M. F. WILLIAMS.

CAGE FOR REDUCING MACHINES.

APPLICATION FILED JAN. 31, 1918.

1,275,346. Patented Aug. 13, 1918.

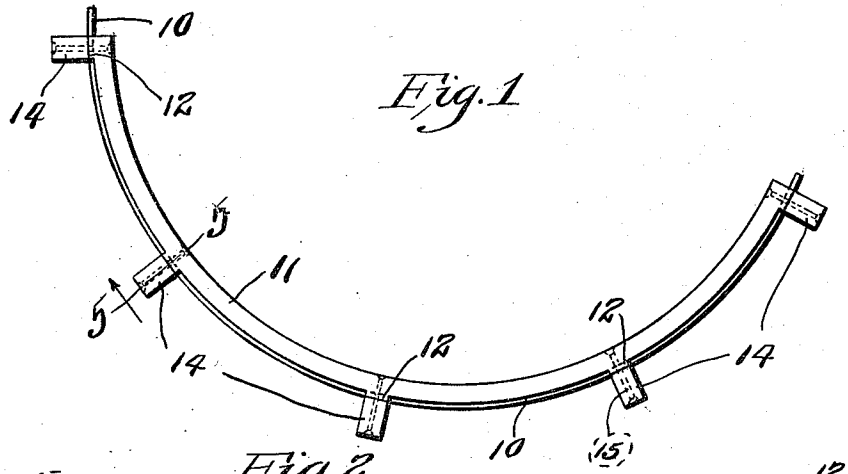


Fig. 1

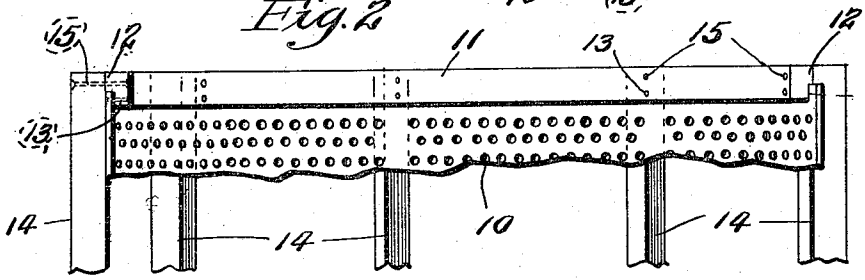


Fig. 2

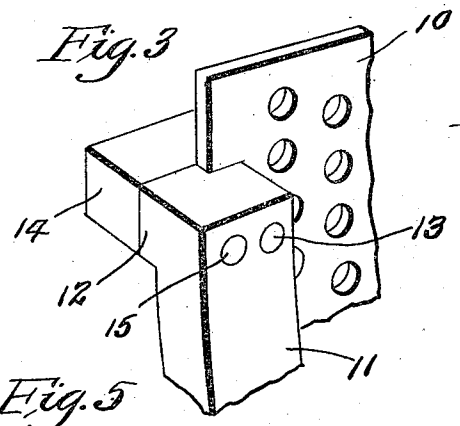


Fig. 3

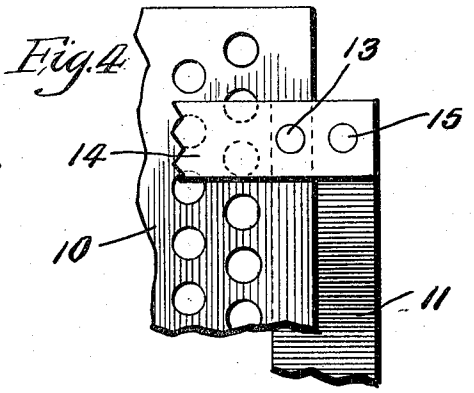


Fig. 4

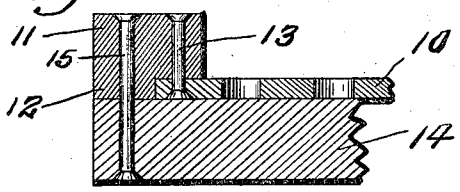


Fig. 5

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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CAGE FOR REDUCING-MACHINES.

1,275,346. Specification of Letters Patent. Patented Aug. 13, 1918.

Application filed January 31, 1918. Serial No. 214,672.

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 Reducing-Machines, 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.

My invention relates to a cage or screen for material reducing or pulverizing machines and particularly those machines utilizing hinged or pivoted hammers or beaters, and which latter are carried by a shaft which rotates at a relatively high speed.

The principal object of my invention is to provide a cage or screen which is comparatively strong, rigid and durable and the parts of said cage or screen including the framework being made up of ordinary and readily obtainable structural shapes which can be easily worked and assembled to produce the finished cage, thereby materially reducing the cost of manufacture.

A further object of my invention is to provide a cage or screen which requires no machining and very little, if any, smithwork in its manufacture.

It will be understood that cages or screens utilized in connection with reducing machines employing pivoted hammers or beaters a curved lengthwise or formed on the arc of a circle which is concentric with the shaft carrying the hammers or beaters, and it is one of the objects of my invention to construct an arcuate cage or screen so that it will be effective in resisting strains and forces which it may be subjected to while in service and which may tend to distort or bend it to such a degree as to render it unfit for service.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts, hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevational view of a cage or screen of my improved construction.

Fig. 2 is a plan view of the side portion of my improved cage.

Fig. 3 is a perspective view of one of the corners of the cage.

Fig. 4 is a rear elevational view of one of the corners of the cage.

Fig. 5 is a sectional view taken approximately on the line 5—5 of Fig. 1.

Referring by numerals to the accompanying drawings which illustrate a practical embodiment of my invention, 10 designates a reticulated member, preferably a metal plate or sheet having holes punched therein, said plate being bent into arcuate form.

Positioned on the side edges of the reticulated plate 10 and against the inner face thereof are rails or bars 11, the outer portions of which extend beyond the edges of the plate 10, and formed integral with the outer face of each bar at the ends thereof and at suitable points intermediate said ends are outwardly projecting lugs 12, the same being equal in thickness to the thickness of plate 10. The bars 11 are secured to the reticulated plate by means of rivets 13 or like fastening devices.

Applied to the underside of the reticulated plate 10 are transversely disposed rails or bars 14, the ends of which bear directly against the lugs 12 and these bars are firmly secured to the rails or bars 11 by means of rivets 15 or like fastening devices, the same passing through said rails or bars 11, the lugs 12 integral therewith, and the end portions of transverse bars 14. Thus it will be seen that my improved screen or cage includes a strong and rigid frame comprising the curved bars or rails 10 and the transverse bars or rails 14, all of which bars or rails are rigidly secured to each other and said framework serving as a support for the reticulated plate 10, the side edges of which latter are positioned beneath portions of the curved side bars 11 and being firmly secured thereto by means of the rivets 13.

The lugs 12 serve as spacing elements between the bars 11 and 14 and in addition, they serve to prevent any tendency of the reticulated plate 10 to move laterally as a result of service shocks and strains, and consequently, relieving the rivets 13 of any shearing strains which may be produced between plate 10 and the side rails 11.

A cage of my improved construction is comparatively simple, can be easily and cheaply manufactured, inasmuch as they are

made up of ordinary shapes and require no machining and very little smithwork, and said cages can be made in various sizes and shapes to suit different requirements, and they are particularly designed to resist service shocks, strains and wear.

It will be readily understood that minor changes in the size, form and construction of the various parts of my improved cage may be made and substituted for those herein shown and described, without departing from the spirit of my invention, the scope of which is set forth in the appended claim.

I claim:

In a cage for reducing machine having revolving beaters or hammers, the combination with a foraminous plate curved throughout its length, of a combined frame and support for said plate, said frame comprising curved bars secured to the inner face of the said plate on top of the side edges thereof, portions of which bars project beyond the edges of the plate, said bars having lugs integral therewith positioned directly against the side edges of the said foraminous plate, a series of transversely disposed bars secured to the underside of the foraminous plate and bearing directly against the same, the ends of said transversely disposed bars bearing directly against the outer faces of the lugs on the bars, fastening means passing through the curved bars and through the foraminous plate adjacent to the edges thereof, and separate fastening means seated in and passing through the curved bars and the ends of the transversely disposed bars.

In testimony whereof I hereunto affix my signature this 26th day of January, 1918.

MILTON F. WILLIAMS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."