P. MOHR.

BRUSH HOLDER.

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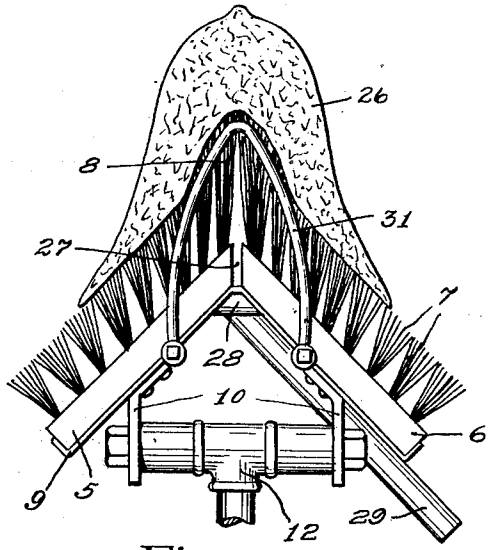


Fig. 3

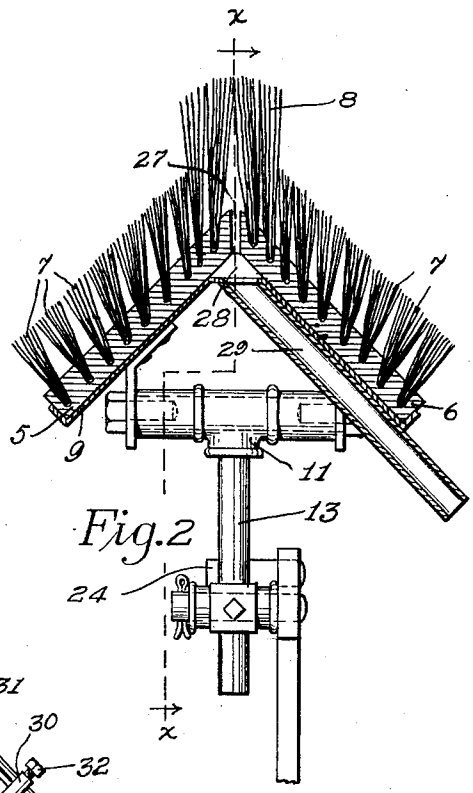


Fig. 2

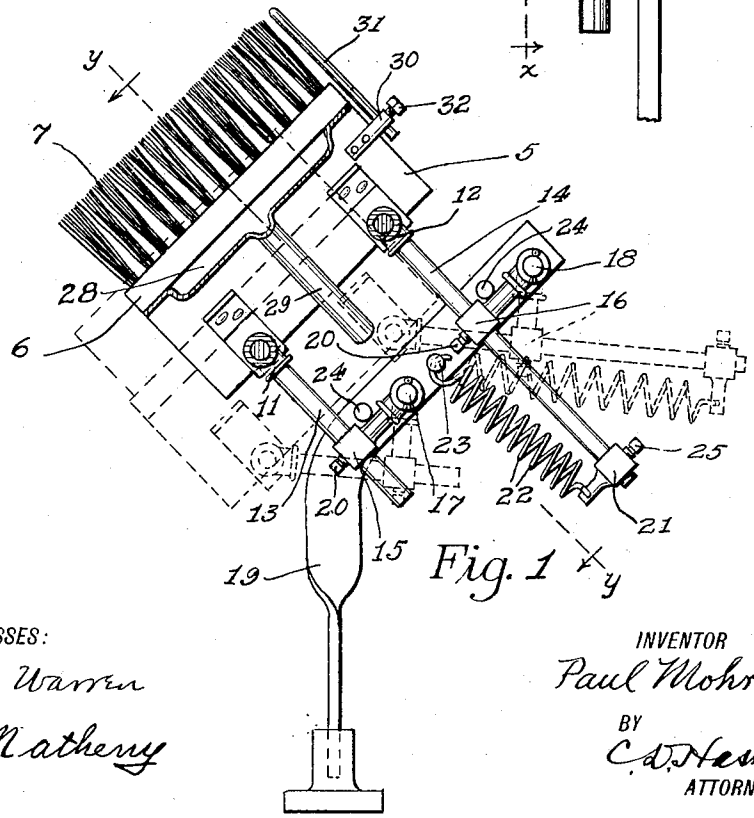


Fig. 1

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BRUSH-HOLDER.

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To all whom it may concern:

Be it known that I, PAUL MOHR, a subject of the Emperor of Germany, residing at Seattle, in the county of King and State of Washington, have invented a certain new and useful Improvement in Brush-Holders, of which the following is a specification.

My invention relates to improvements in adjustably yielding devices that embody mechanisms which are associated with brushes and flexible means for conducting water to a desired point with respect to the position of such brushes, which devices are adapted to be employed in the operation of cleaning the inside of fish, and the object of my improvement is to provide a simply constructed holder for brushes that shall be adapted to be adjusted to hold the brushes with their planes at a desired angle with respect to a horizontal line and that shall be further adapted to yield from its normal position so that such brushes may recede from their normal positions for a distance proportional to the pressure imparted to them by the fish that is being cleaned without changing the angular position of the brushes with respect to a horizontal line, and a further object is to provide means for supplying a stream of water to such brushes to maintain them clean irrespective of their varying movements from their normal positions during their operation of cleaning fish.

I accomplish these objects by devices illustrated in the accompanying drawings, in which—

Figure 1 is a view in vertical section of a structure embodying my invention on broken line *x*, *x* of Fig. 2, which Fig. 2, is a view in cross-section of the same on broken line *y*, *y* of Fig. 1, and Fig. 3 is a view in end elevation of the same certain portions being broken away.

Referring to the accompanying drawings in which like reference numerals indicate like parts, 5 and 6 are two brush-backs that are each provided with short bristles 7 on one portion of their upper sides while another portion thereof is provided with longer bristles 8, such brush-backs 5 and 6 being secured together at approximately right angles to each other by a metal plate 9 to form a brush of the shape of an inverted letter V, the longer bristles 8 forming a ridge at the apex of the brush as illustrated in Figs. 2 and 3.

Secured to the back surface of each of the end portions of the metal plate 9 are oppositely disposed brackets 10 which brackets 10 of one of said end portions serve as pivot supports for a T shaped trunnion 11 while the like brackets of the other of said end portions of said plate 9 in a like manner serve to support the pivots of a similar trunnion 12, the shank portion 14 of said trunnion 12 being longer than the shank portion 13 of the trunnion 11, as shown more clearly in Fig. 1. The shank portion 13 is disposed adjustably and slidably to project through a socket hole provided in one end of an arm 15 whose other end is pivotally mounted on a stud 17 which is rigidly fixed to the side of a supporting standard 19 while the shank portion 14 is similarly disposed to adjustably and slidably project through a socket hole in one end of a similar arm 15 whose other end is pivotally mounted to swing on a stud 18 which is also rigidly fixed in the same side of said supporting standard 19. Each of the shank portions 13 and 14 independently may be moved in a lengthwise direction within its respective socket hole to set the brushes at a desired angle whereupon by the means of a set screw 20 it may be fastened securely within such socket hole whereby whatever be the degree of swinging movement of the two arms 15 and 16 the brushes will be always with their planes at the same angle with respect to a horizontal line, as may be seen by the position of the dotted lines in Fig. 1, which show the arms 15 and 16 in a different angular position, as shown in full lines, while the angular position of the brush holder and brushes is the same.

As shown in Fig. 1, upon the lower end of the longer shank portion 14 is disposed an adjustably slidable connector 21 to which a helical spring 22 is connected to extend therefrom to connect with a stud 23 fixed in the supporting standard 19 which spring 22 serves to act on the shank portion 14 normally to maintain the arms 15 and 16 in engagement with limit ports 24 that are each fixed in the standard 19 and such spring 22 may have its tension increased or decreased, as desired, by setting the slidable connector 21 at different positions on the shank portion 14 in any of which positions it may be secured by the set-screw 25. Thus, when a fish, like a fish 26, shown in cross-section in Fig. 3, is pressed against the brushes, with varying degrees of force, the spring

22 may yield proportionately to such force to permit the arms 15 and 16 to swing on their studs 17 and 18 respectively, to provide an elastic engagement or contact of the fish 26 with the brushes and when the fish 26 is removed, such spring 22 again forces the arms 15 and 16 against their respective limit posts 24.

The metal plate 9, which serves to connect together and support the brush-backs 5 and 6 in their relative positions whereby the upper edges of such brush-backs 5 and 6 are spaced to form a slot 27 between such upper edges, is formed to create a chamber 28 immediately adjacent to and communicating with said slot 27 and connecting with such chamber 28, in the center of the lengthwise distance of the brush is a pipe 29 through which water may be conducted into said chamber 28 to flow therefrom through the opening slot 27 to impinge against the surface of fish 26 and thence to flow through the bristles of the brush to clean such bristles. The pipe 29 may be supplied with water by attaching to its lower end a flexible hose, not shown, which hose may lead to any convenient source of water under pressure.

Upon the upper end of the metal plate 9 are brackets 30, to which brackets 30 is secured a loop or bow of wire 31 formed to adapt it to guide a fish and keep apart the opposite sides of such fish during the operation of cleaning it. The end of such loop or bow of wire 31 being adjustably secured in said brackets 30 by set-screws 32.

While a structure embodying my invention, as shown and described, may be operated by manually applying fish to the brush it is particularly adapted for employment in connection with well known automatic machinery used in fish canneries, which machinery serves automatically to dress fish ready to be cut up into pieces ready for canning and when my invention is used in connection with such machinery, one fish after another is automatically disposed to engage with the brush, as indicated in Fig. 3, and is automatically drawn lengthwise thereon to clean and wash the inner side of the fish, and if the fish be very heavy the tension of the spring 22 is overcome to an extent proportional to the weight of such fish whereby the brush-holder may recede from its normal position to allow the brush a yielding engagement with the fish while water is forced through the pipe 29 into the chamber 28 and outwardly through the slot 27 to wash the inside of a fish and to keep the bristles of the brush clean. And for such operation the angular position of the brushes may be fixed as desired by adjusting either or both of the shank portions 13 and 14 within the socket holes of the arms 15 and 16 respectively, and when set in such desired angular position the brushes will maintain such angular position with respect to a horizontal line irrespective of the degree of swinging movement of the arms 15 and 16 in response to varying pressure of the fish on the brush.

Obviously minor changes may be made with respect to the form and dimensions of the several parts of my brush-holder and equivalent devices may be substituted for such parts without departing from the spirit of my invention.

What I claim is:

1. In a brush-holder of the class described, the combination with a supporting standard, of a pair of arms, each arm of which pair has one of its ends pivotally attached to said supporting standard to swing freely therefrom while its other end portion is provided with a socket hole, a brush-holder, two trunnions, each of which is pivotally attached to said brush-holder and each of which is provided with a shank that is adjustably disposed and secured within the socket hole of one of said arms, limiting means associated with said supporting standard for limiting the swinging movement of each arm of said pair of arms and elastic means for normally maintaining said pair of arms in engagement with said limiting means.

2. A structure of the class described, comprising a brush provided with an opening through the central portion of its back and further provided on its rear side with a chamber disposed lengthwise thereof and communicating with said opening, conduit means for conducting water into said chamber, and a brush-holder to which said brush is secured.

3. The combination with a brush-holder, and its supporting standard, of adjustable spring tension mechanism associated with said holder and standard for flexibly-supporting the holder upon the standard and permitting said holder to be adjusted to, and maintained in a desired angular position with respect to the position of the standard, irrespective of movements that may vary the distance between said brush holder and standard.

In witness whereof, I, hereunto subscribe my name this first day of December A. D., 1913.

PAUL MOHR.

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