

M. F. WILLIAMS.
CAGE FOR CRUSHERS AND PULVERIZERS.
APPLICATION FILED APR. 29, 1905.

Fig. 1.

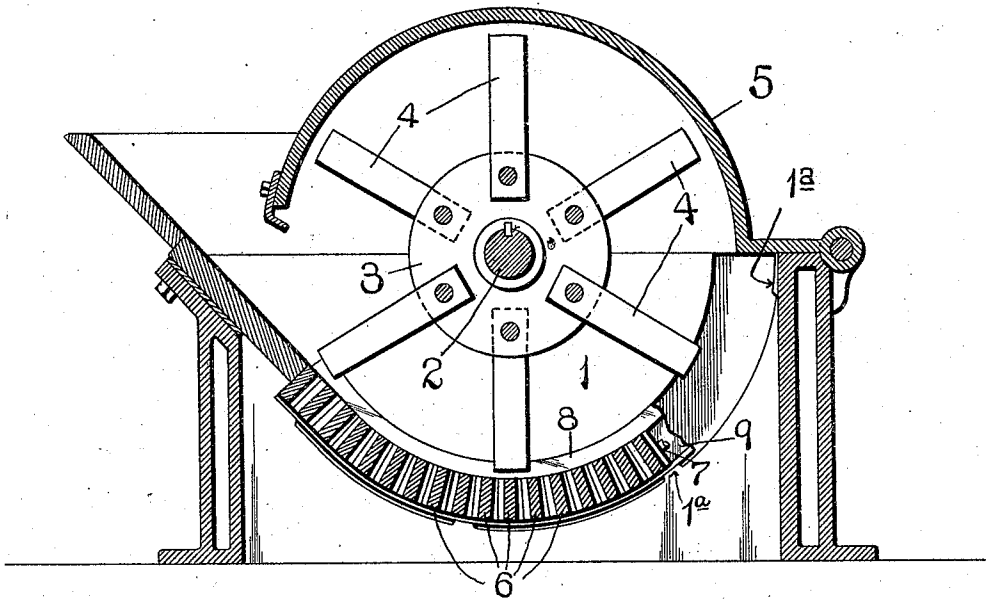


Fig. 2.

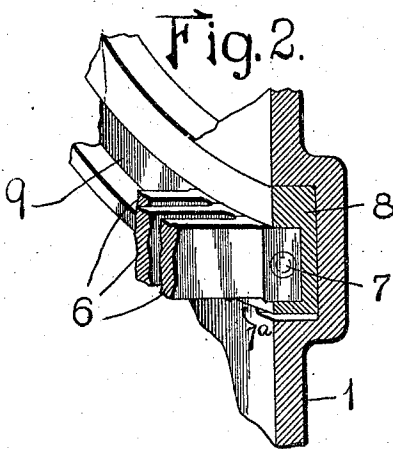


Fig. 3.

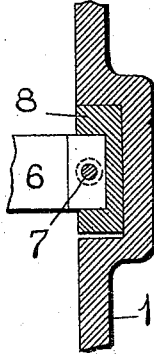


Fig. 4.

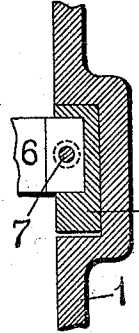
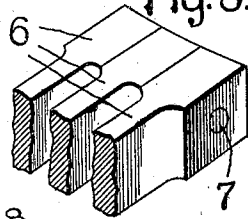


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

MILTON F. WILLIAMS, OF ST. LOUIS, MISSOURI, ASSIGNOR TO WILLIAMS
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CAGE FOR CRUSHERS AND PULVERIZERS.

No. 806,383.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed April 29, 1905. Serial No. 258,087.

To all whom it may concern:

Be it known that I, MILTON F. WILLIAMS, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Cages for Crushers and Pulverizers, of which the following is a full, clear, and exact description, 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, forming part of this specification, in which—

Figure 1 is a sectional view through a crusher or pulverizer in which my improved cage is mounted. Figs. 2, 3, and 4 are detail sectional views showing the adjusted position of the cage-bars, and Fig. 5 is a fragmentary perspective view of the cage-bar terminals.

This invention relates to a new and useful improvement in cages for crushers and pulverizers.

One of the objects of the invention is to construct a cage so that the parts thereof will occupy a small space in shipping and also to provide ring-mounts of various sizes for the cage-bars, whereby the several sections may be removed and new ring-mounts of different sizes inserted, so as to adjust the cage-bars inwardly and take up the wear on the ends of the revolving beaters.

In the drawings, 1 designates the side frame of the machine, in which is mounted a rotatable shaft 2, having hammer or beater supports 3, pivotally carrying beaters 4.

5 is the top or cover of the machine.

The material to be acted upon is fed into a hopper at the forward end of the machine and at the lower end of which it is acted upon by the revolving beaters, the material passing over a cage or screen, preferably composed of bars, until it is reduced to such size that its particles can pass through the openings therebetween.

The sides of the frame 1 are provided with curved grooves, from the bottom walls of which project lugs 1^a for receiving the cage-bars and ring-mounts of different sizes, and in order to remove the cage and adjust it or put in new bars it is only necessary to raise the hinged cover and withdraw the cage from its circular grooved seat. It is part of my present invention to group the cage-bars, so

that the cage may be inserted or removed in sections, and thus avoid binding or cramping, which is usually incident to the removal or insertion of a built-up cage.

As shown in Fig. 5, each cage-bar is preferably provided with an enlarged head, so as to provide a space between the bars, three of the bars, which are indicated at 6, being secured together by means of a rivet 7 passing through the heads thereof. The ring-mounts (designated by the reference-numeral 8 and seated in the curved seats) are preferably provided with arcuate grooves 9 for the reception of the bars 6. The curved seats in the side frame 1 are of such radial depths as to receive the groups of cage-bars and leave spaces above and below them, which spaces will be determined by the positions it is desired that the cage-bars shall occupy with respect to the path of rotation of the beaters. In actual practice it is intended to substitute different ring-mounts having grooves struck from different centers to provide different adjustments, so as to change the relative position of the several bars with relation to the beaters. The purpose of riveting a plurality of bars together is to facilitate and quicken the time in effecting a change in the adjustment of the radial distances of the cage from the axes of rotation of the hammers or beaters; but it is obvious that instead of grouping a plurality of cage-bars together the bars may be separately introduced.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination with a support having curved grooves, curved grooved ring-mounts mounted in the grooves of said support, and cage-bars having integral heads projecting into the grooves of the ring-mounts, said bars having parallel sides and being of uniform dimensions throughout their body portions; substantially as described.

2. The combination with a support having a curved groove, of interchangeable ring-mounts for engagement in said groove, said ring-mounts being provided respectively with grooves struck from different centers, and cage-bars for engagement with any of the grooves in the respective ring-mounts; substantially as described.

3. The combination with a support having
a curved groove provided with projecting
lugs, of a ring-mount arranged in said curved
groove and resting upon said lugs, said ring-
mount being provided with a curved groove,
5 cage-bars which project into said curved
groove in the ring-mount, and means for se-
curing a plurality of said cage-bars together,
whereby they constitute groups forming com-

ponent parts or sections of the entire cage; is
substantially as described.

In testimony whereof I hereunto affix my
signature, in the presence of two witnesses,
this 20th day of April, 1905.

MILTON F. WILLIAMS

Witnesses:

EDWARD H. FRICKEY,
GEORGE BAKEWELL