T. J. STURTEVANT.

SCREEN OR SEPARATOR.

APPLICATION FILED JAN. 5, 1914.

1,111,044. Patented Sept. 22, 1914.

Fig. 1

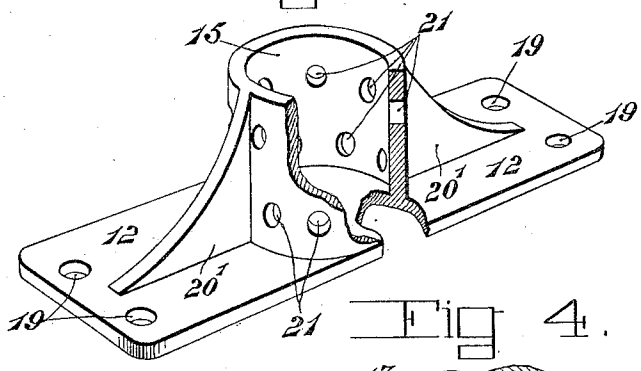


Fig. 2.

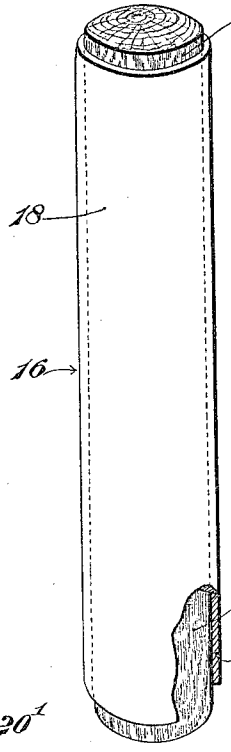
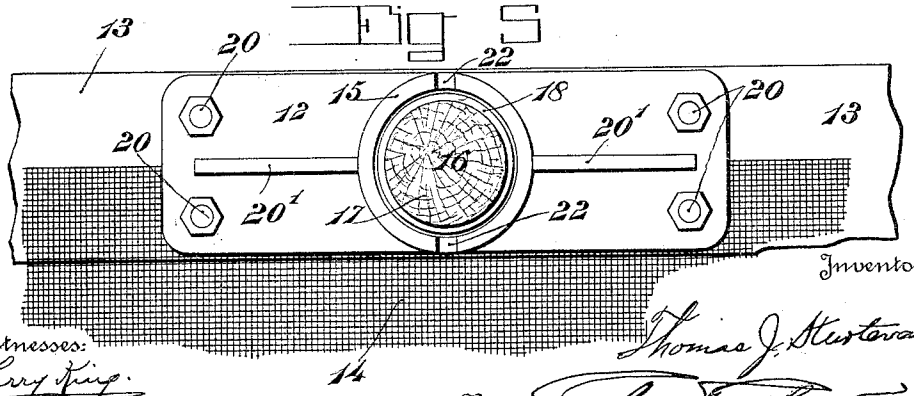


Fig. 4.

Fig. 3

Fig. 5



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UNITED STATES PATENT OFFICE.

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SCREEN OR SEPARATOR.

1,111,044. Specification of Letters Patent. Patented Sept. 22, 1914.

Application filed January 5, 1914. Serial No. 810,435.

To all whom it may concern:

Be it known that I, THOMAS J. STURTEVANT, a citizen of the United States, residing at Wellesley, in the county of Norfolk and State of Massachusetts, have invented or discovered certain new and useful Improvements in Screens or Separators, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to that class of screens or separators in which the screens or screen frames are jarred by percussive action imparted thereto by hammers acting on impact bars, and more particularly to screens or separators of this class in which the lower ends of the impact bars are received in cups or sockets preferably formed on foot plates mounted on the screens or screen frames. Some dust or fine material is apt to accumulate in these cups or sockets in which the lower ends of the impact bars are loosely received, and this dust or fine material, in accumulating in the cups or sockets beneath the lower ends of the impact bars, will raise or crowd the said bars up more or less, so that the force of the blows of the hammers will be varied, and thereby disturb such a fine or nice adjustment as is desirable in screening some kinds of material. To avoid this objection as to an undesirable variation in the jarring impact, the cups or sockets, according to the present invention, are provided with openings through which the material which might otherwise accumulate in the bottoms of the cups or sockets can escape therefrom, and thus the said cups or sockets will not become partly filled up by accumulating material. It is desirable, however, that adjustment of the percussive force of the hammer blows should be provided for so as to secure a different adjustment according to the character of the material being screened, and such adjustment may be secured, according to the present invention, by providing disks or washers which may be inserted in the bottoms of the cups or sockets so as to raise the impact bars more or less, according to the number of these disks or washers employed, and thereby vary the force of the jarring impact imparted to the screens through the impact bars. Also these disks or washers may be employed for the purpose of compensating for wear of the impact bars, in cases where it is desirable to prevent variation in the percussive action.

In the accompanying drawing Figure 1 is a perspective view of a foot plate provided with a cup or socket embodying one form of the present invention. Fig. 2 is a perspective view of a preferred form of impact bar. Fig. 3 is a perspective view of one of the disks or washers which may be employed in connection with the cup or socket. Fig. 4 is a sectional view showing the invention in a slightly different form from that shown in Fig. 1 applied to a screen frame, and Fig. 5 is a plan view illustrative of the invention.

Referring to the drawing, 12 denotes a foot plate which, in practice, will be mounted on a frame portion 13 of a wire mesh screen 14, said foot plate being provided with a cup or socket 15 adapted to loosely receive the lower end of an impact bar 16. This impact bar will preferably consist of a round block of wood 17 incased in a thin metal tube 18, preferably of steel, said wooden block being somewhat longer than the said tube, so as to project some little distance beyond the ends of said tube. By using an impact bar such as just described the impact of the blow of the hammer on the impact bar will be somewhat cushioned by the projecting upper end of the wooden block, and the percussive impact imparted by the said bar to the screen frame will also be somewhat cushioned by the projecting lower end of said block. The foot plate 12 is preferably provided with openings 19 for the reception of bolts 20 by which said foot plate may be secured to the screen frame, or to a protective strip placed on the wire mesh screen, and the cup or socket 15 on the said foot plate is preferably provided with bracing or steadying webs 20^1 formed integral with the said cup or socket and said foot plate.

To permit of the escape of material which might otherwise accumulate in the bottom of the cup or socket 15 the said cup or socket is provided with openings in its sides, and said openings may be formed as round holes 21, as shown in Fig. 1, or may consist of slits 22 extending from a point at or near the bottom of the cup or socket to the top thereof, as shown in Figs. 4 and 5.

To provide for an adjustment of the per-

cussive jarring action, by varying the positions of the impact bars relative to the hammers, thin metal disks or washers 23, a greater or lesser number of which may be employed, are fitted to be loosely inserted in the cups or sockets 15, and these disks or washers may be used not only for the purpose of varying the percussive jarring action but may also serve to prevent variation of such jarring action by compensating for wear of the impact bars, as heretofore stated.

It will of course be understood that the screens of separators will, in practice, each be provided with a series of cups or sockets for receiving the lower ends of a series of impact bars, but it is deemed unnecessary to show a series or plurality of these cups or sockets and impact bars in the drawing of the present case as these parts would be duplicates of or like those now shown.

Having thus described my invention I claim and desire to secure by Letters Patent:

1. The combination with a wire mesh screen and an impact bar through which percussive jarring action may be imparted to said screen, of a cup or socket adapted to receive the lower end of said impact bar, and which is provided with openings for the escape of fine material which might otherwise accumulate in the bottom of such cup or socket.

2. The combination with a wire mesh screen and an impact bar through which percussive jarring action may be imparted to said screen, of a cup or socket adapted to receive the lower end of said impact bar, and which is provided with openings for the escape of fine material which might otherwise accumulate in the bottom of such cup or socket, and a foot plate integral with said cup or socket and by which said socket is mounted on said screen.

3. The combination with a wire mesh screen and an impact bar through which percussive jarring action may be imparted to said screen, of a cup or socket adapted to receive the lower end of said impact bar, and regulating disks or washers adapted to be loosely inserted in said cup or socket.

4. The combination with a wire mesh screen and an impact bar through which percussive jarring action may be imparted to said screen, of a cup or socket adapted to receive the lower end of said impact bar, and which is provided with openings for the escape of fine material which might otherwise accumulate in the bottom of such cup or socket, and regulating disks or washers adapted to be loosely inserted in said cup or socket.

5. The combination with a wire mesh screen and an impact bar through which percussive jarring action may be imparted to said screen, of a cup or socket adapted to receive the lower end of said impact bar, and which is provided with openings for the escape of fine material which might otherwise accumulate in the bottom of such cup or socket, a foot plate integral with said cup or socket and by which said socket is mounted on said screen, and bracing webs integral with said foot plate and said cup or socket for steadying the latter on the former.

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

THOMAS JOSEPH STURTEVANT.

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