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DOUBLE SAND BLASTING NOZZLE

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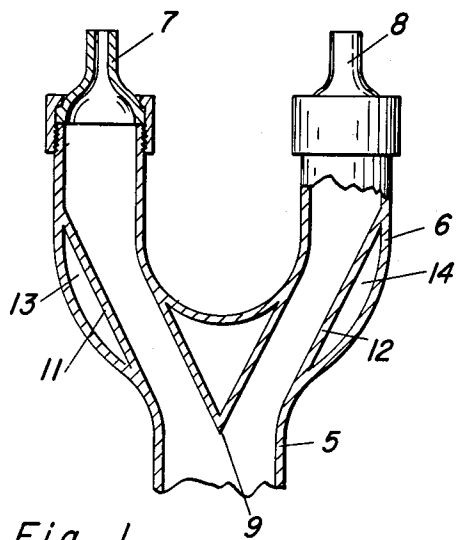


Fig 1

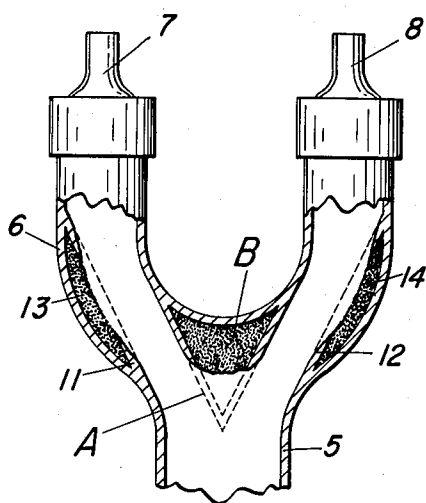


Fig 2

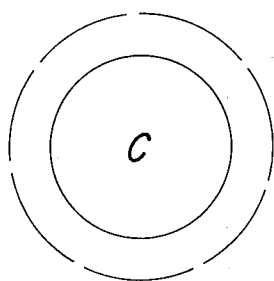


Fig 3

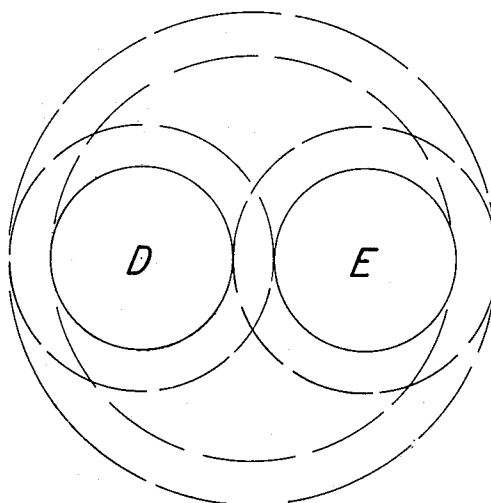


Fig 4

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DOUBLE SAND BLASTING NOZZLE

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2 Claims. (Cl. 51—11)

This invention relates to improvements in sand blasting nozzles and has particular reference to a nozzle which will sand blast a larger area than an ordinary nozzle will sand blast.

The principal object of this invention is to provide a nozzle which will employ two streams of sand arranged so that their pattern overlaps, thus creating a larger actively cutting area than can be effected by the use of the same amount of sand and air as would be applied with two separate nozzles each used independently.

A further object is to produce a nozzle which may be attached to any standard air and sand line without altering its construction.

A further object is to provide a device which will have a long life in comparison to the ordinary nozzle, which rapidly wears out.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numbers are employed to designate like parts throughout the same,

Fig. 1 is a cross sectional view of my nozzle, portions thereof being shown in elevation;

Fig. 2 is a similar view, showing the nozzle after a short period of use, wherein the sand pockets are formed, which reduce the cutting effect in the nozzle;

Fig. 3 is a plan view of the ordinary pattern created by a single sand blast nozzle; and

Fig. 4 is a similar view showing the pattern as created by my double nozzle.

In the cleaning of various objects, such as metal sheets, castings and the like, it is common practice to employ sand under air pressure which impinges on the work to be blasted, with the result that the sand cuts the surface of the object, thus cleaning the casting or plate, as the case may be. There is a great detail of this sort of work and heretofore it has been the practice to use a single nozzle from which the air and sand are driven toward the work. Such a nozzle, if held stationary, would merely create a round circle at the center portion of which would be highly abraded by the contacting sand, while at the margins of the circle there would be relatively little abrasive effect.

This means therefore that a person in cleaning a surface must sweep the nozzle back and forth over the work, each stroke covering a comparatively small area.

With the use of applicant's nozzle, the fact that there are two nozzles from the same hose, so that they are integral in that they move together and are so arranged that the outer portions of the sand and air streams impinge upon each other, and in so doing cause a spreading of the blasting area to four times the useful work area as with a single nozzle.

In the accompanying drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates a portion of pipe which is connected with the customary air and sand line. This pipe is in turn provided with a U-shaped head 6, to the two ends of which are connected the nozzles 7 and 8.

Within the U-shaped member I provide a V-shaped hollow divider 9 and side plates 11 and 12, which side plates serve to form pockets as shown at 13 and 14 respectively.

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The result of this construction is that when the air and sand are turned on, the stream will pass from the pipe 5 through the channels made by the divider 9 and the plates 11 and 12, and will issue from the nozzles 7 and 8. Due to the abrasive effect of the sand passing through the nozzle, it will very shortly cut away the apex A of the divider and will also cut away a portion of the side plates 11 and 12, with the result that the hollow portion B and the pockets 13 and 14 will immediately fill up with sand, and from then on there will be practically no further cutting away, as the sand in these pockets act as a cushion.

Referring to Fig. 3, I have shown by a full-lined circle C the effective area of a single nozzle sand blast, and the surrounding dotted line indicates the fringe area where only a very little cutting effect occurs.

In Fig. 4 I have shown two areas D and E, the pattern created by my nozzles.

It will be noted here that two fringe areas are overlapping and that consequently there is a violent agitation of the sand particles, and instead of there being a fringe area, the entire area between the outermost edges of the areas D and E will be effectively cleaned.

Furthermore, it has been found that the fringe areas will assume the pattern shown by the enlarged dotted line area in this figure, so that this extra fringe area creates a preliminary cleaning, and consequently the actual cleaning areas D and E do not take as long to be effectively cleaned.

It is of course understood that this nozzle is being moved back and forth over the work area and the pattern here shown is merely a temporary pattern created when the nozzle is held stationary.

It has also been found that the same amount of sand and air are used for the two nozzles as was heretofore required for the single nozzle.

It will thus been seen that my invention accomplishes all of the objects above set forth.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A sand blasting nozzle comprising a pipe, a hollow U-shaped head connected to said pipe, nozzles connected to the ends of said U-shaped head, a divider formed in said head and having its apex in alignment with said pipe, said divider forming a hollow chamber in said head, said head having a pair of dividing walls extending from said pipe toward the outer sides of said head and forming chambers therebetween.

2. A sand blasting nozzle comprising an air and sand supply pipe, a U-shaped head secured to said pipe, a nozzle secured to each end of each U-shaped head, a V-shaped hollow divider secured in said head and having its apex in alignment with said supply pipe and side plates secured to said head to form hollow chambers in said head on opposite sides of said V-shaped divider whereby when a portion of said divider and said plates are cut away, sand pockets will be formed therein.

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