

No. 647,894.

Patented Apr. 17, 1900.

A. BARMETTLER.
PULVERIZING ROLLS.

(Application filed Dec. 11, 1899.)

(No Model.)

2 Sheets—Sheet 1.

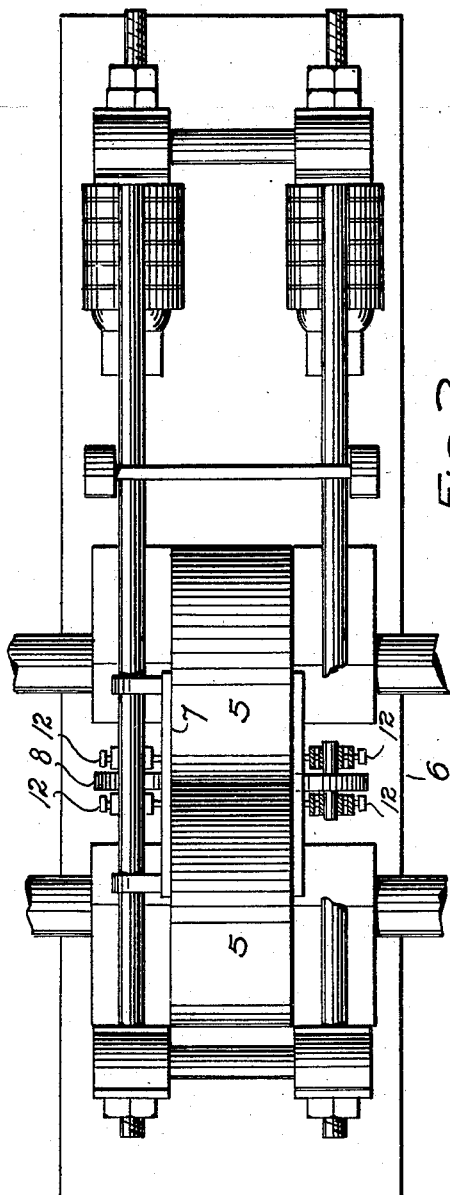


FIG. 2

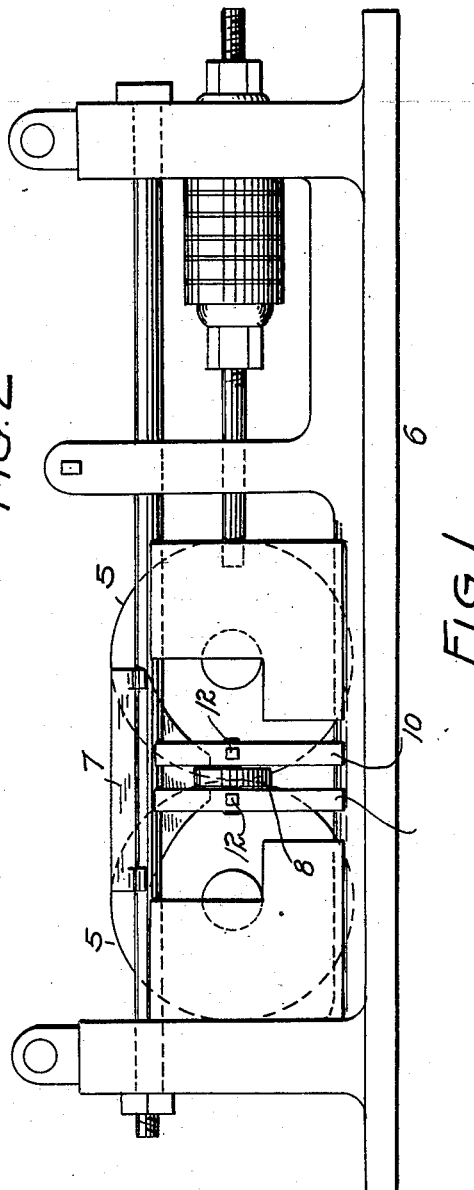


FIG. 1

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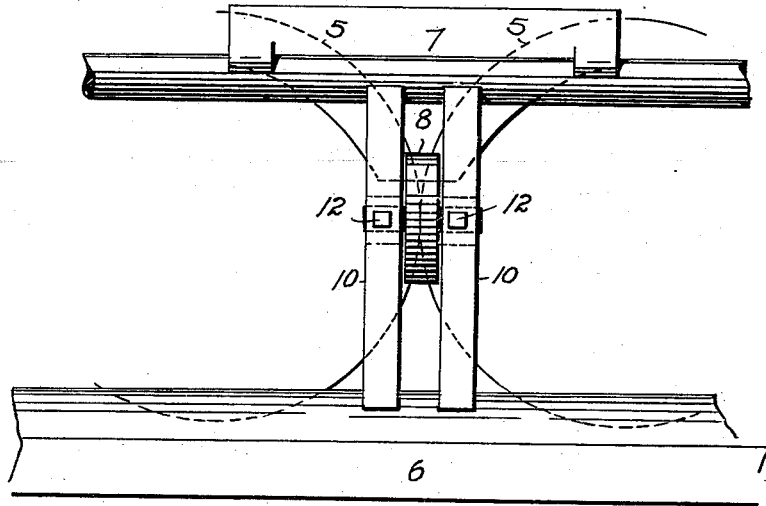


Fig. 3

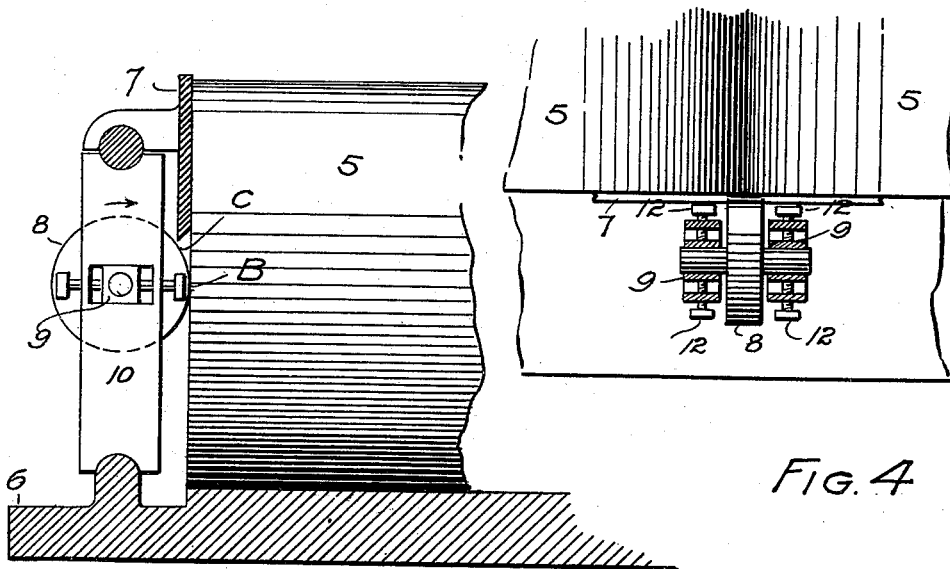


Fig. 4

Fig. 5.

WITNESSES
G. J. Colman
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INVENTOR.
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UNITED STATES PATENT OFFICE.

ARNOLD BARMETTLER, OF GEORGETOWN, COLORADO.

PULVERIZING-ROLL.

SPECIFICATION forming part of Letters Patent No. 647,894, dated April 17, 1900.

Application filed December 11, 1899. Serial No. 739,989. (No model.)

To all whom it may concern:

Be it known that I, ARNOLD BARMETTLER, a citizen of the United States of America, residing at Georgetown, in the county of Clear Creek and State of Colorado, have invented certain new and useful Improvements in Pulverizing-Rolls; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and numerals of reference marked thereon, which form a part of this specification.

My invention relates to improvements in pulverizing-rolls, my objects being to hold the rolls in proper relation endwise, to cause the rolls to wear evenly on their pulverizing-faces, and to prevent the wearing out of the cheek-plates.

The wear on the pulverizing-faces of the rolls under ordinary circumstances is greatest at the center, gradually lessening toward the ends of the rolls, whereby these faces are soon worn to the shape of a groove deepest at the center. In crowding the roll-faces together to overcome this difficulty there is a tendency to endwise displacement, making the matter worse. Moreover at the points where the rolls meet or are tangent to each other the cheek-plates soon become worn out and must be renewed. These objections in the practical operation of rolls become very serious, and my improvement is intended to overcome them and does overcome them to a great degree, as I have demonstrated in actual practice.

The improvement will now be described in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side elevation of a pair of rolls provided with my improvement. Fig. 2 is a top or plan view of the same. Fig. 3 is a fragmentary end elevation of the rolls, shown on a larger scale. Fig. 4 is a plan view of the same. Fig. 5 is a face view of a portion of one of the rolls, the other roll being removed and the cheek-plate at one end shown in vertical section.

Similar reference characters indicating corresponding parts in the views, let the nu-

merals 5 designate each of a pair of rolls mounted in operative relation on a suitable frame 6. The cheek-plates 7, which usually terminate at a point at the extremities of the tangential line B of the rolls or at the extremities of the line where the rolls approach nearest each other, are in my improved construction formed shorter and terminate a short distance above the tangential line of the rolls, as best illustrated in Fig. 5. Suitably mounted upon the frame and engaging the ends of the rolls at each extremity of the line B is a wheel 8, which turns in the direction indicated by the arrow in Fig. 5 during the operation of the rolls, being actuated by the latter. These wheels take the place of the lower portions of the ordinary cheek-plates and simultaneously perform several important functions. They prevent the rolls from shifting or moving out of place endwise. They avoid nearly altogether the wear of the cheek-plates, the wear on the said wheels being minimized by reason of the rolling contact with the ore, and, lastly, they allow the ore to fall into the space C below the cheek-plates, whereby the outer portions of the pulverizing-faces of the rolls are made to wear equally or approximately equally with the inner portions of the said faces. In the old construction the ore has a tendency to fall away from the cheek-plates, whereby the portions of the roll-faces immediately adjacent the said plates are worn but little, the wear being principally on the intermediate portions of the pulverizing-faces, causing them to wear to a concave shape, leaving a central oval opening between the rolls when the portions of their faces adjacent the cheek-plates are in contact because subjected to less wear. My improved construction overcomes these difficulties, as I have demonstrated in practice, and at the same time obviates the necessity for often renewing cheek-plates by reason of wear at the points where the wheels 8 are located in my improvement.

The shafts or journals of the wheels should be provided with movable boxes 9, whereby the wheels may be properly adjusted with reference to the rolls. As shown in the drawings, these boxes are mounted on uprights 10 and are movable in either direction by means of bolts 12. These wheels may of course be

mounted in any other suitable manner, and it must be understood that I do not limit the invention to the construction herein set forth.

Having thus described my invention, what I claim is—

1. The combination with a pair of pulverizing-rolls of equal length having their axes in the same horizontal plane, of wheels mounted adjacent and engaging the ends of both the rolls at the extremities of the tangential line between them, whereby an ore-receptacle is formed bounded by the rolls and wheels.
2. The combination with a pair of pulverizing-rolls, of cheek-plates terminating above

the tangential line of the rolls, and wheels whose faces engage the rolls below the extremities of the said plates.

3. The combination with a pair of pulverizing-rolls, of cheek-plates terminating above the contact-line of the rolls, and adjustably-mounted wheels whose faces engage the rolls at the extremities of the contact-line.

In testimony whereof I affix my signature in presence of two witnesses.

ARNOLD BARMETTLER.

Witnesses:

J. D. CONWAY,

E. C. McLAUGHLIN.