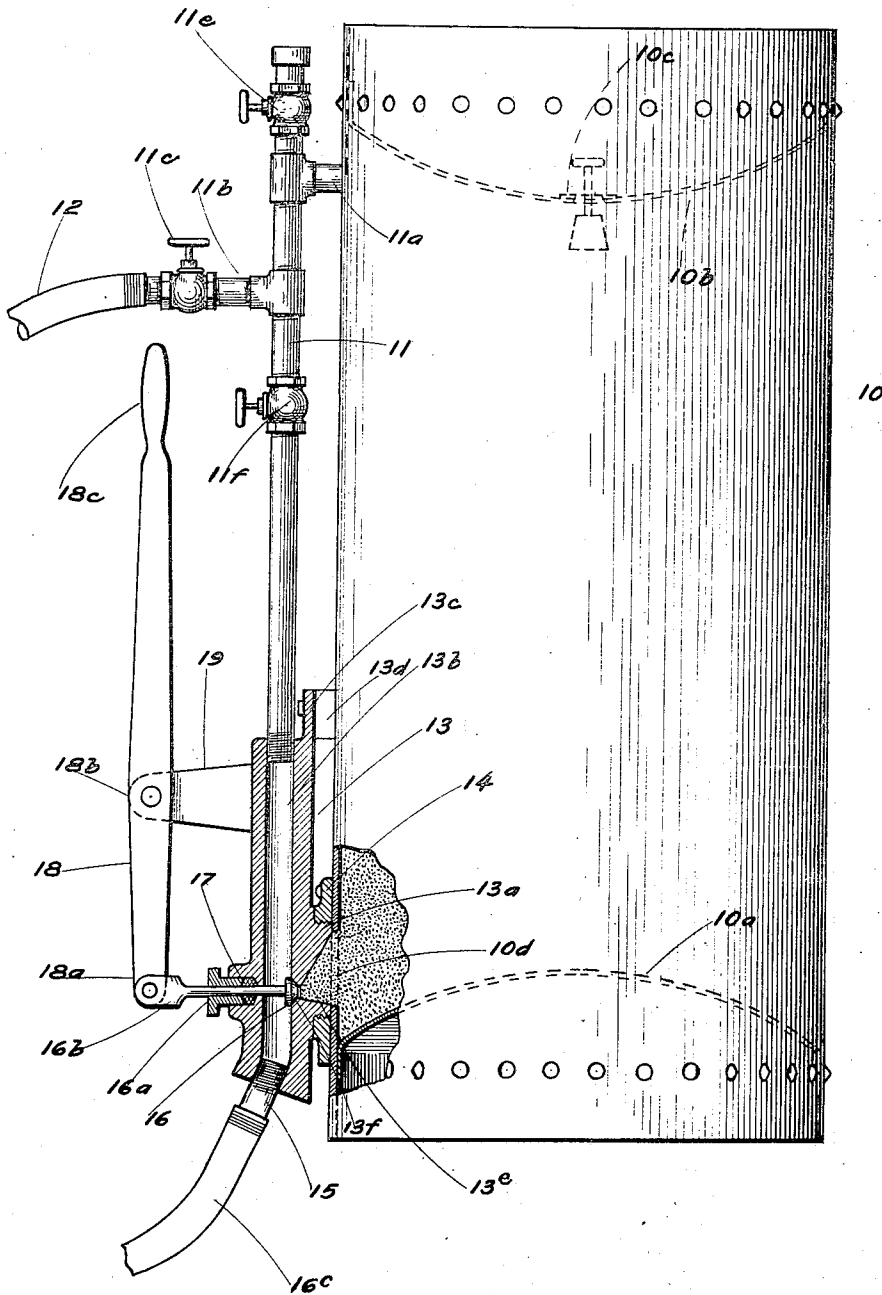


W. P. MOTT.
SAND BLAST APPARATUS.
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1,297,223.

Patented Mar. 11, 1919.



Witnesses:

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By

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WILLIAM P. MOTT, OF CHICAGO, ILLINOIS.

SAND-BLAST APPARATUS.

1,297,223.

Specification of Letters Patent.

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Application filed May 12, 1915. Serial No. 27,546.

To all whom it may concern:

Be it known that I, WILLIAM P. MOTT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sand-Blast Apparatus, of which the following is a specification.

This invention relates to improvements in sand blast apparatus, and has for its object to provide an apparatus of this character which is of the utmost simplicity in construction and at the same time operates as efficiently as the more complicated machines now in use.

Another object of my invention is to provide an apparatus or structure of this nature, in which the operation of the same is controlled merely by a single valve and leader.

My invention resides more specifically in the particular arrangement of parts and the construction described in the following specification, and shown in the accompanying drawing, in which:

The figure is a side elevation, partially in section, of my improved apparatus.

Like numerals refer to like elements throughout the drawing. 10 designates generally a cylinder or shell, having concaved ends 10^a—10^b riveted thereto and arranged to contain sand or other abrasive material. A valve closure 10^c is provided in the end 10^b, by means of which it is possible to fill the shell with sand or the like. A main pipe or tube 11 is provided at one side of the shell 10, this pipe being in communication with a branch pipe 11^a leading to the interior of the shell 10, adjacent the top thereof. A second branch pipe 11^b is provided slightly below the branch pipe 11^a and provided with a globe valve 11^c or the like, this branch pipe 11^b being arranged for attachment to an air hose 12 leading from the main supply of air. This may be shut off or opened by means of the valve 11^c.

The valve 11^c, adjacent the upper extremity of the pipe 11, may be opened to permit the escape of air displaced by the sand when the shell is being filled with sand, and a valve 11^f may be placed in the pipe 11, below the elbow 11^b, for regulating the blast of air downwardly in the tube 11 independently of the pressure of air on the sand in the shell.

Adjacent the bottom of the cylinder, on one side thereof, is the casing 13, having a

threaded bossed portion 13^a which is arranged to be threaded into engagement with the internally threaded collar 14, riveted or otherwise secured to the exterior of the shell or cylinder, which is apertured, as indicated by the numeral 10^d, to provide an outlet for the sand or other abrasive. The casing 13 is further provided with a duct 13^b, threaded adjacent its upper end, and in this end, threaded therethrough, is the end of the duct 11, as is clearly shown in the drawing. The casing is provided with an upwardly extending flange 13^c, which may be attached to brackets 13^d, carried by or attached to the side of the cylinder 10. The duct 13^b extends entirely through the casing, and is slightly inclined at its lower portion, and in this inclined portion is threaded the pipe section 15, to which is attached a discharge hose 16 leading to the blasting nozzle, or the like.

The casing is further provided with the aperture 13^e leading from the opening 10^a to the duct 13^b, being narrowed from the first opening to its communication with such duct adjacent which it forms a constricted portion, surrounding which is the valve seat 13^f, which may be readily engaged to close the aperture 13^e, by the plug valve 16, carried on the stem 16^a extending across the duct 13^b through a suitable aperture in the opposite wall of the casing. The latter is provided with a stuffing box and gland, indicated by the numeral 17, to prevent leakage of air around the valve stem 16^a. The latter is provided with a yoke or bifurcated portion 16^b at its outer end, to which is pivotally attached the end 18^a of the lever 18, which is also pivoted intermediate its extremities at 18^b to the flange or arm 19 extending outwardly from the casing 13. At its upper end the lever 18 is provided with a handle portion 18^c.

The operation of my device, assuming that the cylinder or shell 10 has been supplied with the necessary sand or other abrasive, is as follows: The air valve 11^c is opened, whereupon pressure will be applied through the medium of the elbow 11^a to the top of the shell, and at the same time air will flow through the pipe 11, duct 13^b, and out through the hose 16. On proper operation of the lever 18, the plug valve 16 will be moved to open position, permitting the sand to flow out through the restricted portion of the opening 13^e into the duct 13^b, where

it will be taken up by and commingled with the out-flowing air and delivered in a blasting stream to the nozzle or similar member.

It will be apparent that I have provided
 5 a device which is essentially simple in operation and construction, and which is not likely to get out of order. It is also obvious that my invention is susceptible of many modifications and improvements, and
 10 I do not wish to be restricted to the form shown and described beyond the scope of the appended claims.

What I claim is:—

1. In a device of the class described, a
 15 shell for containing sand provided with an aperture in the side thereof, a ring member attached to said shell around said aperture, a casing member having a bossed portion constructed and arranged for attachment
 20 to said ring and further provided with an aperture arranged to communicate with the aperture in said shell, said casing being further provided with a duct communicating with the aperture therein, means operable
 25 at will to close or open said communication of said duct with said aperture, said means comprising a plug valve, a stem attached thereto, said casing being provided with a stuffing box, said stem being slidably mounted
 30 in said stuffing box, and a lever operatively attached to said stem.

2. In a device of the class described, a shell for containing sand provided with an aperture, a ring member attached to said
 35 shell and surrounding said aperture, a casing provided with a duct therethrough and having a bossed portion constructed and arranged for engagement with said ring, said bossed portion being provided with an ap-
 40 erture leading from said shell aperture to said duct, said aperture being tapered from said shell to a restricted portion adjacent said duct, and means to permit or prevent
 45 flow of sand from said shell through said aperture into said duct.

3. In a device of the class described, a

shell for containing sand, a casing secured to the side of said shell and having a duct extending vertically therethrough, said shell and said casing having apertures forming a
 50 communication between said duct and the interior of said shell, a valve for closing the communication between said duct and said shell, means for operating said valve, a
 55 pipe communicating with said duct and extending vertically along the side of said shell, a branch pipe leading to said first named pipe and adapted to be connected to a compressed fluid supply, a second branch
 60 pipe leading from said first named pipe to said shell, a valve in said first named branch pipe, and a valve in said first named pipe below both of said branch pipes.

4. In a device of the class described, a shell for containing sand, a casing secured
 65 to the side of said shell and having a duct extending vertically therethrough, said shell and said casing having apertures forming a communication between said duct and the interior of said shell, a valve for closing
 70 the communication between said duct and said shell, means for operating said valve, said operating means comprising a vertically extending lever having a handle portion, a pipe communicating with said duct
 75 and extending vertically along the side of said shell, a branch pipe leading to said first named pipe and adapted to be connected to a compressed fluid supply, a second branch pipe leading from said first named
 80 pipe to said shell, a valve in said first named branch pipe, and a valve in said first named pipe below both of said branch pipes, the valves in said pipe and the handle portion of said lever being located adjacent each
 85 other.

In testimony whereof I have subscribed my name.

WILLIAM P. MOTT.

Witness:

GLENN E. SMITH.