

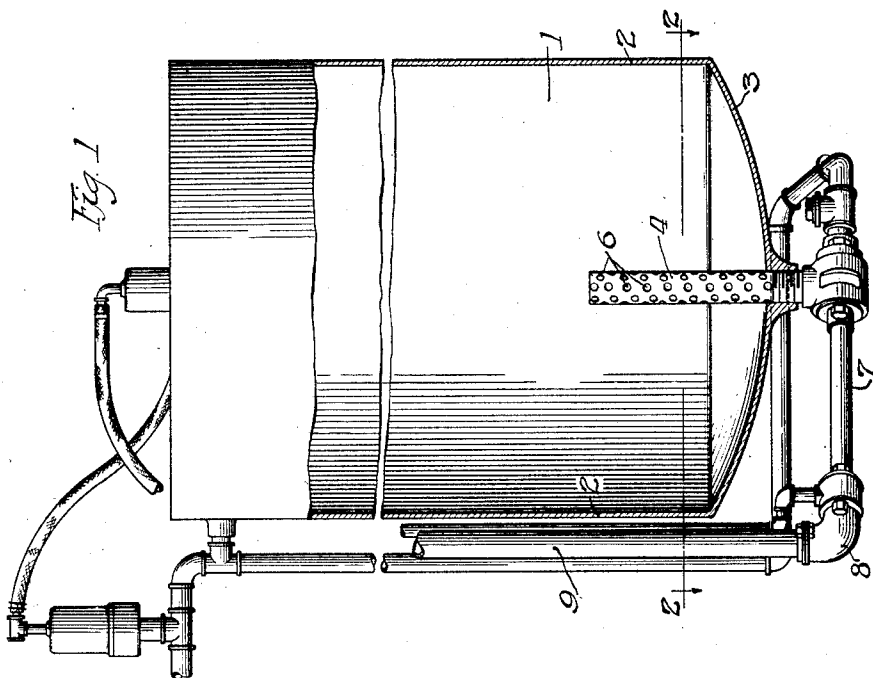
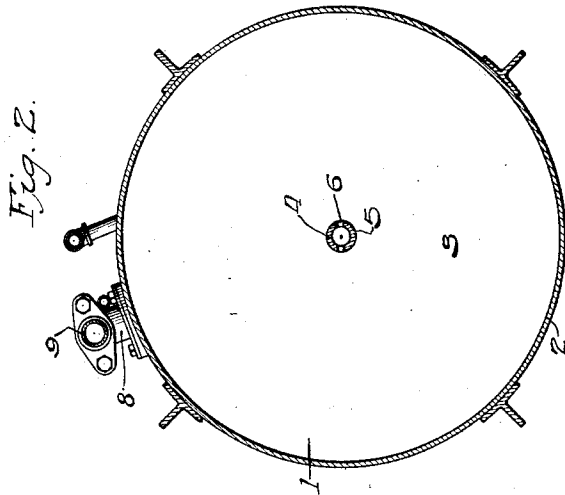
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1,658,745

F. H. SOPER

SAND STRAINER

Filed July 3, 1922



Witness

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UNITED STATES PATENT OFFICE.

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SAND STRAINER.

Application filed July 3, 1922. Serial No. 572,434.

My invention relates to improvements in sand strainers, and more particularly to strainers for use in connection with sand blast machines.

5 It is customary to place a strainer in the bottom of the container and to have a sand blast pipe connected thereto, so that the contained sand drops vertically through the openings in the container. Strainers so constructed are usually unsatisfactory because they usually become clogged by trash and large sand particles.

10 One of the objects of the invention is to provide a simple, practical and advantageous construction of sand stainer.

15 Another object is to overcome the aforesaid difficulties, providing a construction in which clogging of the sand or other abrasive will be prevented or practically prevented.

20 Other objects and advantages will hereinafter appear.

25 The invention will be explained and more readily understood when read in conjunction with the accompanying drawing, in which,—

Fig. 1 is a vertical section through a sand container equipped with applicant's strainer;

30 Fig. 2 is a section taken along line 2—2 of Fig. 1.

Similar characters designate like parts in each of the figures of the drawing.

35 Certain pipes, valves, connections, etc. are shown in the drawings but as they constitute a part of the sand blast system, a detailed description of the same is omitted. Applicant's invention is limited to the strainer and its position relative to and in connection with sand or abrasive container.

40 A cylindrical shaped container 1 having vertical walls 2 and a segmental spherical shaped base 3 has a strainer 4 mounted therein as best shown in Fig. 1.

45 The strainer 4 is cylindrical shaped and has its upper end closed. The walls 5 are provided with a plurality of apertures 6. Apertures 6 are made large enough to permit sand particles of the maximum desired size to pass through the strainer 4 and down into pipe 7 which is connected by a coupling 8 to pipe 9 which is in turn connected with a sand blast hose (not shown). Sand particles are driven by air pressure and gravity through apertures 6.

55 Having filled or partially filled container 1 with sand, the proper valves are operated to drive sand particles through apertures 6 into the strainer 4 and on out through the blast system. As the sand is strained through apertures 6 the larger particles including sticks and other trash are left in the container. Applicant's strainer prevents these apertures from being clogged by reason of the large number of such apertures relative to the volume of the sand and the dissemination of such apertures vertically throughout substantially the depth of the contained sand. As the sand flows out, the surface of the sand takes on an inverted cone shape, causing the large particles to accumulate around the upper portion of the strainer, thereby permitting the sand to flow underneath and out through the relatively lower apertures.

60 The ordinary strainer, positioned in the lower portion of the container with its surface substantially coincident with the bottom of the container, tends to clog because of the relatively few apertures possible to a limited surface and the impossibility of its relieving its clogged condition by the flow of sand underneath such clogging particles.

65 Thus it will be seen that a strainer has been provided that has a large straining surface relative to its volume and the volume of the sand to be strained, said apertures being positioned so that as some may tend to become clogged, others permit the flow of sand underneath such clogged apertures, which tends to relieve the clogged condition of the upper apertures whereby substantially all of the sand can be strained out of the container by gravity and air pressure.

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

What I claim is:

75 1. In a sand blast machine, the combination of a container for sand blast material, a strainer arranged in said container and comprising a hollow member extending through the bottom of the container and up a substantial distance therein and terminating in the lower portion of the container, said strainer being provided throughout substantially its entire length with constantly open side apertures which are proportioned to exclude particles exceeding a predetermined size, said

strainer having its lower end fixedly secured for service to and in contact with the bottom of the container.

5 2. In a sand blast machine, the combination of a container for sand blast material, a strainer arranged in said container and comprising a hollow member extending through the bottom of the container and up a substantial distance therein and terminating in the lower portion of the container, the side walls of said member being provided with constantly open apertures which are proportioned to exclude particles exceeding a predetermined size, the lower end of said member being fixedly secured for service to and in contact with the bottom of the container.

10 3. In a sand blast machine, the combination of a container for sand blast material, a strainer arranged in said container and comprising a hollow cylindrical member extending through the bottom of the container and up a substantial distance and terminating in the lower portion of the container, the upper end of said member being closed and its side

walls being provided with constantly open apertures which are proportioned to exclude particles exceeding a predetermined size, said member having its lower end fixedly secured for service to and in contact with the bottom of the container.

4. In a sand blast machine, the combination of a container for sand blast material, a strainer arranged in said container and comprising a hollow cylindrical member extending through the bottom of the container and connected with a pipe of the machine, said member extending up in the container a substantial distance and terminating in the lower portion thereof and its upper end being closed and its sides having a plurality of horizontally extending constantly open apertures which are proportioned to exclude particles exceeding a predetermined size, the lower end of said strainer being fixedly secured for service to and in contact with the bottom wall of the container.

In witness whereof, I hereunto subscribe my name this 25th day of May, A. D. 1922.

FRED H. SOPER.