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SPLASH GUARD BRACKET FOR SHOWER PIPES

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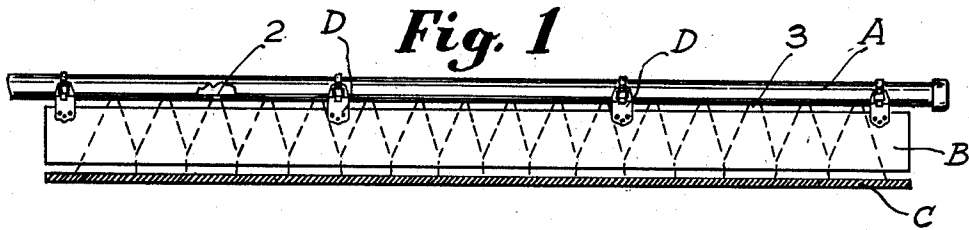


Fig. 2

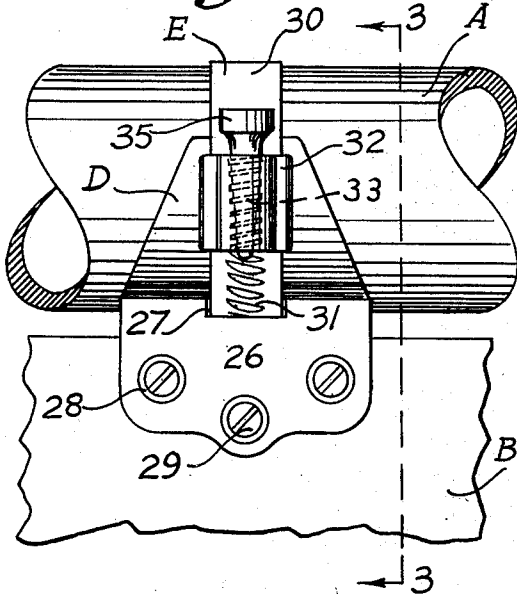


Fig. 3

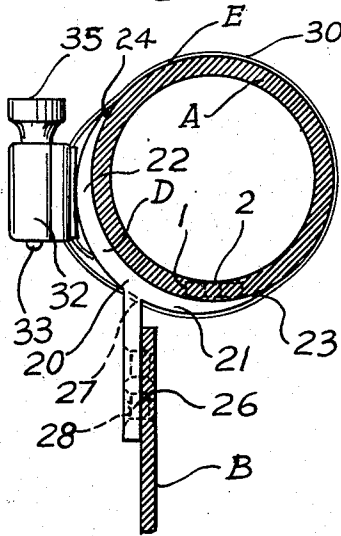


Fig. 4

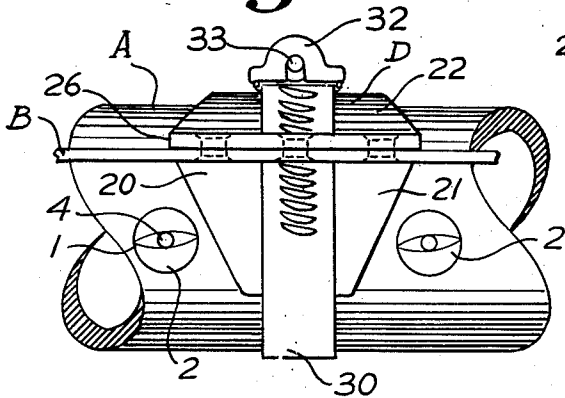
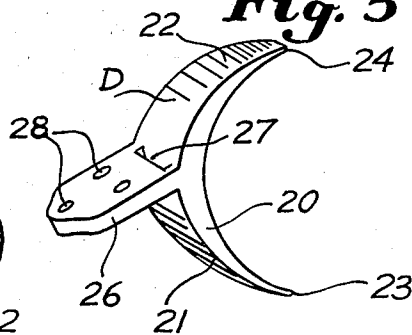


Fig. 5



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SPLASH GUARD BRACKET FOR SHOWER
PIPES

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2 Claims. (Cl. 299-106)

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This invention relates to splash guards for shower pipes such as are used for washing or cleaning wires, felts, etc. in paper and pulp mills. In this class of shower pipes there is a longitudinal pipe with a plurality of openings spaced longitudinally into which nozzles or other jet outlets are placed for emitting a series of sprays of liquid. Such nozzles may project slightly from the surface of the pipe or they may be flush therewith.

In the paper industry showers are used to spray filtered water, or stock and a constant effort is made to conserve the fluid being sprayed. A shower may use five gallons a minute of filtered water and over a period of a day 100,000 gallons of water may be sprayed in a typical mill. Great wastage can occur if a spray is permitted to splash excessively and for this reason splash guards are used.

Showers are applied in many positions as the paper stock travels through various paper machines. They are used to clean wire screens as well as endless conveyors of felt. They may be directed downwardly, upwardly or at an angle to the member being cleaned or treated.

Shower pipes customarily extend across the member to be sprayed and may be supported on both sides or solely on one side. Similarly splash guards which extend along the shower pipe have been supported by brackets on both sides attached to the frame of the machine or in rotary cylindrical screens, having one closed end and one open end, the shower pipe is usually supported on one end only and the splash guard has also been so supported.

To make splash guards more universal in installation it has been the custom to attach them directly to the shower pipe so that regardless of how the shower pipe is supported the splash guard will have support from the shower pipe. This has been done by fixing brackets to the splash guard at convenient intervals, for example, every twenty-four inches of its length and fastening the bracket to the shower pipe by means of screws.

The skin of a shower pipe is comparatively thin so that such screws may penetrate into the inside and, upon removal of the splash guard and bracket a number of holes are left which must be plugged. If it is desired to change the position of the splash guard the old screw holes must be plugged while new holes are drilled, thus eventually weakening the pipe.

The object of my device is to provide a splash guard bracket which is held in position on a

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shower pipe by means which encircle the pipe and may be tightened without damaging the surface thereof. I use a well known type of worm and screw thread band which becomes of smaller diameter and circumference as the worm is turned. I may also use any other convenient form of clamping device which encircles the pipe without penetrating the same.

A further object of my invention is to provide a bracket of such width that it, and its accompanying circumferential band will not block the spray openings of standard types of shower pipes in general use in paper mills.

A further object of my invention is to provide a bracket with a base portion of such material and shape that the tapering arms thereof can be easily bent in cold condition to conform to the circumferential surface of shower pipes of different diameters.

As will be seen in the accompanying description and drawings, my device is easily removable and is reversible so that in the event of wear on the splash guard, it may be loosened and slid along the pipe to a better position or may be removed, reversed and reinstalled. A splash guard, mounted according to my invention, may be tightened into position around the shower pipe at various angles to the axis of the orifices of the shower pipe to perform its function of catching and deflecting any disruptions in the spray, although, in some positions, it could be used to deflect the spray itself.

In the drawings, Fig. 1 is an elevation of my splash guard and brackets attached to a shower pipe and shows the member being treated, such as a felt, in section.

Fig. 2 is an enlarged elevation of one form of my bracket attached to a shower pipe with the splash guard and pipe partly broken away.

Fig. 3 is a cross section on line 3-3 of Fig. 2.

Fig. 4 is a bottom view of the splash guard and bracket attached to a shower pipe showing one type of nozzle.

Fig. 5 is an isometric view of another form of my new bracket.

A is a shower pipe having a series of nozzles 2, 2, spaced longitudinally lengthwise through which sprays 3 of filtered water or stock are projected onto a member being treated, such as a wire screen or a felt C. The nozzles 2, 2 are screwed into openings 1 in shower pipe A and have pin point openings 4 for effectively forming a spray. However, the nozzles may be of various types in common use in the paper industry as for instance the type which is not flush with the

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circumference of shower pipe A but projects slightly therefrom.

I provide a splash guard B parallel to shower pipe A and attached thereto by brackets D, spaced at convenient distances, such as 24 inches, along the shower pipe A.

The splash guard B is usually placed on the side of the sprays toward which the member being treated is travelling and may project downwardly, upwardly or at an angle, depending on the direction of the sprays.

As shown in Fig. 3, my bracket D comprises a base portion 20 of substantial thickness, and having arms 21 and 22 which taper to comparatively thin and narrow ends 23 and 24.

Integral with 20 and projecting therefrom is a flange 26 having openings 28, 28 for screws or other holding means and having an opening 27 at the base of the flange to permit the passage of a metal band 30 which encircles the shower pipe.

As illustrated in Figs. 2, 3, and 4, splash guard B is attached to flange 26 by screws 29 through holes 28 in flange 26. Rivets could replace screws 29.

The base portion 20 is of such material and thickness that it can be easily shaped by an ordinary workman using ordinary tools to fit the circumference of a shower pipe such as A or a shower pipe of greater or lesser diameter.

I use a well known form of fastening means such as E which comprises a flexible metal band 30 through which holes 31, 31 have been punched, adapted to form a worm gear track. A casing 32 is provided in which worm gear 33 is carried as well as a knurled knob 35 for convenient turning and tightening. One end of track 30 is permanently fixed to casing 32 and the free end passes through casing 32 in contact with worm gear 33 whereby the turning of knob 35 causes the loop formed by 30 to become smaller or greater as desired.

As shown in Fig. 3, arm 22 may be of greater length than arm 21 or as shown in Fig. 5, the arms 21 and 22 may be of equal length. In either case, each arm may be bent so that the concave inner face of base portion 20 will fit the outside circumference of shower pipes of different sizes.

I claim:

1. A bracket adapted to support a splash guard

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at a spaced distance from shower pipes of various diameters and at a plurality of angular positions relative to the axis of the orifices therein, said bracket comprising a base of bendable metal having a wide, substantially thick, central portion and oppositely disposed curved arms, each arm tapering to a narrow thin tip and a splash guard supporting flange, integral with the wide portion of said base, projecting outwardly therefrom at a substantial angle from the straight line extension of the radius of the curve of said arms at said flange and having an opening there-through proximate said base.

2. In a shower for use in paper making machines, the combination of a shower pipe having a plurality of orifices spaced longitudinally thereof; a splash guard extending longitudinally of said shower pipe at a spaced distance therefrom; splash guard supporting brackets of bendable metal each comprising an arcuate base portion of crescent shaped cross section and each having an integral splash guard supporting flange projecting outwardly, intermediate of said base portion, at a substantial angle from the straight line extension of the radius of said arcuate base at said flange and a flexible tightening band encircling said shower pipe, adapted to fix each bracket in various positions on said shower pipe.

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