

1,037,760.

H. B. HEASLET.
SAND BLASTING APPARATUS.
APPLICATION FILED FEB. 5, 1912.

Patented Sept. 3, 1912

2 SHEETS—SHEET 1.

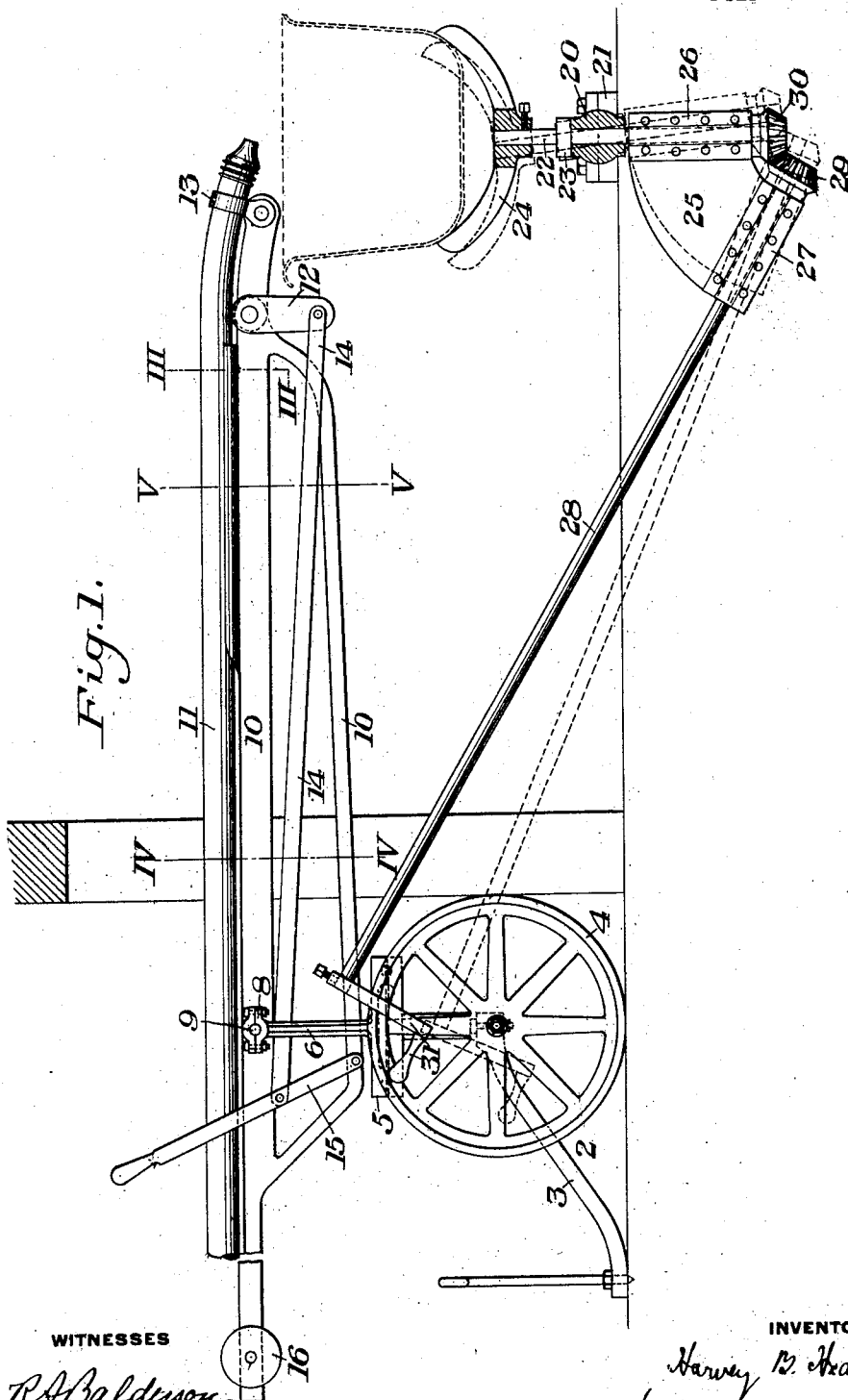


Fig. 1.

WITNESSES

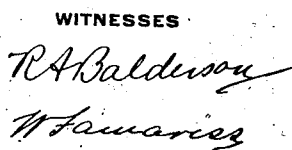
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1,037,760.

2 SHEETS—SHEET 2.

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UNITED STATES PATENT OFFICE.

HARVEY B. HEASLET, OF NEW BRIGHTON, PENNSYLVANIA.

SAND-BLASTING APPARATUS.

1,037,760.

Specification of Letters Patent.

Patented Sept. 3, 1912.

Application filed February 5, 1912. Serial No. 675,405.

To all whom it may concern:

Be it known that I, HARVEY B. HEASLET, a resident of New Brighton, in the county of Beaver and State of Pennsylvania, have invented a new and useful Improvement in Sand-Blasting Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation showing one form of my improved apparatus; Fig. 2 is a sectional front elevation; Figs. 3, 4 and 5 are cross sections of the frame on the lines III—III, IV—IV and V—V of Fig. 1; Fig. 6 is a front elevation of the stand for the article being sand blasted; and Fig. 7 is a view similar to Fig. 2, showing a modified form of support.

My invention relates to the sand blasting of castings, particularly those which are to be enameled for use as sanitary ware, such as bath tubs, sinks, wash basins, etc.

In the sand blasting operations, the grains of sharp sand rebound and fly off at different angles from the article, showering the operator and necessitating the wearing of helmets and other protective devices. The work has been difficult, injurious and arduous.

My invention is designed to overcome these difficulties, and to remove the operator sufficiently far from the article, so that a shield, such as a wall, may be interposed between him and the article, to protect him from the flying shower of sand.

To this end my invention consists in the novel construction and arrangement of the various parts, as pointed out in the appended claims.

In the preferred form, the connections for operating the nozzle and the article support project through a hole or opening in the wall, so that the wall protects the operator from the effect of the blast, after striking the article.

In the drawings, referring to Figs. 1 to 6, inclusive, in which I show a preferred form, 2 represents the frame of a gun carriage having a depending stock 3, and supporting wheels 4. The frame 2 carries a horizontal ball bearing 5, the upper member 6 of which is in the form of a yoke, the arms of which are provided with horizontal bearings 8, to receive the trunnions of a shaft 9. To this shaft is secured the oscillating

frame or support 10, for the hose 11 of the sand blast machine. Figs. 3, 4 and 5 show the preferred form of this support or frame, to the front end of which is pivoted an ordinary bell crank lever 12. To one arm of this lever is pivotally secured a clamp 13 for the nozzle, while to the other arm is pivotally connected a link 14, extending to a hand lever 15, pivoted to the supporting frame 10.

An adjustable counterweight 16 is preferably secured to the rear end of the frame, in order to counterbalance the parts forward of the supporting trunnions.

In the use of the device, it may be moved up to an opening through the wall, such as a door, opening adjacent to the ware being supported in the next room. The operator in the adjacent room can swing the supporting frame on its horizontal ball bearings and turn the nozzle by the handle 15, so as to reach all parts of the article being sand blasted.

Instead of using the gun carriage style of support, I may employ an overhead support, such as shown, for example, in Fig. 7. In this figure, 17 represents the trolley of an overhead track, such as an overhead crane. From this trolley depends a swivel bolt 18, carrying a yoke 19, having hooked ends 19^a, to receive the trunnion shaft 9^a, similar to the shaft 9 of the first form. In this case, the horizontal movement is obtained by the swivel and the vertical movement may be obtained in the same manner shown in the first form, the similar handle being indicated at 15^a.

With this nozzle-operating apparatus, I also preferably employ means for moving the article to different positions, such means being operable from a distant point, preferably, where the operator controls the sand blast. In the form shown, 20 is an oscillating supporting beam having trunnions mounted in bearings 21. Through a bearing in the beam 20 extends a shaft 22, supported by a collar 23. This shaft carries at its upper end the tray or receiving frame 24, in which the article, such as the bath tub is set. Such an article is indicated in dotted lines in Fig. 1. An angle frame 25 has a bearing 26, surrounding the lower part of the shaft 22, this frame also carrying bearing 27, for angle shaft 28, having bevel wheel 29, intermeshing with bevel wheel 30 on the shaft 22. The shaft 28 extends to near

the handle 15, and is provided with a hand crank 31, by which it may be turned and by which also the entire frame may be rocked in the ball-and-socket supporting connection.

In operating the device, the angle frame 25 is preferably mounted in a pit under the ground level in the sand-blasting room, with the operating handle 28 projecting out through the door or opening through which the nozzle-operating device extends. By means of this handle, the operator can turn the article horizontally and by pressing up and down on the handle, he can swing the article back and forth thus giving it all the positions desired.

The advantages of my invention will be obvious to those skilled in the art, since the sand blast operator does not need armor or protective devices, and the work is made easier, cheaper and better.

I do not desire to limit myself to the particular construction and arrangement of the parts which I have herein shown and described, as various changes may be made in the details thereof, without departing from the spirit and scope of my invention, as set forth in the appended claims.

I claim:

1. Apparatus of the character described, comprising a wheeled support, a yoke carried thereby, and pivoted to move about a vertical axis, a horizontal shaft journaled in bearings in said yoke, a longitudinally extending frame carried by the shaft, and a flexible hose mounted on said frame and terminating in a blast nozzle; substantially as described.

2. Apparatus of the character described, comprising a wheeled support, a yoke carried thereby, and pivoted to move about a vertical axis, a horizontal shaft journaled in bearings in said yoke, a longitudinally extending frame carried by the shaft, and a

flexible hose mounted on said frame and terminating in a blast nozzle, the frame having a vertically movable member for carrying the nozzle; substantially as described.

3. In apparatus of the character described, a frame, supporting means whereby said frame can be moved in a longitudinal horizontal direction, an angular horizontal direction, and also oscillated in a vertical plane, and a blast pipe and nozzle supported on said frame, together with a hand lever and connections operated by said lever whereby said nozzle may be moved in a vertical plane independently of the movements of the frame; substantially as described.

4. In apparatus of the character described, a frame, supporting means whereby said frame can be moved in a longitudinal horizontal direction, an angular horizontal direction, and also oscillated in a vertical plane, and a flexible blast pipe and nozzle supported on said frame, together with means whereby the nozzle may be flexed in a vertical direction independent of the frame; substantially as described.

5. Apparatus of the character described, comprising a wheeled support, a yoke carried thereby, and pivoted to move about a vertical axis, a horizontal shaft journaled in bearings in said yoke, a longitudinally extending frame carried by the shaft, a flexible hose mounted on said frame and terminating in a blast nozzle, together with an independently movable support for said nozzle, and actuating connections for said support extending back to the wheeled support; substantially as described.

In testimony whereof, I have hereunto set my hand.

HARVEY B. HEASLET.

Witnesses:

C. P. BYRNES,
H. M. CORWIN.