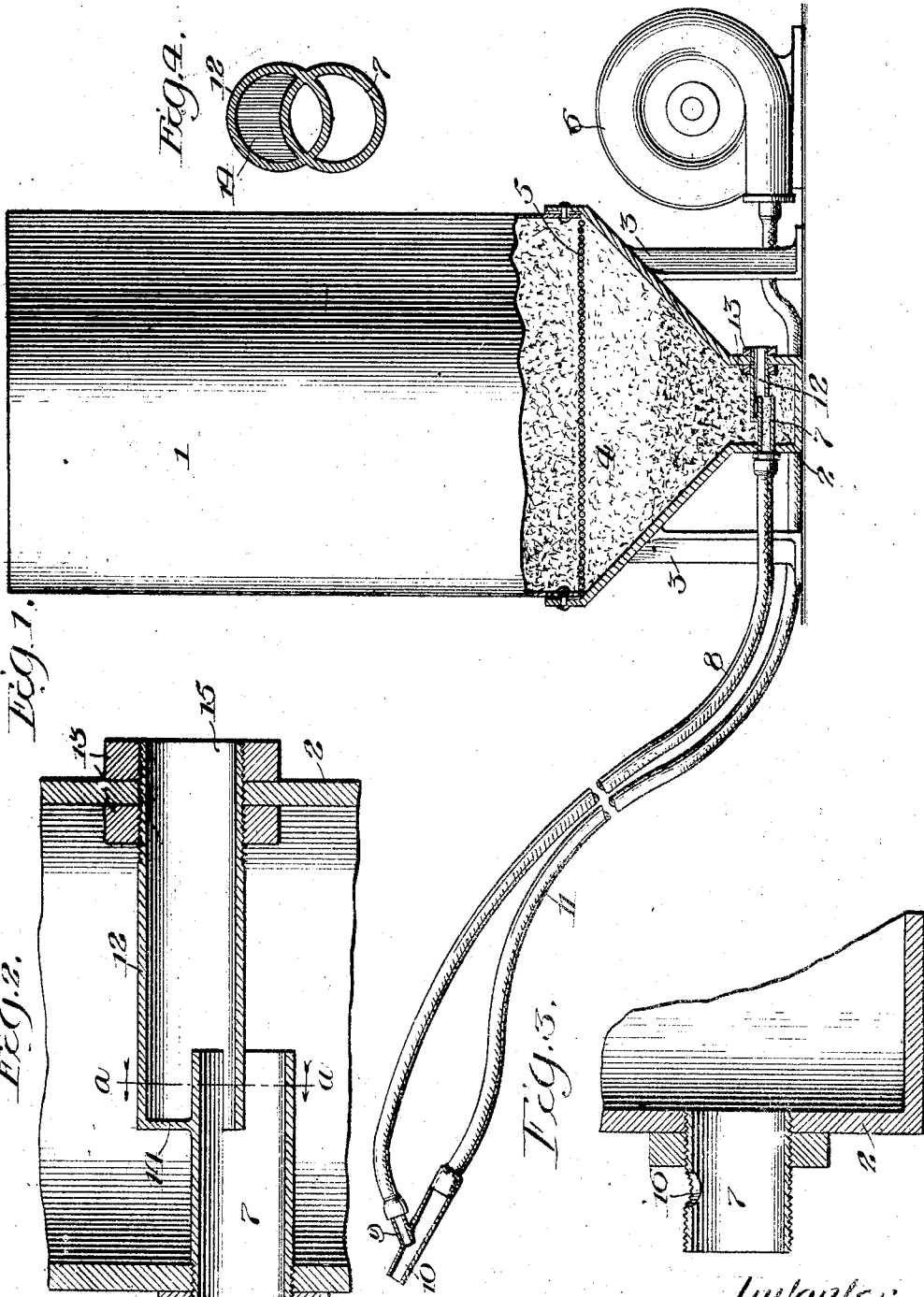


J. J. STRASSER.
SAND BLAST MACHINE.
APPLICATION FILED OCT. 21, 1910.

1,039,840.

Patented Oct. 1, 1912.



Witness
Chas. Hennrich
A Lyda Jones

Inventor
John J. Strasser
by A. Miller Refull atty

UNITED STATES PATENT OFFICE.

JOHN J. STRASSER, OF CHICAGO, ILLINOIS.

SAND-BLAST MACHINE.

1,039,840.

Specification of Letters Patent.

Patented Oct. 1, 1912.

Application filed October 21, 1910. Serial No. 588,284.

To all whom it may concern:

Be it known that I, JOHN J. STRASSER, 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 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 sand blasts or similar devices and has for its object the provision of an improved machine for applying sand or similar material forcibly against objects upon which its abrasive or similar effect is desired.

While my invention, of course, has a great many uses and applications, I will throughout the remainder of the description confine myself to explaining it in connection with a sand blast, without meaning thereby to limit myself to such application, and will then point out the novelty broadly in the appended claims.

My invention contemplates the provision of a reservoir provided with sand, which reservoir has outlet means through which the sand may be withdrawn from said reservoir. A tube leads from said outlet and it is preferably provided with a nozzle through which the sand may issue forth, and in association with said tube at some predetermined most effective point throughout its length, an air blast enters said tube whose tendency is to blow out at the end of the tube and thereby withdraw sand from the reservoir by suction. The novelty contemplated is this withdrawal of the sand by the suction influence of the air blast, and I obtain better results than if the air and sand were mingled at the reservoir. My invention contemplates a new and improved nozzle to effect this result. My invention also contemplates the provision of means to permit the entrance of air at or near the outlet of said reservoir when the sand is to be withdrawn. My invention also contemplates novel means to permit this entrance of air without permitting loss or escape of the sand thereat.

I will explain my invention more in detail by reference to the accompanying drawing illustrating the preferred embodiment thereof in which:

Figure 1 represents an elevation partly in section of my complete device; Fig. 2 represents in enlarged section the sand outlet and

air inlet means in their preferred form; Fig. 3 represents a modification of the structure of Fig. 2, and: Fig. 4 is a sectional view on lines *a, a* of Fig. 2.

In these figures I show a sand reservoir 1 tapering to form at its lower portion a cylindrical terminus 2; the entire reservoir suitably supported upon legs 3, 3. Sand 4 fills the interior. A screen 5 sifts the sand to prevent pebbles or other objectionable articles from entering the devices to be presently described. A blower 6 is provided to furnish the air blast as will presently appear. The outlet tube 7 enters the cylindrical terminus 2 and then projects into the sand. Sand may therefore when properly actuated issue through said tube 7 and through a flexible connecting tube 8 through my sand discharge tube 9. The tube 9 enters the nozzle 10 and is so arranged as to point toward the outer extremity of said nozzle; the nozzle 10 by means preferably of a flexible tube 11 is connected directly with the blower 6. Air is forced into the tube 11 and then through the nozzle 10 and past the open mouth of the tube 9, and the partial vacuum present in the tube 8 sucks the sand from the reservoir 1 through the tube 7 and forces it in a stream out through the nozzle 10. The nozzle 10 then, of course, can be directed against the article on which it is desired to use the abrasive effects of the sand blast.

I find it of great importance to permit entrance of air at or near the outlet portion of the reservoir, namely, near the tube 7 and for this reason I use the construction illustrated most clearly in Fig. 2, where the tube 7 is shown as entering the cylindrical terminus 2 and where it is partially intersected by a second tube 12, which second tube enters from the right and is secured in place by means of two nuts 13, 13. The tube 12 crosses the tube 7 as is more clearly apparent from Fig. 4, and that portion of the left hand extremity of tube 12 which does not lie within the tube 7 is closed by the end wall 14. The air can thus enter through the opening 15, through the tube 12 and into the tube 7, but the tube 7 on account of the wall 14 does not permit the sand to obstruct the passage of the air nor let the sand in the normal operation of the device leave the reservoir through the tube 12. In the modification illustrated in Fig. 3, I dispense with the tube 12 and in place thereof provide an

opening 16 through which the air may enter the tube 7.

While I have herein shown and particularly described the preferred embodiment of my invention, I do not mean to limit myself to the precise construction and arrangement as herein set forth, but

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination of a reservoir for comminuted material, a substantially horizontal tubular member for the outward flow of the comminuted material, said tubular member being arranged at the lower part of the reservoir and having an opening to the outside air and also an opening within the reservoir for the admission of the comminuted material, said last mentioned opening being on the under side of said tubular member whereby it is prevented from being choked by the material within the reservoir.

2. In a device of the class described in combination, a sand reservoir, a tube consisting of two integral portions connected with each other, but the axes of said portions being offset from each other, one of said tubular portions connecting with the atmosphere exterior to the reservoir, the other of said portions connecting with a tube exterior to the reservoir and having an aperture connecting with the interior of the reservoir below the surface of the first mentioned portion whereby the sand in the reservoir is prevented from choking said aperture.

3. In a sand blast device in combination, a sand reservoir, a nozzle, means for supplying air to said nozzle, a conduit for carrying sand from said reservoir to said nozzle and a device for introducing air and sand

into said conduit, said device comprising a pair of horizontal intersecting tubes, the axes of said tubes being at different elevations, the lower of said tubes opening into said reservoir at its lower portion and into the upper of said tubes at its upper portion, said upper tube communicating with the atmosphere at one end and being closed to the reservoir at its other end.

4. In an air blast apparatus in combination, a reservoir having a downwardly tapering lower portion, a cylindrical portion depending from said tapering portion, a pair of integral tubes extending through the walls of said cylindrical portion, said tubes having their longitudinal axes in the same vertical plane but one being somewhat below the other, the walls of said tubes intersecting each other for a portion of their length, the lower of said tubes opening into the upper one and also into the reservoir, the upper of said tubes being closed to the reservoir except through the lower tube, said tubes being open at their outer end.

5. The combination of a reservoir for comminuted material, a tubular member for the outward flow of the comminuted material, said tubular member being arranged at the lower part of the reservoir and having within the reservoir an opening for the admission of outside air and also an opening for the admission of comminuted material, said air opening being above said comminuted material opening.

In witness whereof, I hereunto subscribe my name this 7th day of October, A. D. 1910.

JOHN J. STRASSER.

Witnesses:

A. MILLER BELFIELD,

A. LYDA JONES.