(No Model.)

M. L. MOWRER.

MAGNETIC MACHINE FOR REMOVING MINERAL SUBSTANCES FROM GRAIN.

No. 405,045. Patented June 11, 1889.

Fig. 1.

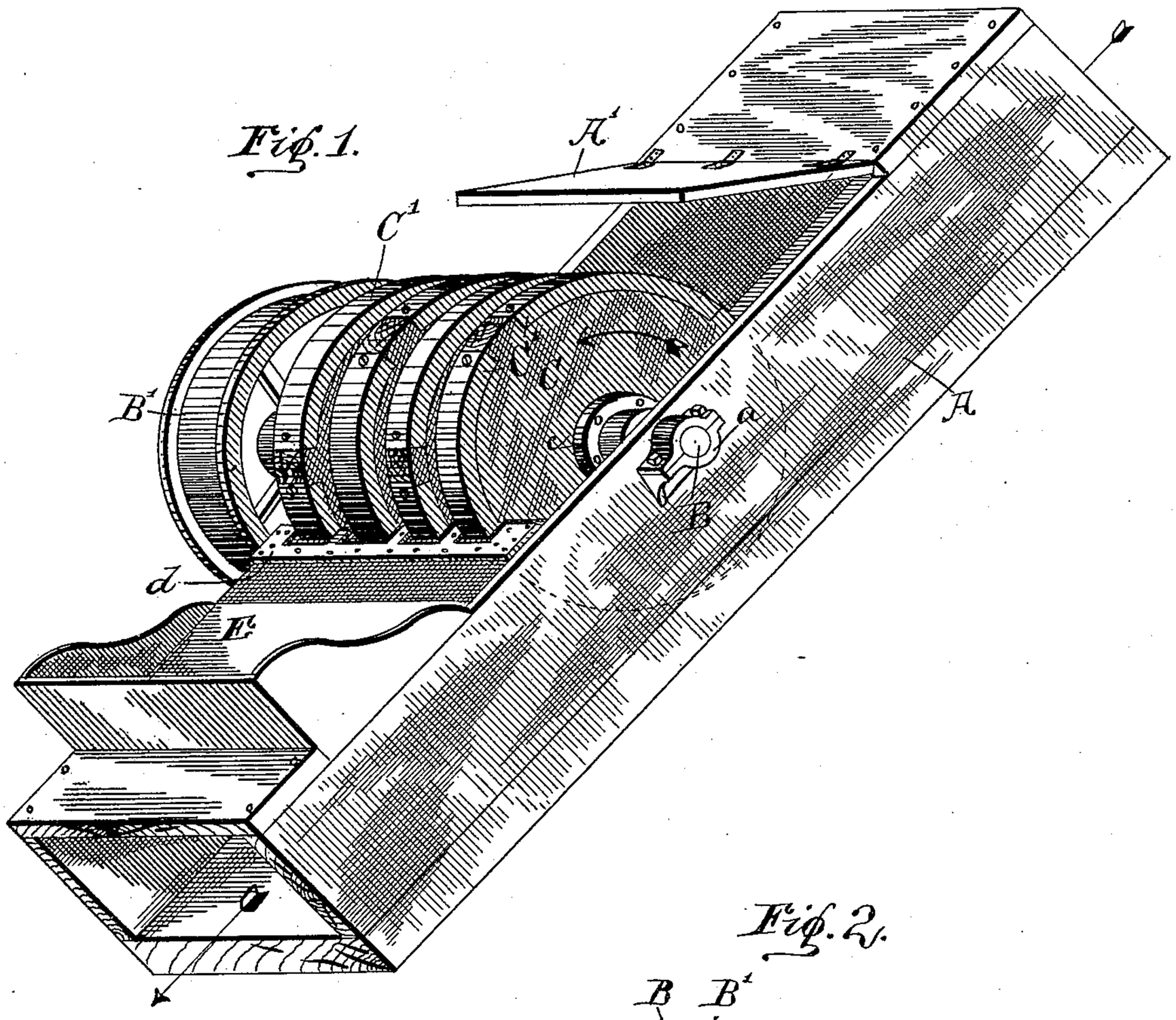
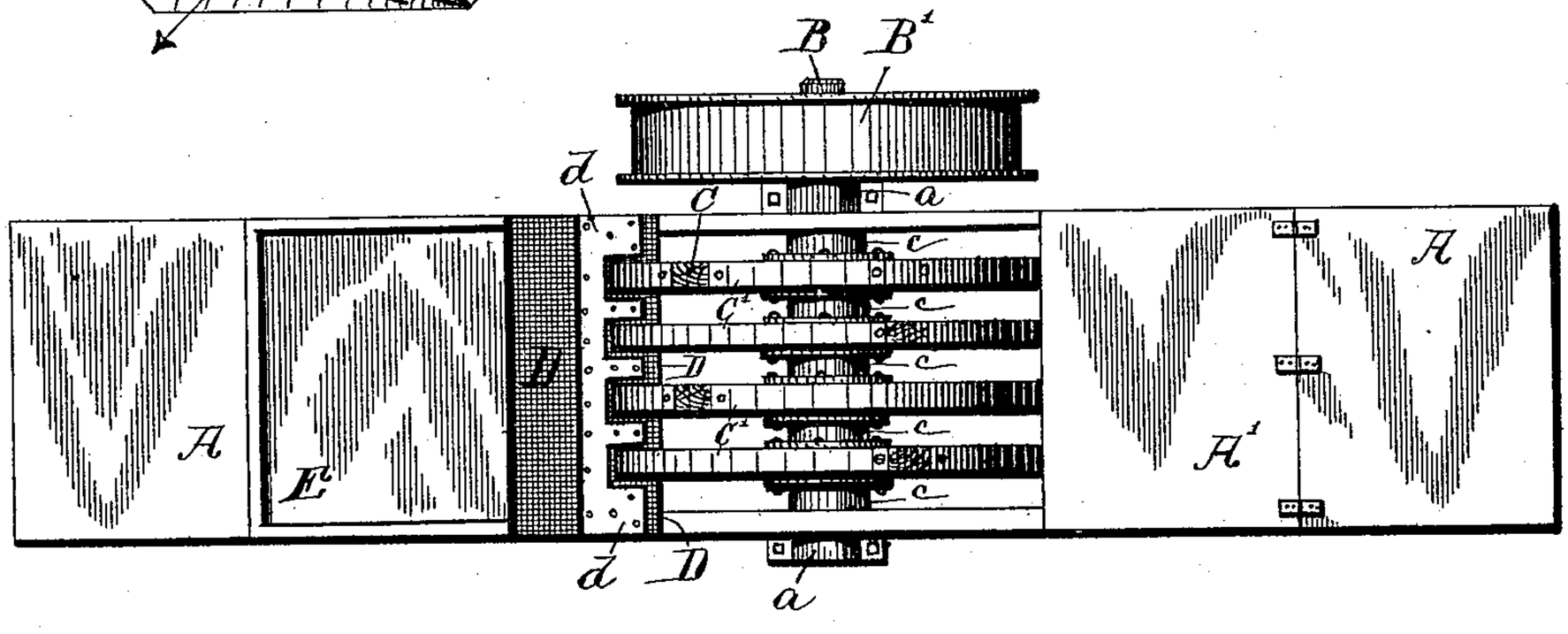


Fig. 2.



WITNESSES.

B. W. H. Brown,

H. W. Wood,

INVENTOR.

Martin L. Mowrer,

by Chas. W. Bradford.

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

MARTIN L. MOWRER, OF DAYTON, OHIO.

MAGNETIC MACHINE FOR REMOVING MINERAL SUBSTANCES FROM GRAIN.

SPECIFICATION forming part of Letters Patent No. 405,045, dated June 11, 1889.

Application filed July 14, 1888. Serial No. 280,008. (No model.)

To all whom it may concern:

Be it known that I, MARTIN L. MOWRER, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Magnetic Machines for Removing Mineral Substances from Grain, of which the following is a specification.

My said invention consists in the construction and arrangement of a series of magnetic wheels in a grain spout or chute for removing particles of iron, steel, or other mineral substances from the grain during its passage through said spout, all as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a section of grain-spout embodying my said invention, and Fig. 2 a top or plan view of the same.

In the accompanying drawings the portions marked A represent the spout; B, a shaft extending transversely through said spout; C, the magnetic wheels; D, a wiper for cleaning said wheels, and E a box for catching the cleanings.

The spout A is, in the main, of the usual construction, provided with an opening to receive the wheels, and a door A′ above said opening to permit access to said spout, and also provided with suitable bearings *a* on each side for the shaft B, as shown.

The shaft B is mounted in the bearings *a* on the sides of the spout, extending transversely through said spout, near the top thereof, and provided on one end with a band or other gear-wheel B′, by which it is driven from any convenient power.

The wheels C are preferably of wood, secured on the shaft B a short distance apart by means of the flanged hubs *c*, which are fastened to said wheels and secured upon the shaft in any suitable manner. Suitably-formed magnets C′ are set into the periphery of each wheel. They may be of any number or length desired; but I have shown three, each of a length nearly equal to one-third of the circumference of the wheel, and consider this a convenient and desirable construction. The number of wheels on each shaft will of course vary with the width of the spout and the wheels themselves; but for an ordinary spout the arrangement shown, consisting of four wheels equally disposed between the sides of the spout, is desirable.

The wiper D consists of a piece of leather, felt, or other suitable material cut to fit closely to the edges of the wheels and extending in between them a distance greater than the thickness of the magnet, and secured to the top of the spout on its lower side, as shown. A brass or other metal plate *d* is secured near the front edge of said wiper to give it the required stiffness, one being fastened on each side, if necessary.

The box E is simply an open-sided box, secured on the top of the spout behind the wiper in a convenient position to catch the cleanings as they fall from the wheels.

The operation of my said invention is as follows: The grain being turned into the spout, power is applied to the gear-wheel B′, which sets the shaft B and wheels C thereon in motion. As the grain passes through between said wheels, the magnets C′ rub against it, catching all particles of iron, steel, or other mineral substance, which they carry around to the wiper D, which operates to wipe off all such particles from the magnets and permit them to fall into the box or trough E below. By this arrangement a very cheap and efficient device for removing all mineral substances from the grain during its passage through the spout is provided.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the grain-spout A, the shaft B, journaled in bearings in its sides between its receiving and discharging ends, the series of wheels C, mounted thereon and extending partly inside and partly outside said grain-spout, each being provided with a series of magnets C′ in its periphery, and the wiper D, mounted on the outside of said spout and formed to extend between said wheels and rest against the sides and edges of said magnets, all substantially as set forth.

2. The combination of the grain-spout A, the shaft B, journaled in suitable bearings and extending transversely through said spout, means for driving said shaft, a series of wheels C arranged thereon, each provided with a series of magnets C′ in its periphery, and a wiper D, arranged on the outside of said spout in contact with said wheels, substantially as described, and for the purposes specified.

In witness whereof I have hereunto set my hand and seal at Indianapolis, Indiana, this 3d day of July, A. D. 1888.

MARTIN L. MOWRER. [L. S.]

Witnesses:
E. W. BRADFORD,
F. W. WOOD.