

(No Model.)

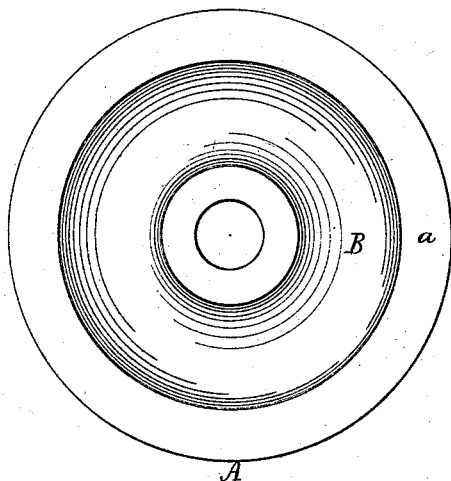
J. DUNBAR & C. E. GIBBS.

BRASS OR COMPOSITION FACED ROLL FOR FULLING MILLS, &c.

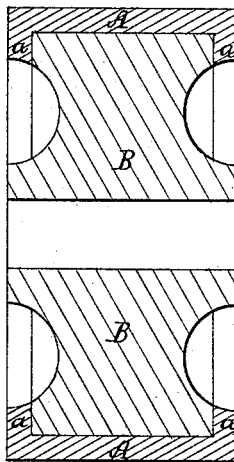
No. 418,367.

Patented Dec. 31, 1889.

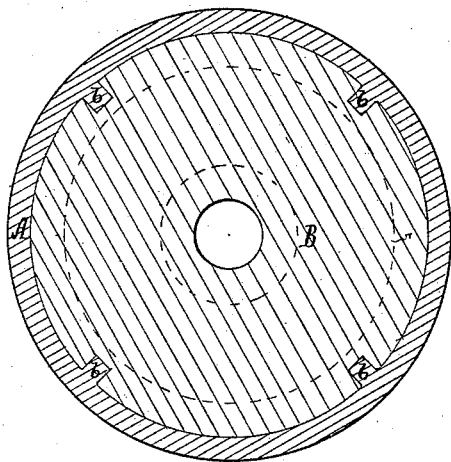
*Fig. 1.*



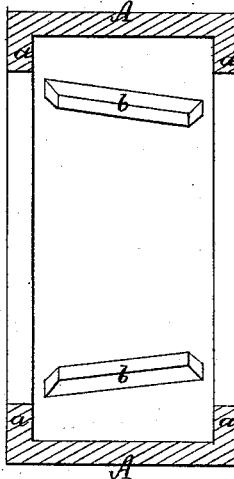
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses

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Inventors

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*Charles E. Gibbs*  
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# UNITED STATES PATENT OFFICE.

JOHN DUNBAR AND CHARLES ELBRIDGE GIBBS, OF ORANGE, MASSACHUSETTS, ASSIGNORS TO THE RODNEY HUNT MACHINE COMPANY, OF SAME PLACE.

BRASS OR COMPOSITION FACED ROLLS FOR FULLING-MILLS, &c.

SPECIFICATION forming part of Letters Patent No. 418,367, dated December 31, 1889.

Application filed June 22, 1889. Serial No. 315,204. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN DUNBAR and CHARLES ELBRIDGE GIBBS, citizens of the United States, residing at Orange, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Brass or Composition Faced Rolls for Fulling-Mills, &c.; and we 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 of reference marked thereon, which form a part of this specification.

Figure 1 is a side view, Fig. 2 a longitudinal section, and Fig. 3 a transverse section, of a "fulling-mill roll" as made in accordance with our method or process. Fig. 4 is a longitudinal section of the face or ring as made ready to receive the cast-iron body.

The nature of our invention is defined in the claims hereinafter presented.

In making the rolls that are used in fulling-mills the body or greater portion thereof is composed of cast-iron, and the periphery of it is faced with brass or composition to a thickness of half an inch, or thereabout, and a good deal of trouble has been experienced by us in properly applying the said face to the body, and many ways have been tried before we adopted our present method. In some cases we first cast the body of the roll and next placed it in a lathe and turned off its face, and afterward applied the brass or composition annular face to it by pressing it on or shrinking it on to the face of the body; but this method involved a good deal of expense. Another way tried was to cast the body of the roll and place said body while in a heated state in a mold, and next cast the brass or composition annular face against the face of the body; but this method failed in many instances, as the ring or annular face in shrinking would crack. Finally we tried and have adopted the following method of making the said rolls, and we seldom fail to get perfect ones.

In the first place we cast the brass or composition annular face A, which is usually formed with flanges *a a*, and on the interior periphery thereof is provided with ribs or projections *bb*, arranged essentially as shown, and into this ring or face, after it is heated to some extent and is placed in position to properly support it, is poured the molten iron, so as to fill the interior space of said ring to form the body B of the roll. By arranging the ribs *b* obliquely, as shown, in case the iron body in cooling should shrink so as to draw away from the annular ring, the said ribs being oblique, there is less liability of any movement of the body within said ring while the roll is in revolution than if said ribs were arranged parallel to the axis of the roll. This method has proved highly successful, it is easily done, and can be carried on at a small expense compared with other methods, and we are quite sure of getting perfect rolls. Therefore

What we claim, and desire to secure by Letters Patent, is—

1. The roll composed of a brass or composition annular ring provided with flanges, as shown, and also with ribs arranged obliquely on its interior, and an iron body cast into said annular ring, as set forth and represented.

2. The roll composed of a brass or composition annular ring provided with flanges, as shown, and an iron body cast into said annular ring, as set forth and represented.

3. The roll composed of a brass or composition annular ring provided on its interior with ribs *b*, arranged obliquely, as shown, and an iron body cast into said annular ring, as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN DUNBAR.  
CHARLES ELBRIDGE GIBBS.

Witnesses:

RUFUS LIVERMORE,  
NELSON E. HARRIS.