

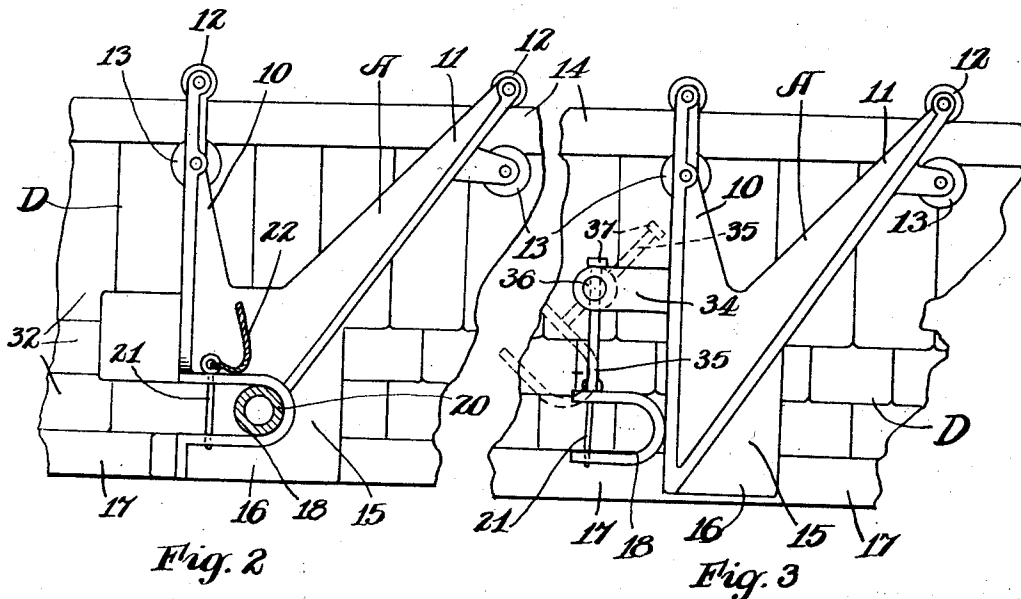
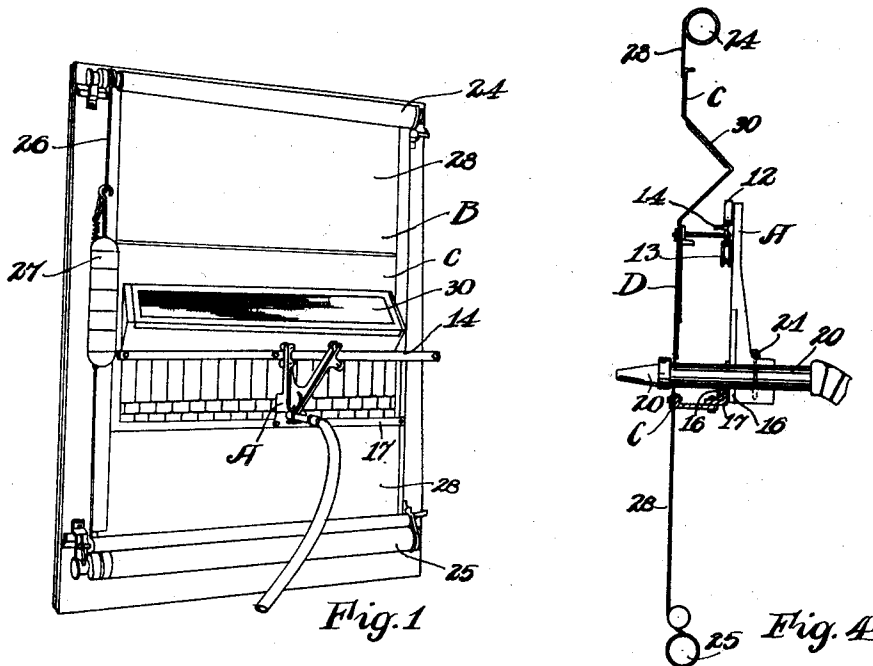
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ADJUSTABLE SAND BLAST NOZZLE HOLDER

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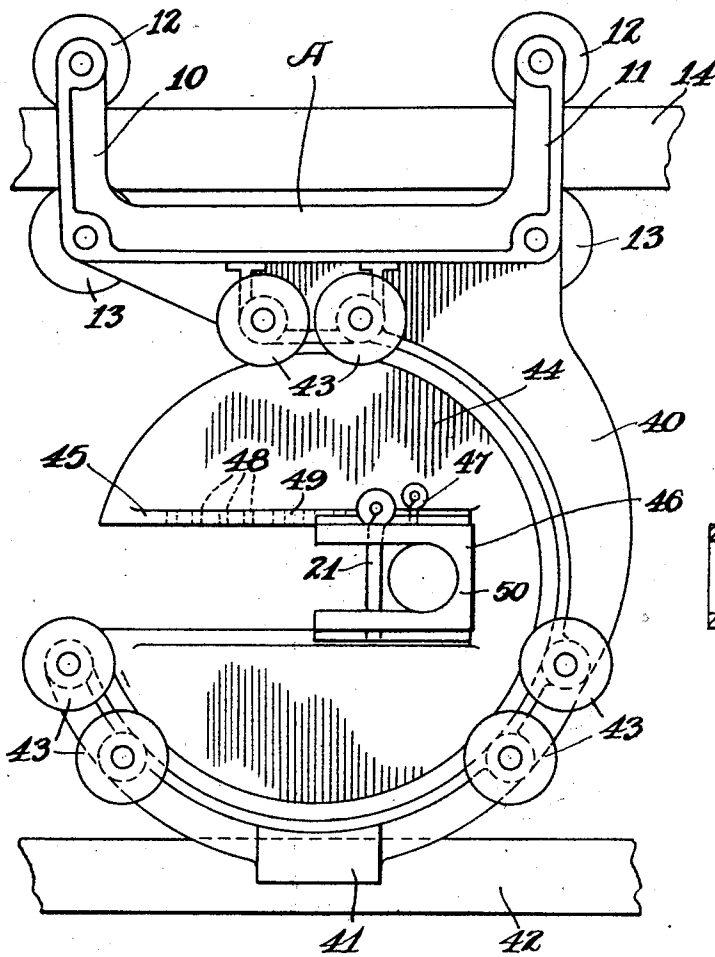


Fig. 5

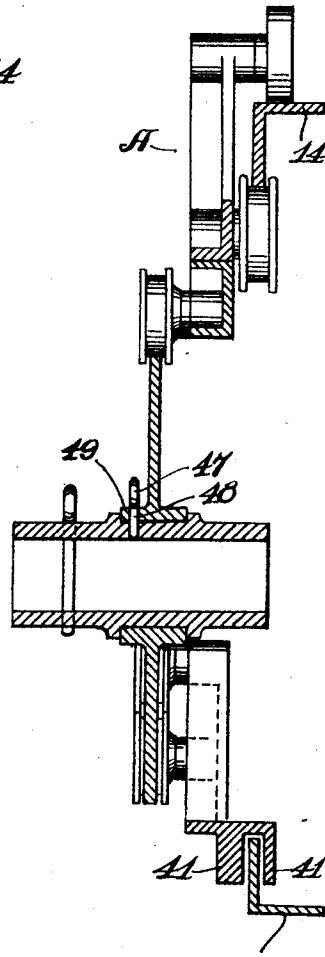


Fig. 6

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ADJUSTABLE SAND BLAST NOZZLE HOLDER

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My invention relates to adjustable sand blast nozzle holder the primary feature of which is to hold the nozzle virtually square so as to direct the sand blast squarely toward the object being sand blasted. This provides a nozzle holder to relieve the operator of the strain of holding the nozzle true to the work at all times and thus accomplishes a material advantage, taking the strain off the operator and permitting better work to be accomplished with the sand blast.

It is also an important feature of my adjustable sand blast nozzle support to provide a means of holding the nozzle so that it can be moved from one side to the other of the curtain through the flexible open portion of the curtain being carried by a track and trolley means which holds the nozzle pointing squarely at the work and which has an adjustable movement not only from side to side up and down and around so that the nozzle can be moved freely yet being held in a firm and square position.

My holder or support for the sand blast nozzle includes means for supporting the nozzle in a manner to rotate in symmetrical curves or circles permitting the nozzle to be freely rotated by easy movement. This is accomplished by means of supporting the nozzle with the rotatable disc-like supporting member which is free to rotate having a slideable support which permits the nozzle to be set for different radii and thus permitting the nozzle to rotate in small or larger circles when supported by the rotary trolley member and also permitting the free horizontal movement of the nozzle.

The construction of my nozzle holder is such as to provide a means of supporting the nozzle so as to give free movement in virtually every direction, yet holding the nozzle in a manner to point square at the work and thereby increasing the efficiency of the nozzle and making it easier for the operator in the movement and support of the nozzle.

In the drawings forming part of this application:

Figure 1 illustrates my adjustable sand blast nozzle holder as it would appear in use

with the curtain and the rails for supporting the trolley associated with the curtain.

Figure 2 is a front enlarged view of a portion of the holder and trolley.

Figure 3 is another form of the trolley and holder.

Figure 4 is a diagrammatic sectional side elevation through the holder, trolley and curtain.

Figure 5 is an enlarged front view of a rotary holder and trolley.

Figure 6 is a sectional side elevation of the holder and trolley in Figure 5.

My nozzle support or holder is designed to operate so as to hold the nozzle in a manner to permit it to be moved during operation freely by the operator's hand and is particularly designed to be used with a curtain which forms the front of the cabinet or inclosure in which the article is placed which is being sanded. The holder consists of a trolley member A formed with arms 10 and 11 which support the antifriction wheels 12 and 13. The wheels 12 are adapted to run on the angle iron track 14, while the wheels 13 are grooved and adapted to engage the depending edge of the track 14 to hold the trolley A slideable along the track 14.

The lower end 15 of the trolley A is formed with flange portions 16 which extend on either side of the angle iron guide member 17. Thus by means of the anti-friction wheels 12 and 13 the trolley A is carried on the track 14 and held in vertical position by the guide member 17 which is engaged by the flange member 16.

The trolley A is adapted to form the holder for the nozzle and is provided with a recess 18 in the form of a slot extending into the side of the lower end 15 of the trolley and in which the nozzle 20 is adapted to fit freely to allow the nozzle 20 to slide in and out. By means of a suitable pin 21 the nozzle 20 is held within the recess 18 against disengagement from the trolley A. The pin 21 is held by a flexible member 22 to the trolley so that it will not become lost and so that it can be easily removed when it is desired to remove the nozzle 20 from the holder and trolley A.

In the construction of the trolley and nozzle

zle holder A illustrated in Figure 1 and Figure 2, the nozzle is held by the trolley and holder so that it can be moved back and forth horizontally along the track 14 and guide 17. This is a simple form of holder for the sand blast nozzle and permits the nozzle to be adjusted in a horizontal movement in relation to the curtain B with which the holder A is associated. Thus the holder A provides a means of supporting the sand nozzle 20 freely movable from side to side of the curtain B.

The curtain B is of a particular formation, having a roller 24 at the top and another roller 25 at the bottom which hold the ends of the curtain so that they can be rolled up on these rollers. The rollers 24 and 25 are connected by a cable 26 and by means of a counter-weight 27 carried by the cable 26, the curtain B is counter-weighted in a manner so that it can be rolled up and down, permitting the ends of the curtain to roll or unroll from either of the rolls 24 and 25, but holding the body 28 of the curtain taut at all times. Within the body of the curtain B between the rolls 24 and 25 I provide a frame member C which is formed with an inclined window 30 for the operator. The window 30 is positioned directly above the holder and trolley A which is adapted to support the nozzle 20. The track 14 together with the guide 17 are secured to the front of the frame C so as to support the holder A for the nozzle 20 directly below the window 30 and in a manner so that when the curtain 28 is moved up and down to raise or lower the frame C with the window 30, the holder and trolley A move with the body of the curtain 28. Thus the nozzle held by the adjustable holder A may be moved up and down to the desired position in relation to the frame which supports the curtain 28.

The frame C is formed with a flexible shutter D made up of a series of overlapping flexible strips 32 to provide a flexible shutter through which the nozzle 20 extends so that when the nozzle is moved back and forth or in any position within the opening covered by the shutter D, the strips 32 will close the opening after the nozzle, thus forming a flexible automatically separating and closing shutter about the nozzle as it moves to the various positions in operation.

In Figure 3 I have illustrated another form of my adjustable nozzle holder A which is formed with a lug 34 projecting from the side of the arm 10 and adapted to pivotally and slidably support the rod 35 in the bearing member 36. The upper end of the rod 35 is provided with a head 37, while the lower end supports a nozzle holder 38 which has the nozzle recess 18 and is adapted to receive the locking pin 21 to hold the nozzle 20 in position in the recess 18.

In this construction illustrated in Figure 3

of the holder A the nozzle supporting member 38 is free to slide up and down or be rotated or move to the side as illustrated in dotted outline in Figure 3, so that not only a horizontal adjustment is provided by the holder A for the nozzle 20, but also a vertical movement together with a rotary movement if it is desired. This support A is held to the track 14 by the wheels 12 and 13 and by the flanges 16 at the bottom of the trolley A.

In Figures 5 and 6 I have illustrated the rotary type of adjustable support and trolley A which is designed to be supported by the anti-friction wheels 12 on the upper ends of the arms 10 and 11 and the anti-friction guide wheels 13, so that the rotary trolley and support A is held slidable along the track 14. The arms 10 and 11 in this type of trolley converge together into a depending curved or partially circular end 40. The lower extremity of this circular portion 40 is formed with flange members 41 which are adapted to engage on either side of the bar or angular guide member 42. These flange members 41 are similar to the function of the flanges 16 in the construction of trolley and holder in Figures 2 and 3 and are adapted to hold the lower end of the holder A in line or virtually parallel to the shutter D.

The lower curved or partially circular portion 40 of the holder A in this construction is provided with anti-friction rollers 43 which are positioned in pairs at different points so as to support a rotor 44 which is provided with a recess 45 for receiving the nozzle supporting member 46. In this construction the nozzle supporting member 46 slides into the opening 45 in the rotor 44 when the rotor 44 is in position with the slot 45 at the opening formed in the side of the circular portion 40 of the holder A. When the holder 46 is in position in the slot 45 a suitable locking pin 47 is extended through one of the openings 48 in the flange 49 formed in the rotor 44 and through into an opening formed in the holder 46. The flange 49 is formed with a series of openings 48 positioned at different points in the flange so that the holder 46 may be set into different adjusted positions within the slot 45. The locking pin 21 holds the nozzle 20 in the nozzle recess 50 of the holder 46 to prevent disengagement of the nozzle in operation.

The rotary nozzle support A is adapted to provide a means for supporting the nozzle so that it may easily be rotated by revolving the rotor 44. This is accomplished by engaging the nozzle or the hose extending from the nozzle in the hand and making a rotary movement with the same. The rotor 44 will roll freely carried by the anti-friction wheels 43 and thus the operator of the nozzle 20 may use a free rotary movement and at the same time secure a horizontal movement

along the track 14 by the rotary holder and trolley sliding along the same.

In sand blasting it is very desirable for certain classes of work to hold the nozzle square in relation to the work and yet take a strain off the operator in watching closely that the nozzle is held perfectly square. Usually the best results are obtained in blasting by a rotary movement or a free movement of the nozzle in different directions. With my adjustable sand blast nozzle holder I provide a means of supporting the nozzle in a manner to hold it pointing squarely at the work and also a free adjustment and movement of the nozzle. This is accomplished in the simpler forms of the same together with the other holders so designed as to give the desired movement to the nozzle while supported, permitting the nozzle to also be quickly and easily removed from the holder and also providing a true rotary movement by using the rotary trolley support. It will be readily apparent that the adjustable sand blast nozzle holder A provides a means of accomplishing a result of a very desirable nature in the support and free adjustment of the sand blast nozzle in operation.

In accordance with the patent statutes I have described the principles of operation together with the best embodiment of my holder and while the illustrations show particular forms of the same I desire to have it understood that these are only suggestive of a means of carrying out my invention and that various changes to anyone skilled in the art may be accomplished within the scope of the following claims without departing from the purpose of the invention.

I claim:

1. A sand blast nozzle holder comprising, a carrying trolley, a track for said trolley, anti-friction members for supporting said trolley on said track, a guide bar for said trolley to hold said trolley in line with said track, and means for supporting said track and guide bar to operate in a unit for vertical adjustment, said trolley being adapted for receiving a sand blast nozzle to support the nozzle adjustable horizontally and vertically.

2. In combination with an adjustable sand blast cabinet curtain, a nozzle holder including a trolley carriage, track and guide means for supporting said carriage, said carriage, track and guide means being adjustable with said curtain, and nozzle engaging means adjustably supported in said carriage to permit movement of the nozzle independent of and with the movement of the carriage.

3. A support for a sand blast nozzle including, a carriage, a track and guide for said carriage to give a horizontal movement of the nozzle supported by the carriage, and a nozzle holder supported by the carriage

slideable to permit rotary, vertical and transverse movement of the nozzle while held square with said carriage.

4. A sand blast nozzle support including, a carriage, means for supporting said carriage to travel horizontally, and rotarily, vertically, and horizontally adjustable means formed in said carriage through which a nozzle may extend.

5. A sand blast nozzle support including, a carriage, track and guide means for supporting the carriage to move horizontally, and means for supporting the carriage track and guide means to move collectively vertically, and a nozzle engaging means adjustably supported by said carriage.

6. A sand blast nozzle support including, a carriage, means for supporting the carriage to move vertically and horizontally, means for removably holding the nozzle to the carriage, said holding means being freely adjustable to permit of a rotary, vertical or transverse movement of the nozzle.

7. A sand blast nozzle support having a carriage, means for supporting said carriage to freely slide horizontally, a rotor supported by said carriage, and a sand blast nozzle holder adjustably supported in said rotor to permit the nozzle to be freely rotated and supported extending squarely through said carriage.

8. A sand blast nozzle support in combination with a curtain comprising, a nozzle trolley, a track for carrying said trolley to permit the same to move horizontally across the curtain, means for supporting said track on said curtain, and means upon said trolley through which a nozzle may extend to permit true circular movement of the nozzle guided by said trolley.

9. A sand blast nozzle support in combination with a screening curtain, a frame unit formed in said curtain, a sight window in said frame, a track and carriage supported by said frame adjacent said window to permit the carriage to move horizontally, and vertically and horizontally adjustable means through which a sand blast nozzle may extend, squarely pointing through said screen.

10. A sand blast nozzle support in combination with an adjustable sand screening curtain, a frame carried by said curtain, a sight window in said frame, a shuttered opening below said window, a carriage slidable horizontally adjacent said shuttered opening, and vertically and horizontally adjustable means in said carriage through which a sand blast nozzle may extend.

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