April 28, 1925. 1,535,939

R. H. MOORE

SAND BLAST FEEDING MACHINE

Filed July 3, 1922

Fig. 1

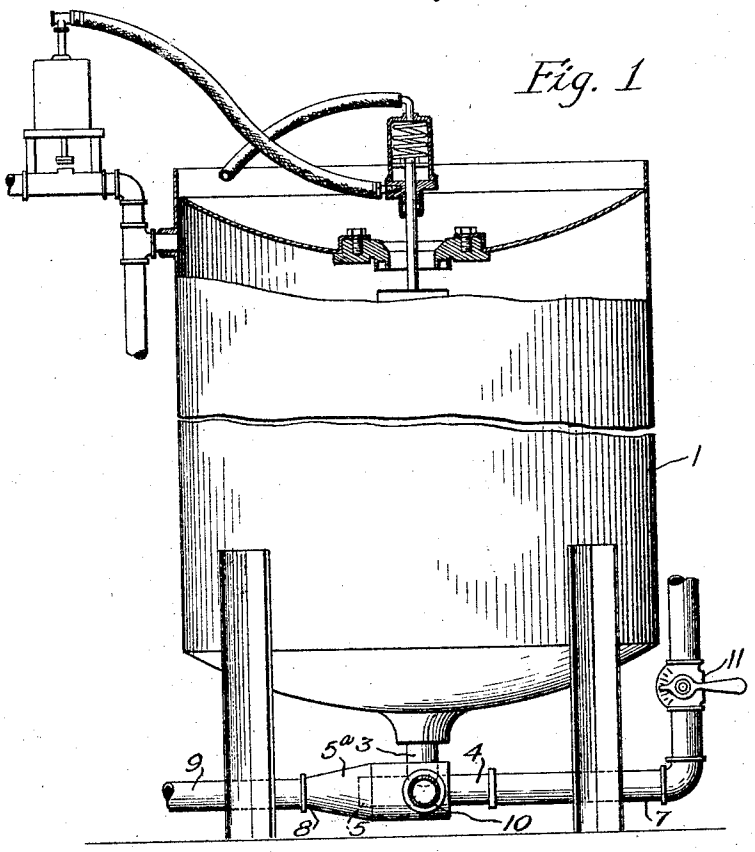


Fig. 2

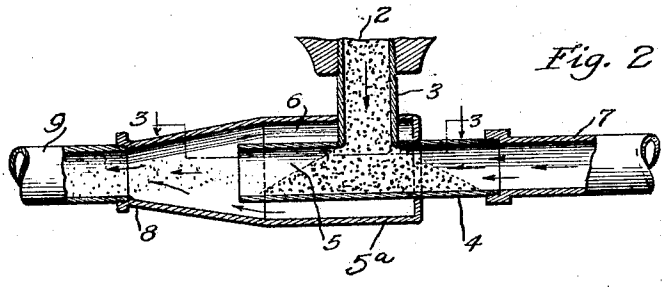
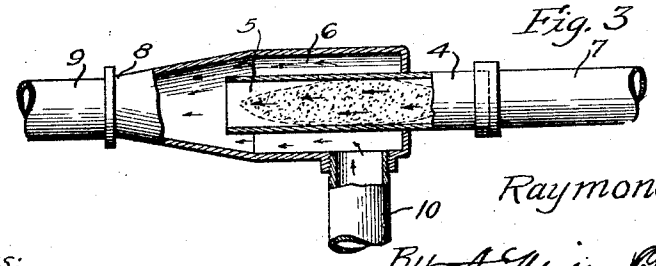


Fig. 3



Witness;
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By A. Allen Belfield Atty.

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UNITED STATES PATENT OFFICE.

RAYMOND H. MOORE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE AMERICAN FOUNDRY EQUIPMENT COMPANY, OF NEW YORK, N. Y., A CORPORATION OF OHIO.

SAND-BLAST-FEEDING MACHINE.

Application filed July 3, 1922. Serial No. 572,452.

To all whom it may concern:

Be it known that I, RAYMOND H. MOORE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Sand-Blast-Feeding Machines, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to a sand blast feeding machine, and particularly to an improved means for discharging sand from the supply tank and feeding the sand to the pipe leading to the discharge nozzle.

One of the objects of the invention is to provide a simple, practical and effective mixing chamber.

Another object of the invention is to provide means for impelling the sand under air pressure into the mixing chamber.

Another object of the invention is to control by air pressure the flow of sand into the mixing chamber.

Another object of the invention is to impel by means of an auxiliary air current, the sand into air currents converging centrally in the mixing chamber so that the impelled sand is thoroughly mixed with the air in the mixing chamber.

In the accompanying drawings Fig. 1 is an elevational view of a sand tank equipped with the device of my invention;

Fig. 2 is a vertical section of the device on an enlarged scale;

Fig. 3 is a horizontal section of the device on line 3—3 of Fig. 2.

Referring to the drawings, I show a sand supply tank 1, the upper end of which is equipped with the usual valves and pipe connections of such apparatus, but as they form no part of this invention a detailed description of the same is omitted.

Tank 1 has a concave bottom provided with a central opening 2 into which the sand outlet pipe 3 is threaded. A horizontal or substantially horizontal pipe 4 is secured to lower end of pipe 3 and receives sand from same. The sand in interior of pipe 4 accumulates in a pipe 5 in the manner shown in Fig. 2. Pipe 4 is of such length, however, that sand will not roll out of open end of pipe 5, when the device is inactive. A tubular member 5^a surrounds lower end of pipe 3 and part of pipe 4 and forms a mixing chamber 6. One end of the pipe 4 projects from member 5^a and is threaded for connection with an air inlet 7. The other end of chamber 6 is tapered to form a connection 8 with a discharge pipe 9. Another air inlet pipe 10 is secured to member 5, at the side of same.

Chamber 6 is substantially larger than the pipe 4 so that air from pipe 10 has room for free distribution around pipe 4, and to converge and to leave chamber 6 through pipe 9 as a current of uniform velocity. A valve 11 operates to control the flow of air through pipe 7, which latter, as well as pipe 10, is connected to a source of compressed air.

To operate the device air is first caused to flow through pipes 7 and 10 by controlling means which form no part of this invention and which are not shown and described. By opening valve 11 the sand is driven as desired into the mixing chamber 6 and the amount so driven is controlled by regulating the valve 11. Sand and air thus projected into chamber 6 commingle with air coming into same through pipe 10, the whole forming a sand blast which is discharged through discharge pipe 9, to the end of which is connected a sand blast nozzle of any desired or usual type.

Thus it will be seen that the sand pipe 4 forms a trap or holder for the sand, making unnecessary any valve or stricture for same when device is inactive; and at the same time, said pipe affords a free and open channel for the air and sand when the device is in use.

It will be understood that changes and modifications may be made without departing from the spirit of the invention.

What I claim is:

In sand blast apparatus, the combination of a supply tank, a sand outlet pipe extending downwardly from said tank, a horizontal sand and air pipe of like dimension connected with said downwardly extending

pipe and receiving sand therefrom, said horizontal pipe having an open end portion projecting beyond said downwardly extending pipe sufficiently to prevent sand from falling out of the open end of said portion by gravity and having a compressed air connection of like dimension, and a compressed air pipe arranged to withdraw sand from the open end of said horizontal sand pipe and discharge the same for sand blast purposes.

In witness whereof, I hereunto subscribe my name this 13th day of June, A. D., 1922.

RAYMOND H. MOORE.