

(No Model.)

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ORE SEPARATOR.

No. 464,816.

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Fig. 1.

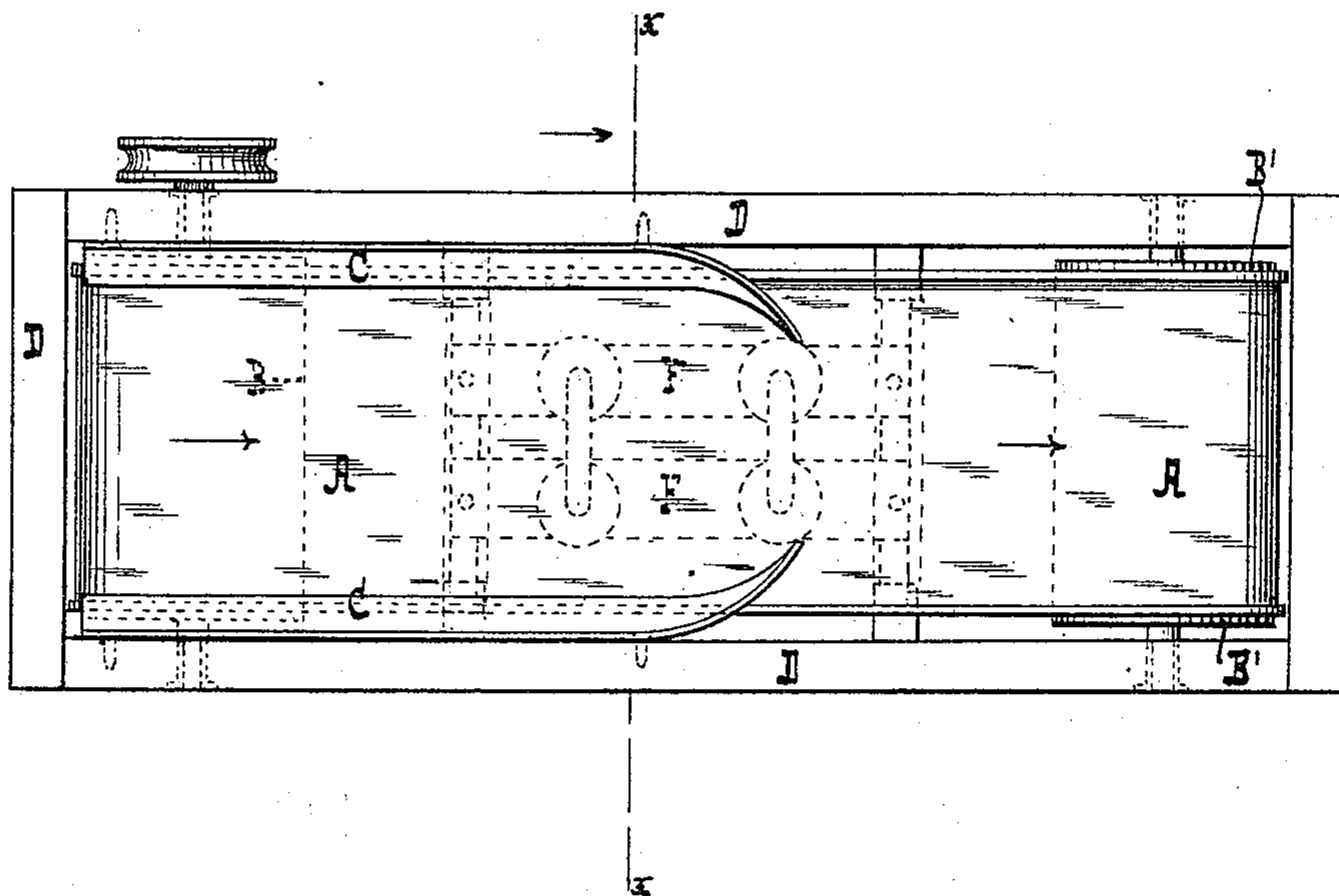
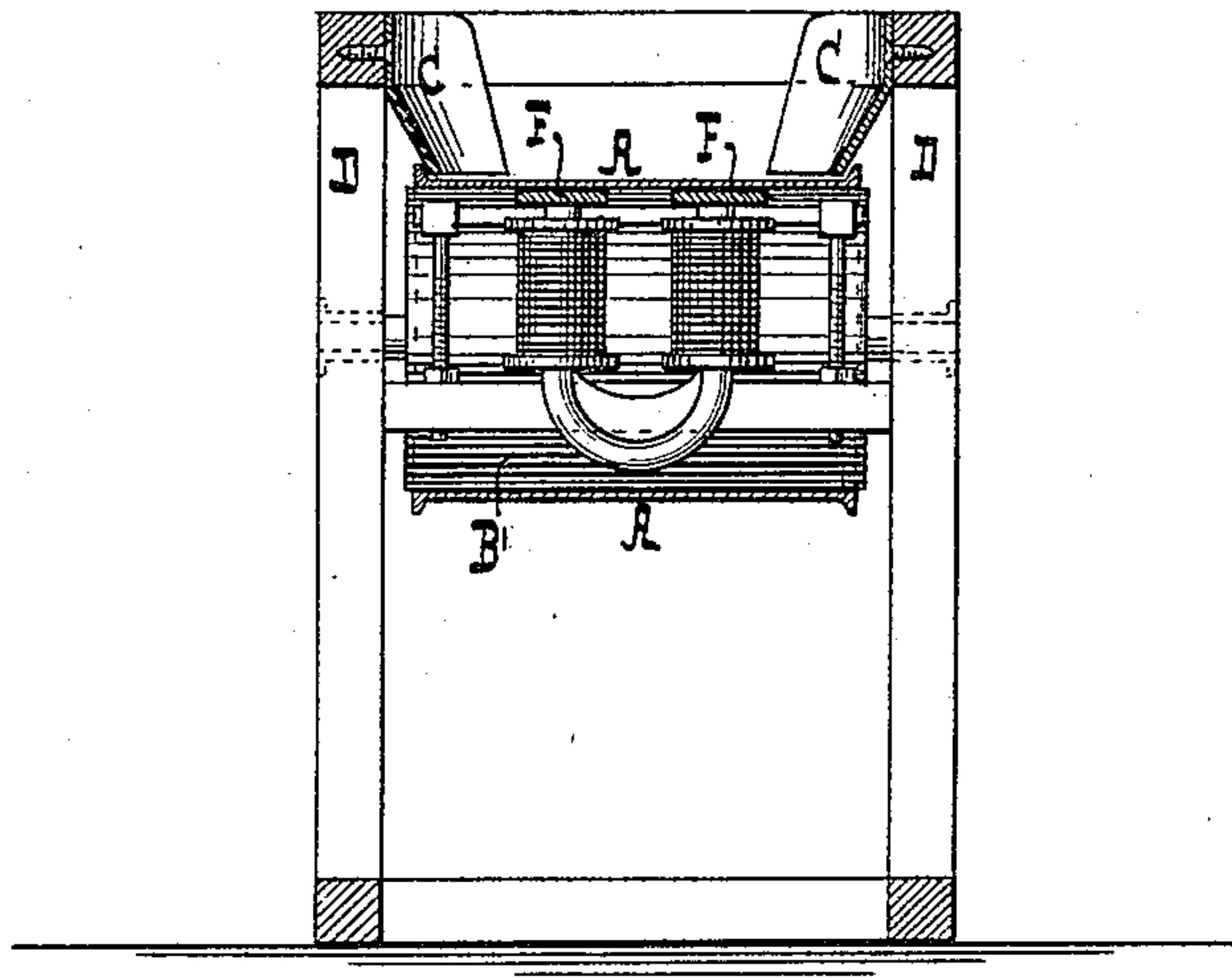


Fig. 2.



WITNESSES:

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Application filed September 19, 1889. Renewed June 20, 1891. Serial No. 396,885. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. 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 Apparatus for Separating Ore and other Substances, of which the following is a specification.

This invention relates to that type of apparatus for separating ore wherein magnets are located within an endless imperforate belt; and the object of the invention is to provide novel means whereby the pulverized mass is prevented from running off the longitudinal edges of the belt and the tendency of the mass to deepen and overrun the edges of the belt within the field of the magnets is counteracted.

To accomplish these objects my invention involves the features of construction, the combination or arrangement of parts, and the principles of operation hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 represents a plan or top view. Fig. 2 is a transverse vertical section in the plane $x x$, Fig. 1.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates an endless belt, which extends round the rollers B B' and which is made of any suitable flexible material, such as leather, india-rubber, or canvas, india-rubber cloth being used by preference. If a pulverized substance—such as pulverized ore—is fed onto the belt at or near the roller B, so that the same is carried away by the belt in the direction indicated by the arrows in Fig. 1, said pulverized mass has a tendency to run off toward the edges of the belt, and if the belt is provided with raised rims the pulverized mass has a tendency to form a deep layer toward both edges of the belt and even to run over the raised rims. In order to counteract this tendency, I have applied two aprons C C, which are firmly se-

cured to and depend from the frame D and are placed edgewise toward the belt with a slight inclination, so that the pulverized mass is prevented from running over the edges of the belt. These inclined pendent aprons C have their lower edges located between the longitudinal edges of the one carrying-belt, and such lower edges of the aprons are parallel to and directly above the traveling upper side or surface of the belt and in such juxtaposition thereto that the two edges of the belt project, respectively, beneath the lower edges of the two aprons, but the ore will not pass between.

In some cases it is desirable that the pulverized mass carried by the belt shall be directed from the edges of the belt toward the middle thereof, and in order to effect this purpose the aprons C C are curved inward. This form of the aprons is indispensable if the carrying-belt is used in combination with magnets F F', which extend in the direction of the length of the belt, as indicated in dotted lines in Fig. 1 and in section in Fig. 2.

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

In a magnetic ore-separator, the combination of the frame D, the rollers B B', the endless imperforate belt A, the magnets F F', and the pair of inclined aprons C C, secured directly to and depending from the sides of the frame, with their lower edges located between the two longitudinal edges of the belt, said pendent aprons running parallel with the upper moving surface of the belt and curved inward toward each other across the belt and within the field of the magnets, substantially as shown and described.

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

WM. G. CONKLING.

Witnesses:

WM. C. HAUFF,
E. F. KASTENHUBER.