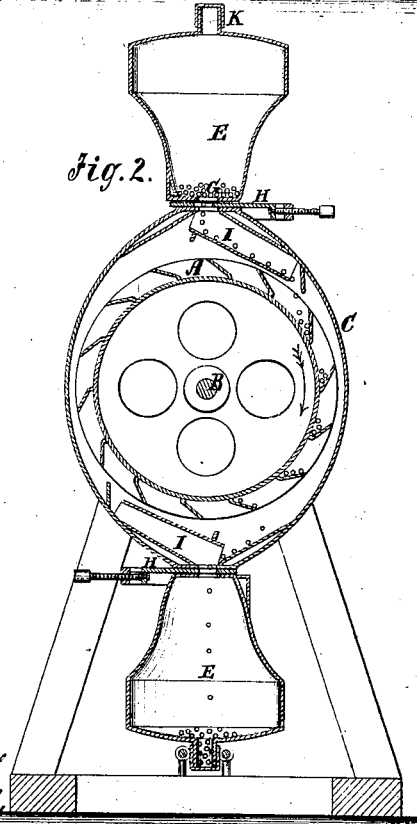


Fig. 2.



Witnesses:

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# United States Patent Office.

CASSIUS A. MILLS, OF BRIDGEPORT, CONNECTICUT.

Letters Patent No. 110,667, dated January 3, 1871.

## IMPROVEMENT IN MOTIVE-POWER APPARATUS.

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, CASSIUS A. MILLS, of Bridgeport, in the county of Fairfield, and State of Connecticut, have invented a new and improved Motive Power; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in motive powers; and

It consists in a combination, with a wheel having buckets and mounted to work in a vertical plane, of a couple of chambers for holding and delivering sand, shot, or other like matters to be used to apply the power by flowing upon the wheel, said chambers being supported on opposite sides of the wheel by a case enclosing the wheel and serving to conduct the flowing matter from the wheel into the chambers, which case may be turned by hand or other means to shift the loaded chamber from below to the top and the empty one from top to bottom, when the flowing matter has run through, all as hereinafter more fully described.

Figure 1 is a side elevation of my improved machine with a part broken out; and

Figure 2 is a section on the line *xx* of fig. 1.

Similar letters of reference indicate corresponding parts.

A represents a wheel of any approved kind, but preferably similar to a breast water-wheel mounted on a shaft, B, to revolve in a vertical plane.

This wheel is enclosed in a case, C, mounted by the sleeve D on the shaft B so as to turn freely.

This case carries two chambers E on its periphery at points diametrically opposite each other, from which passages G are made into said case, which passages are provided with closing and regulating-gates H, and

in connection with each of these passages is a chute, I, for receiving the flowing matter and delivering it properly to the buckets of the wheel.

Each chamber has a fitting-tube, K, for introducing the shot, sand, or other matter used, or removing or renewing it, said tubes being closed with suitable caps.

L is a forked locking-bar for holding the case, with one chamber, E, above, and the other below the wheel, said bar being arranged in bearings to slide back and forth to take the tubes K between them.

The case being shifted by hand or otherwise to place the filled chamber at the top, the gate of the said chamber is opened more or less, according to the power required, and the shot or other matter contained in it let flow upon the wheel for turning it. Motion is imparted to the shaft B, from which power may be taken by means of a belt and wheel or other suitable means.

The case C being made close no loss of material will be incurred, so that once being charged a portable self-contained motive-power of simple and effective character is by this apparatus obtained.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The combination, with a wheel, A, of a case, C, with chambers E, passages, gates, and chutes, said case being arranged for shifting the chambers relatively to the wheel, and provided with a locking device, all substantially as specified.

The above specification of my invention signed by me this 22d day of November, 1870.

C. A. MILLS.

Witnesses:

GEO. W. MABEE,  
L. S. MABEE.