O. J. MOUSSETTE, Sr.

SCREEN ATTACHMENT FOR MILLS.

APPLICATION FILED AUG. 21, 1916.

1,302,697.

Patented May 6, 1919.

2 SHEETS—SHEET 1.

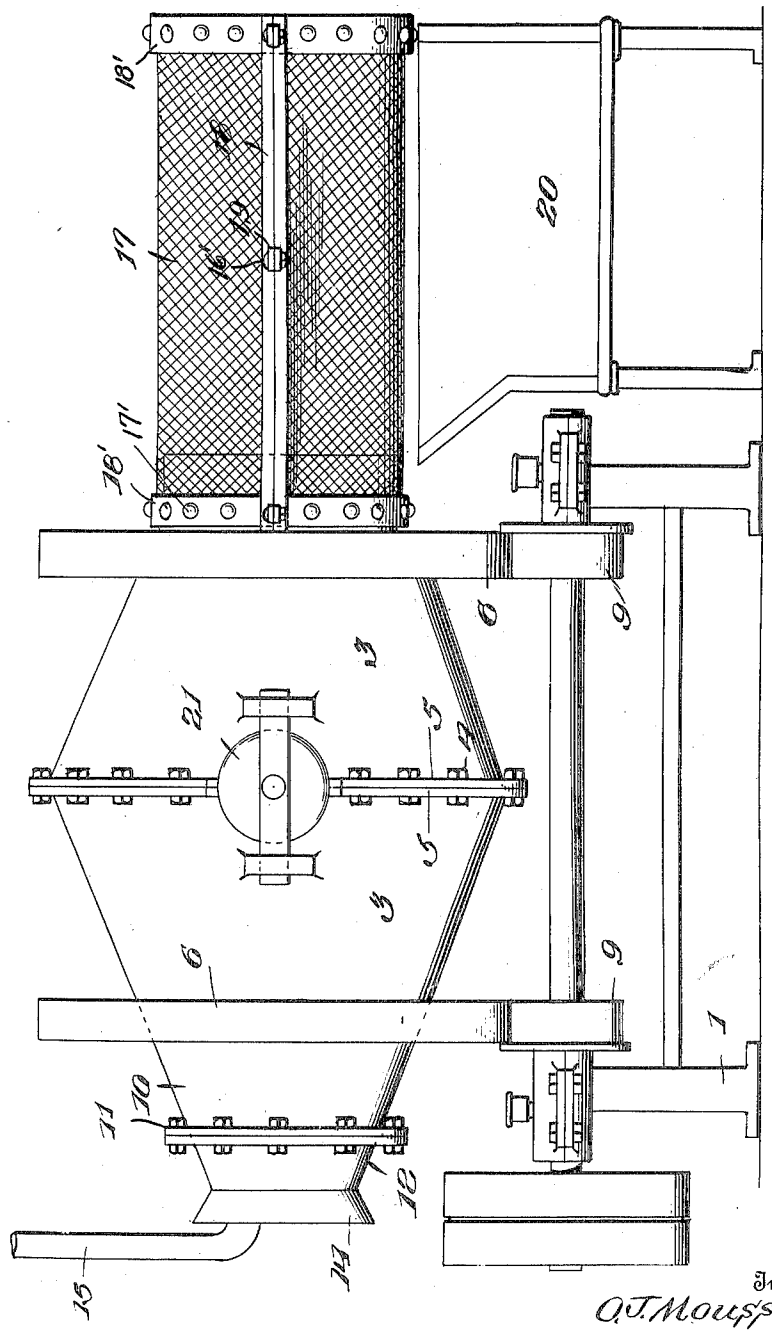


Fig. 1.

Witness

Inventor
O. J. Moussette Sr.

By

Attorneys.

O. J. MOUSSETTE, Sr.

SCREEN ATTACHMENT FOR MILLS.

APPLICATION FILED AUG. 21, 1916.

1,302,697.

Patented May 6, 1919.

2 SHEETS—SHEET 2.

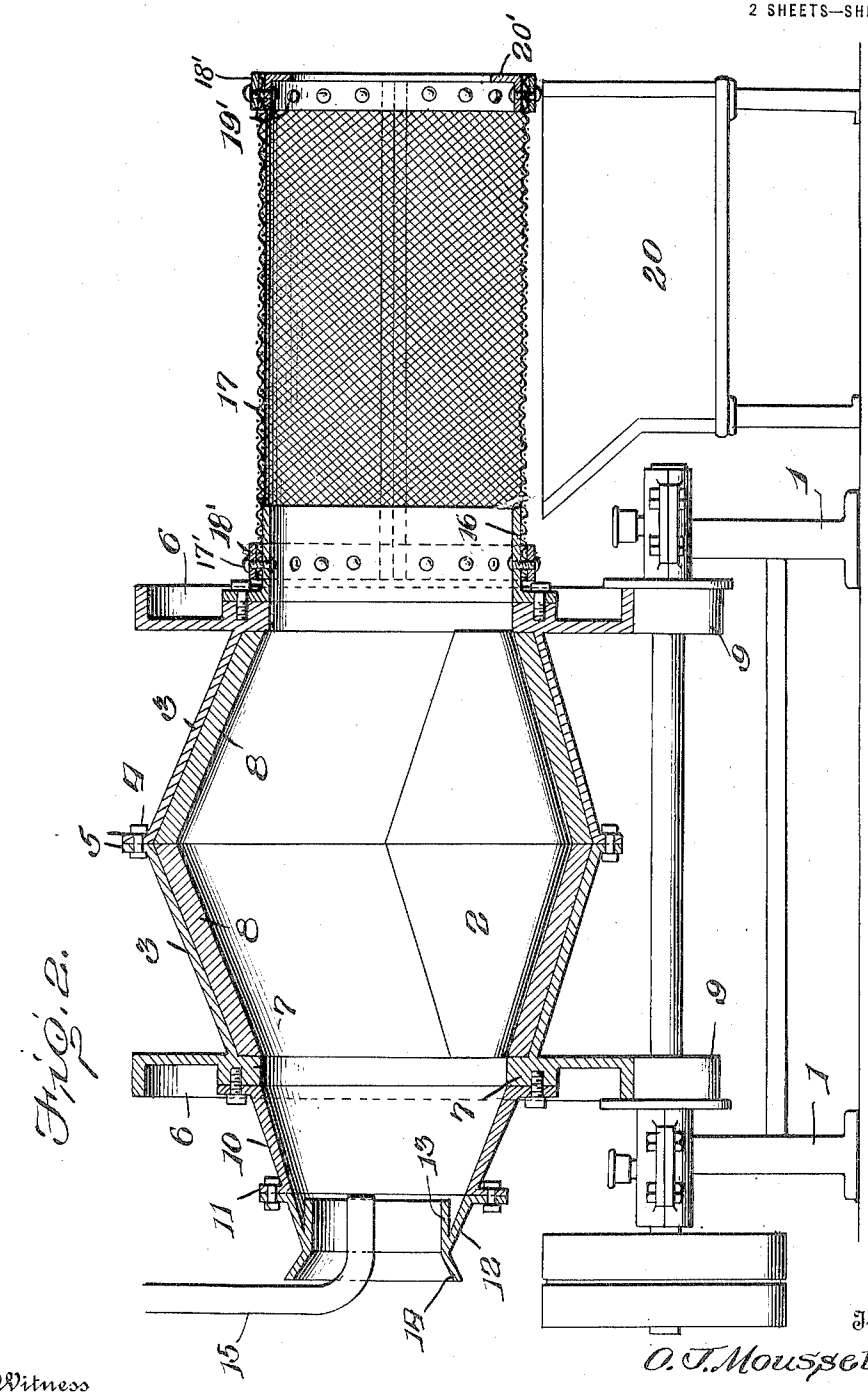


Fig. 2.

Witness

Inventor

O. J. Moussette, Sr.

By

Attorneys

UNITED STATES PATENT OFFICE.

OLIVER J. MOUSSETTE, SR., OF BROOKLYN, NEW YORK.

SCREEN ATTACHMENT FOR MILLS.

1,302,697. Specification of Letters Patent. Patented May 6, 1919.

Application filed August 21, 1916. Serial No. 116,157.

To all whom it may concern:

Be it known that I, OLIVER J. MOUSSETTE, Sr., a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Screen Attachments for Mills, of which the following is a specification.

This invention relates to crushers of the general class illustrated in Letters-Patent No. 1,187,967, granted to me February 24, 1914, and has special reference to that form of crusher which is intended more particularly for use in reclaiming valuable particles from refuse of brass foundaries and similar establishments. The particular object of the present invention is to so construct the apparatus that the water employed for washing the material will all be caused to escape through the outlet and the screen connected therewith and will be prevented from overflowing and passing out through the inlet cap or section.

In the accompanying drawings,

Figure 1 is a side elevation of a crusher embodying my present improvements;

Fig. 2 is a longitudinal section of the same.

The base or supporting frame 1 illustrated in the accompanying drawings is the same in all respects as the frame or supporting base shown and described in my aforesaid patent. The crushing members comprise a drum and crushing rollers, the crushing rollers being indicated by the reference numeral 2 and being of a frusto-conical form with their larger ends opposed and flexibly connected in any desired manner. These crushing rollers are placed loosely in the drum consisting of the frusto-conical sections 3 connected at their wider ends by bolts 4 inserted through mating flanges 5, as shown and as will be readily understood. At the smaller ends of the drum sections 3, I provide the driving friction rings 6 which are preferably formed integral with the drum sections and have their inner peripheries extended inwardly beyond the shell or wall of the drum so as to provide offsets 7 having plane outer radial faces. Removable linings 8 are fitted within the drum sections and bear against the offsets 7 at their smaller ends while their larger ends abut, as shown clearly in Fig. 2. The driving rings 6 rest directly upon the friction rollers 9 which are carried by shafts journaled in the supporting base 1 and rotated by any convenient mechanism. To the outer plane radial face of the offset 7 and driving ring 6, at the outer smaller end of one of the durm sections, I secure the tapered terminal section 10 which is provided at its outer smaller end with an outstanding annular flange 11 to which is secured the cap or hood member 12 which constitutes an inlet for the drum, as clearly shown in Fig. 2. This cap or hood is provided with an internal cylindrical flange or rim 13 while its main portion is tapered so as to form a continuation of the terminal member 10 when secured thereto. The outer end of this cap or hood member is flanged, as shown at 14, to facilitate the feeding of water or the material to be treated. A water supply pipe 15 is illustrated as passing through this member into the drum so as to supply the water for washing the material to be treated, but it is to be understood that this particular form of water supply is not essential and the water may be fed through the cap or hood member in any desired manner.

To the end of the drum, remote from the terminal section 10, I secure a cylindrical spout or terminal member 16 which projects axially from the drum and around this spout or cylindrical terminal member I secure the inner end of a cylindrical screen 17 which may be of any convenient or preferred length. This cylindrical screen, in machines of small capacity, may be formed of a single piece of wire netting rolled into cylindrical form and having its ends joined together, but in larger machines I prefer to reinforce the abutting edges of the screen by longitudinally disposed metallic bands or strips 18 and the opposite ends thereof by circumferential reinforcing bands 18′ secured to the longitudinal bands or strips 18 as shown. Suitable fastening devices such as bolts or rivets 17′ extend through the inner circumferential reinforcing band 18′ and through the spout 16 for the purpose of retaining the screen in position on the machine. The longitudinal reinforcing strips 18 are provided with lugs or ears 19 having registering openings formed therein for the reception of fastening bolts 16′. The outer end of the cylindrical screen is open and is reinforced by a clamping ring 19′, which bears against the inner face of the screen and is secured to the adjacent circumferential reinforcing band 18′, as

shown. The clamping ring 19′ is provided with an inwardly projecting retarding flange 20′, the outer surface of which is disposed flush with the adjacent end of the outer circumferential reinforcing band. The cylindrical screen extends over a hopper 20 and a conveyer may be provided to transfer the material collected in the hopper to a concentrating table for further treatment, but the conveyer is not illustrated as it is not essential and forms no part of the present invention.

It will be readily noted from the foregoing description, taken in connection with the accompanying drawings, that the outlet spout 16, with the screen 17 attached thereto, is of greater diameter than the inlet hood or member 12 and as these members are concentric, the lowest point of the spout is below the lowest point of the inlet. Consequently, the water will flow through the outlet spout before it rises to the level of the flange 13 and, consequently, none of the water will flow back through the inlet and wash away the material containing valuable particles. So far as I am aware, crushers of the tapered drum and roller type for reclaiming waste matter heretofore produced have not been practical for the reason that the water introduced into the crushing drum for washing the material has been permitted to flow back into and through the inlet and much valuable matter was, therefore, wasted by being carried through the inlet by the overflow. In my present machine, however, water cannot reach the level of the inlet so that all the material will necessarily be caused to pass out through the outlet spout 16 and into the cylindrical screen 18. The spout 16 is rigidly secured to the adjacent end of the drum and the cylinder is rigidly secured to the spout so that the cylinder will be rotated with the drum and the material agitated in the cylinder. The cylinder should be of such mesh that only very fine particles of matter can escape therethrough and the greater quantity of the treated particles will discharge over the flange 20′ at the open end of the cylinder. The smaller particles, which will include dust and other exceedingly fine matter, will be caught in the hopper 20 from which it may be removed in any convenient manner and further treated upon a concentrating table. By my present machine, the waste particles of brass foundries and other similar establishments may be effectually treated and the valuable particles reclaimed.

The material to be treated may be fed into the drum through the cap or hood member 12 or may be fed in through the side of the drum through a feed opening closed by a plug 21, as illustrated in Fig. 1. Motion is imparted to the drum through gear rings 6 and the drum will be thereby rotated so as to carry the material under the crushing rollers 2 which will be caused to rotate through their contact with the drum and the material tending to collect in the bottom of the same. As the material is crushed and pulverized, the lighter particles will gradually work upwardly to the level of the spout 16, and will overflow therethrough, the passage of material through the spout 16 being accelerated by the current of water which is supplied to the drum to wash the material and aid the crushing of the same.

Having thus described the invention, what is claimed as new is:

A screen attachment for wet mills of the revolving type comprising a tubular body of foraminous material open at its ends and having the form of a cylinder and provided along its abutting edges with longitudinal metallic reinforcements and at its opposite ends with circumferential reinforcing bands secured to said longitudinal reinforcements, means extending through the inner circumferential reinforcing band for fastening the intake end of the tubular body to the discharge end of the mill, and a clamping ring bearing against the inner face of the tubular member at the discharge end thereof and secured to the outer circumferential reinforcing band, said clamping ring being provided with an inwardly projecting retarding flange, the outer surface of which is disposed substantially flush with the adjacent end of the outer circumferential reinforcing band, the interior of the body between the retarding flange and intake end thereof being unobstructed.

In testimony whereof I affix my signature.

OLIVER J. MOUSSETTE, SR. [L. S.]