P. RIGHTER.

MAGNETIC METAL SEPARATOR.

No. 69,128. Patented Sept. 24, 1867.

Fig: 1.

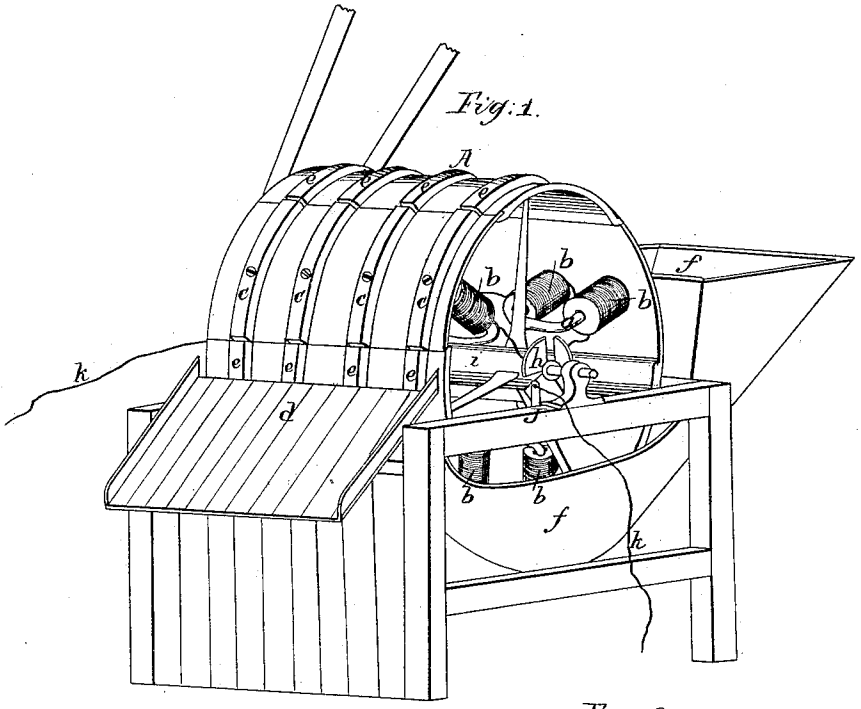


Fig: 2.

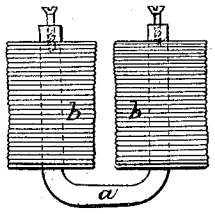
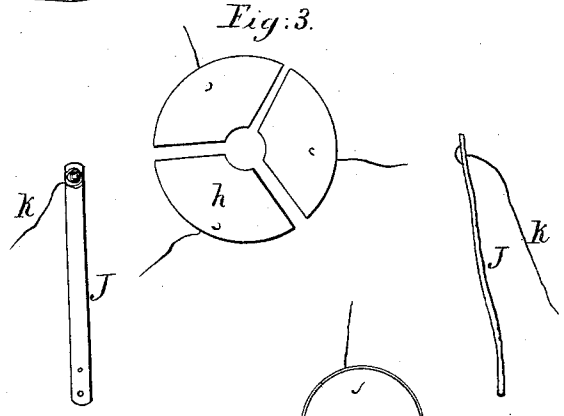
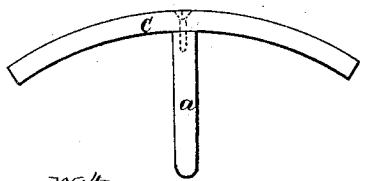


Fig: 3.





Witnesses

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PETER RIGHTER, OF NEWARK, NEW JERSEY.

Letters Patent No. 69,128, *dated September* 24, 1867.

IMPROVEMENT IN MAGNETIC METAL SEPARATORS.

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, PETER RIGHTER, of the city of Newark, in the county of Essex, and State of New Jersey, have invented certain Improvements in Magnetic Ore and Metal Separators; and I do hereby declare the following to be a full and exact description of the same, reference being herein had to the drawings that accompany this specification, and make part of the same.

My improvement consists in the employment of electro-magnets and discharging the iron by breaking the connection with the battery. In the drawings—

Figure 1 shows a complete machine.

Figure 2 is a magnet and helices.

Figure 3 is a sketch of the means of breaking the current on a rotating machine.

A cylinder of metal, or of combined wood and metal, A, has a non-conducting shaft and arms and non-conducting journals and bearings for the same. The drawing represents a cylinder with a rim three-sixths wood and the other three-sixths metal. In the interior of the cylinder there are magnets, formed as in fig. 2. Upon each arm *a* there is a helix, *b*, and on the end of each arm is fastened a segment, *c*, of the circumference of the cylinder, which, when charged, is a magnet to which the iron will adhere when the magnet is passing through the mixed mass, and will thereby be carried up by the rotation of the cylinder, being held on until the current is broken, when it falls into the trough *d*. The space between the ends of the segments *c*, upon the circumference of the cylinder, is filled with a non-magnetic piece, *e*, of metal or wood, of the same shape as the conductor *c*, they together being placed spirally upon the cylinder, so as to impel the mass from the hopper end of the trough *f* to the discharge at the opposite end by the revolving of the cylinder. The connections of the helices with the battery are made by wires that have their ends attached to the plates *g* and *h*, one of which is attached to one end and the other to the other end of the non-conducting shaft *i* of the cylinder, the disks or plates revolving with the cylinder. The disk *g* at the receiving end of the cylinder is whole, and the connection with the battery is by the spring *j* and the wire *k* attached thereto. The disk or plate *h* at the discharging end is divided into sections, with an opening between each piece. When an opening passes the spring *j* the circuit is broken and the iron falls from the magnets. The same results are obtainable by a pendulum or a vibratory movement of the magnets. They can also be had by either a lateral, a perpendicular, or an angular straight movement. I prefer the rotary.

What I claim, and desire to secure by Letters Patent of the United States, is—

I claim the cylinder A, helices *b*, magnets *a*, segments *c*, connecting-plates *g* and *h*, springs *j*, when combined, arranged, and operated substantially in the manner and for the purposes set forth and shown.

PETER RIGHTER.

Witnesses:

W. M. GOODING,

SIDNEY U. EDWARDS.