(No Model.)

# G. CONKLING.

## MAGNETIC SEPARATOR.

No. 422,732. Patented Mar. 4, 1890.

Fig. 1.

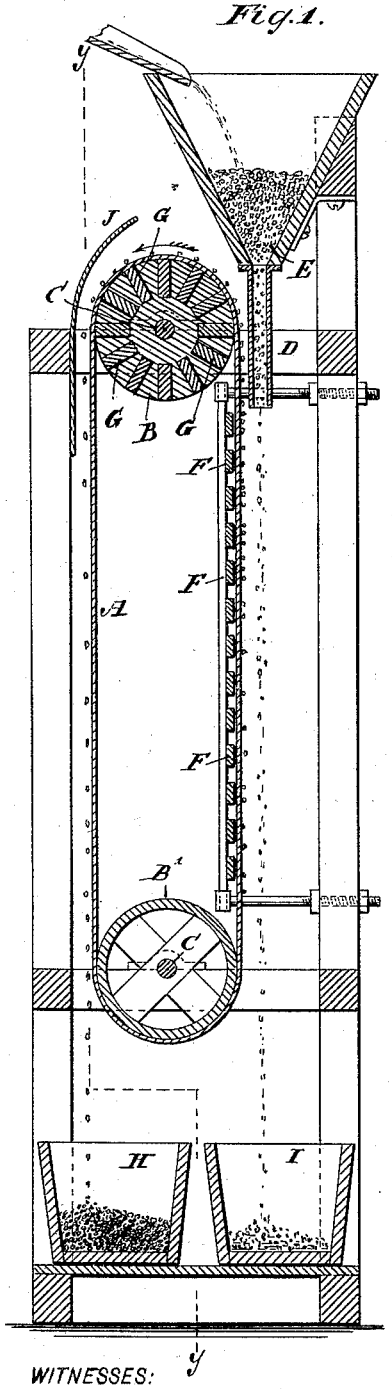
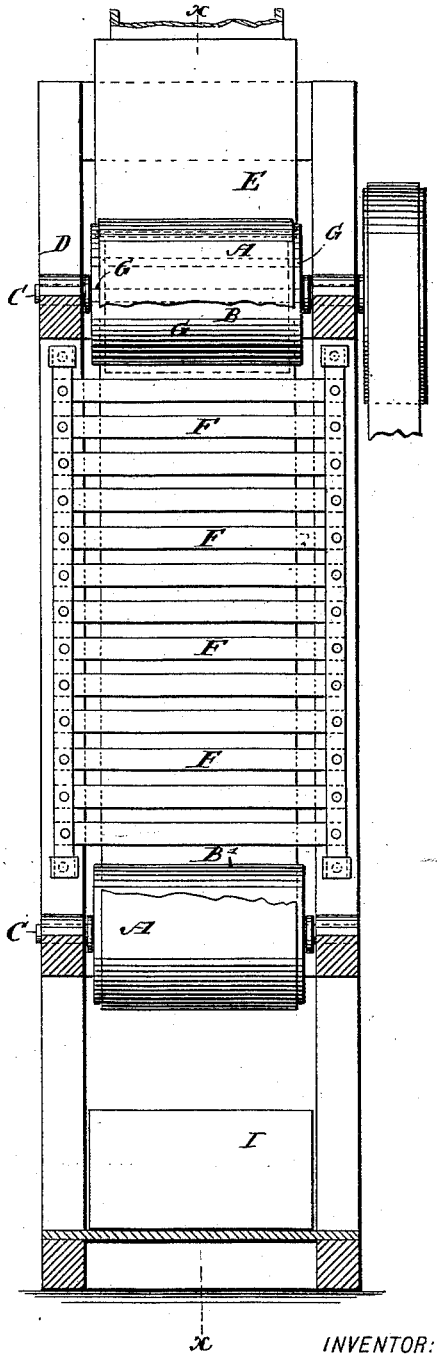



Fig. 2.




WITNESSES:

Eduard Wolff.
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ATTORNEYS

# UNITED STATES PATENT OFFICE.

GURDON CONKLING, OF GLENS FALLS, NEW YORK.

## MAGNETIC SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 422,732, dated March 4, 1890.

Application filed August 7, 1889. Serial No. 320,047. (No model.)

*To all whom it may concern:*

Be it known that I, GURDON CONKLING, a citizen of the United States, residing at Glens Falls, in the county of Warren and State of New York, have invented new and useful Improvements in Magnetic Separators, of which the following is a specification.

This invention relates to separating magnetic from non-magnetic bodies; and it consists in certain novel features and combinations, which are hereinafter described in this specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a vertical section of the separator, taken on the line *x x* of Fig. 2. Fig. 2 is a vertical section taken on the line *y y* of Fig. 1.

Similar letters indicate corresponding parts.

The letter A designates an endless belt running on the pulleys B B′, arranged one above the other in a suitable frame. In the example here shown the axles C C of the pulleys are mounted in a frame D, in which is also secured a conduit E, through which the ore or other substance is fed to the separator.

In the interior of the belt A, close to one of its branches, are secured a series of magnets F, and as the material to be separated drops down the magnetic particles contained in the same are attracted by the magnets so that they adhere to the belt A and are carried along by the same in the direction of its motion, while the non-magnetic particles are carried away by their inherent gravity. In order to carry the magnetic particles away from the non-magnetic particles, one of the pulleys B is furnished in its interior with a series of magnets G, which retain the magnetic particles on the belt as long as the same is in contact with the pulley. By these means I am enabled to separate the magnetic from the non-magnetic particles and to collect the magnetic particles in a vat H, while the non-magnetic particles are collected in a vat I. If the belt A is made to travel with great velocity, the magnetic particles which have been attracted to said belt by the magnets F and G are liable to fly off as the belt passes over the pulley B, and I have provided a deflector J to catch said particles and to lead them down into the vat H. In the example shown in the drawings the belt A moves in the direction of arrow, and in this case the magnets G are placed into the pulley B. If the belt A is caused to move in the opposite direction, the magnets G must be transferred from the pulley B to the pulley B′.

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

In a magnetic separator, the combination of an endless belt A, two pulleys situated one above the other for supporting said belt, a magnet situated within said belt close to one of its branches, a magnet in one of the pulleys which support the belt, and a conduit near the top portion of the belt, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GURDON CONKLING.

Witnesses:
J. VAN SANTVOORD,
W. HAUFF.