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C. A. DREISBACH.
SAND BLAST MACHINE.
APPLICATION FILED APR. 21, 1909.

Patented Feb. 1, 1910.

2 SHEETS—SHEET 1.

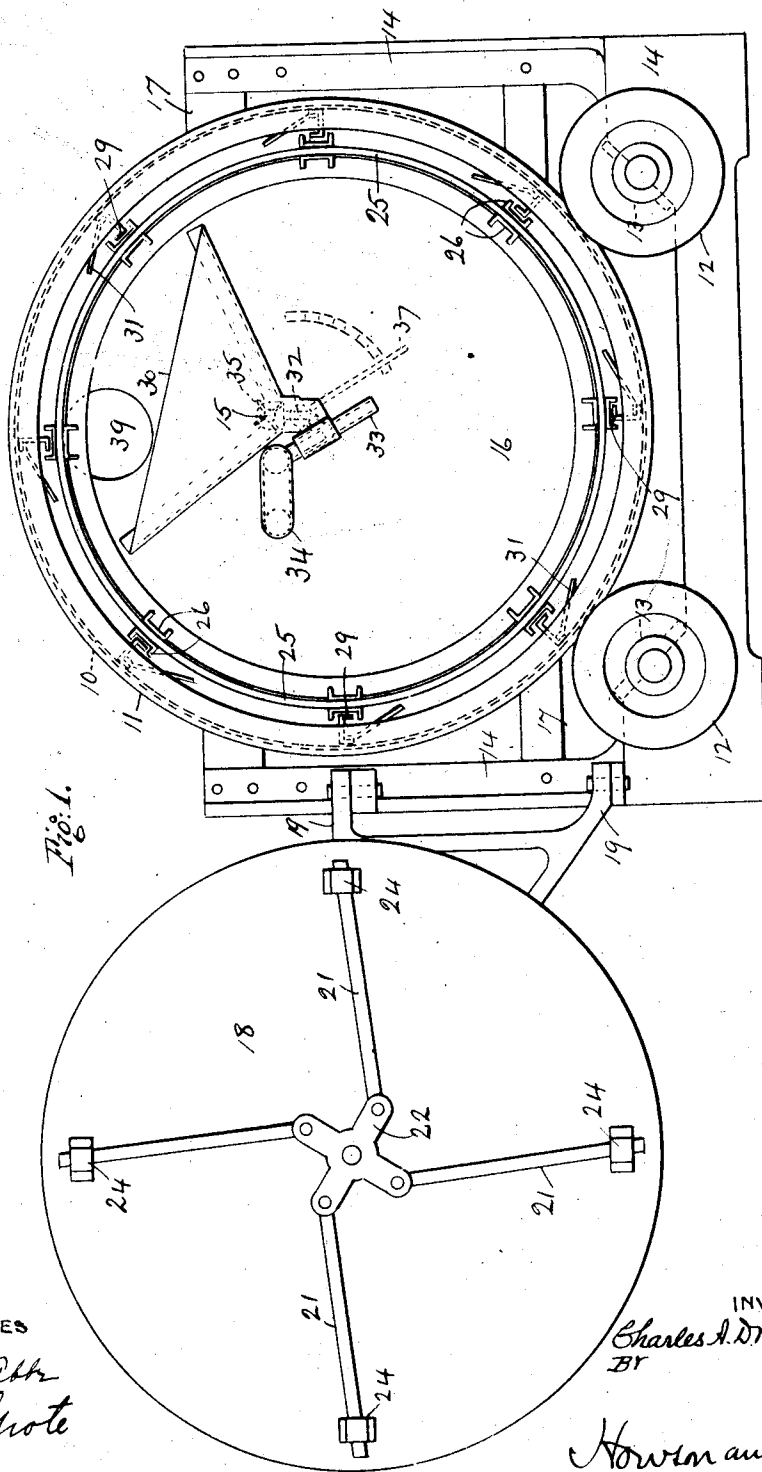


Fig. 1.

WITNESSES

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L. H. Grote

INVENTOR

Charles A. Dreisbach
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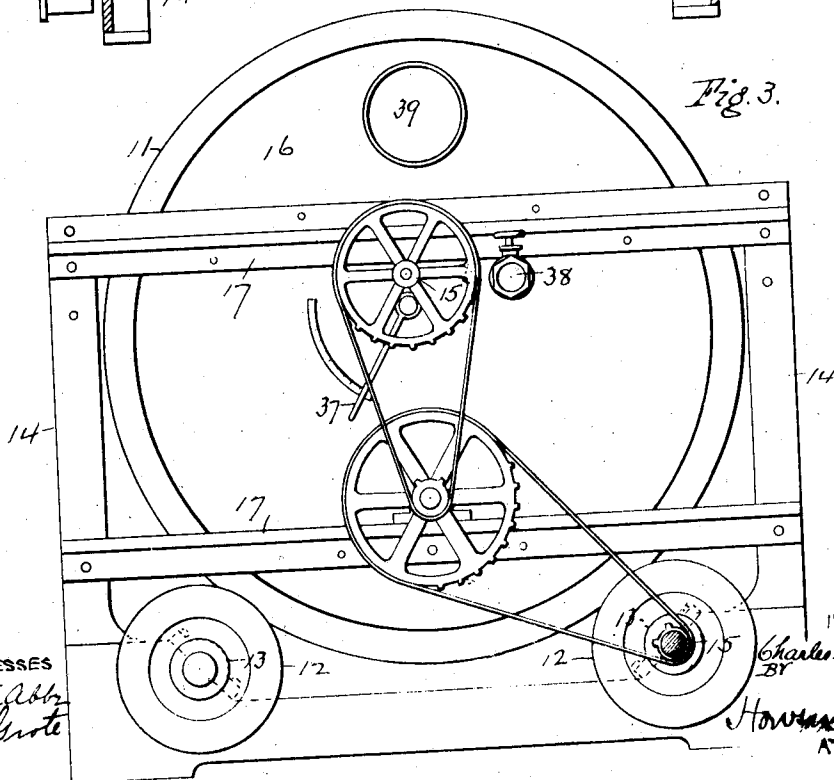
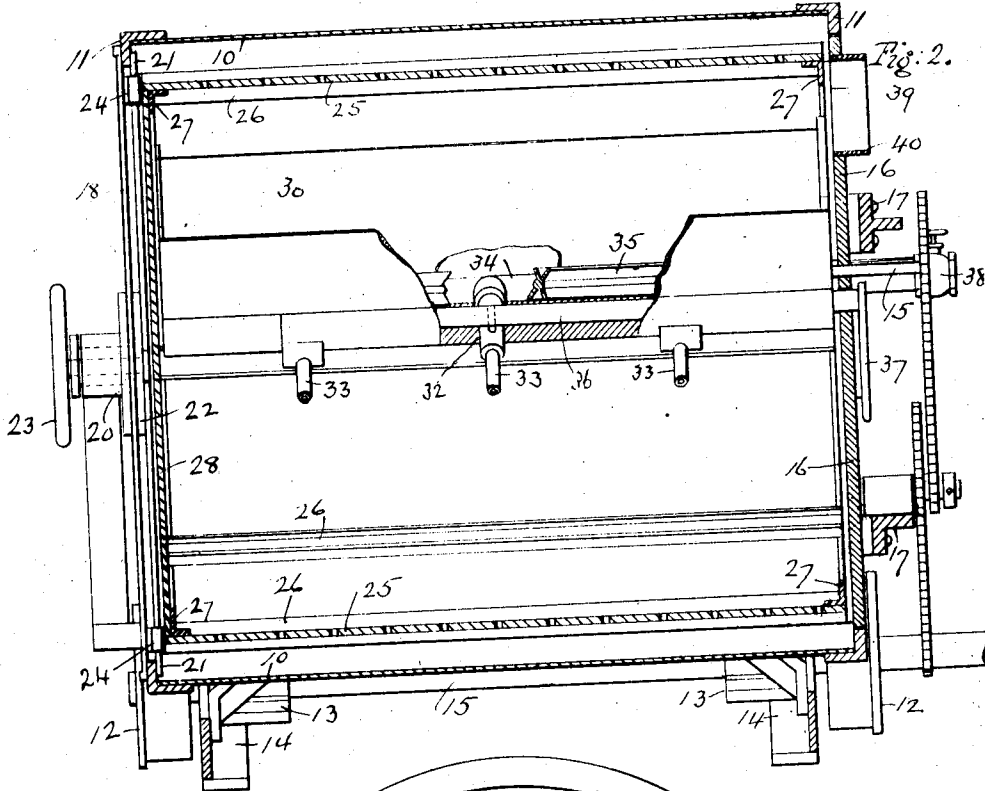
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WITNESSES
M. H. Grotz
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UNITED STATES PATENT OFFICE.

CHARLES A. DREISBACH, OF NEW HAVEN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO
WILLIAM JOHN SMITH, OF NEW HAVEN, CONNECTICUT.

SAND-BLAST MACHINE.

948,270.

Specification of Letters Patent.

Patented Feb. 1, 1910.

Application filed April 21, 1909. Serial No. 491,389.

To all whom it may concern:

Be it known that I, CHARLES A. DREISBACH, a citizen of the United States of America, and residing at New Haven, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement in Sand-Blast Machines, of which the following is a specification.

My invention relates to sand blast machines, and it is one of the objects of my invention to provide a suitable and improved machine for the treatment of small castings or the like by tumbling the same in the presence of a continuous sand blast, whereby all the surfaces thereof are subjected to the action of the blast.

Other important objects of my invention are the recuperation and reuse of the sand over and over again without handling, the prevention of dust, the arrangement of parts so that all shall be readily accessible, and the economical, efficient and convenient structural and functional features more fully set forth in the drawings and subjoined description.

Referring to the drawings Figure 1 is a front elevation of a machine embodying my invention, the cover being open; Fig. 2 is a longitudinal section, partially broken away; and Fig. 3 is a rear elevation of the machine.

In the practical embodiment of my invention illustrated in the drawings, I show a drum 10 with end bearing rings 11, 11 which rest on flanged wheels 12 journaled in bearings 13 in the frame 14. One of the wheels 12 is fast on the driving shaft 15 (Fig. 2) and thus rotates the drum at desired speed, the other wheels rotating as idlers. The rear head 16 of the drum is stationary, being riveted to angle irons 17 extending across the end of the frame 14. The front head comprises a door 18 carried by a hinge 19 which is swung from one of the uprights of the frame 14. A central trunnion 20 permits the door to rotate with the drum to which it is secured by bolts 21. These bolts are attached at one end to a cam member 22 controlled by the wheel 23, and, passing through guides 24, engage behind the inwardly projecting flange of the bearing ring 11 on the front end of the drum.

Within the drum I arrange a removable screen barrel 25 reinforced both within and without by channel bars 26 extending length-

wise of the barrel and by internal angle rings 27 at each end. This screen barrel is provided with a head 28 at the end adjacent the door 18 but is open at the other end to permit the ready charging and discharging of the castings therefrom when removed from the drum and to permit its entry into the drum. The external channel bars 26 engage guide bars 29 on the inner face of the drum which act not only as guides on the insertion and withdrawal of the barrel, but also serve to impart to the latter the rotary motion of the drum.

Extending inwardly from and carried by the stationary head 16 of the drum is the sand trough 30 into which the sand is continually discharged by the scoops 31 on the drum, during the operation of the machine. Passages 32 open from this trough into the blast nozzles 33 connected with the compressed air pipe 34. A stirrer 35, driven from the shaft 15, not only prevents the sand from "caking" in the bottom of the trough but also distributes the same evenly to the blast nozzles, while a valve 36 with handle 37 controls the amount of sand supplied to the nozzles. A valve 38 is provided for the air pipe. To permit the escape of dust, a hole 39 with pipe flange 40 is opened through the upper portion of the stationary head 16.

The operation of the machine is readily understood. The screen barrel 25 having been charged with castings, it is inserted in the drum, the external channel irons 26 of the barrel engaging the guides 29 on the inner face of the drum. The door 18 is then closed and bolted. Having opened the air valve 38 and the sand valve 37, the driving shaft 15 is set in motion and the drum and barrel are revolved, at suitable speed to tumble the castings. The sand passing through the mesh of the screen 25 is lifted by the scoops 31 and emptied back into the trough 30 where the stirrer 35 keeps it agitated. Dust is carried off through the hole 39 by the air from the blast nozzles. When the castings have been sufficiently smoothed, the drum is halted and the sand blast stopped, the door opened and the screen barrel drawn out and emptied, when it is again ready for charging and the process may be repeated.

Obviously various changes in detail of construction may be made and the machine

adapted to various requirements without departing from my invention and I do not limit myself to the precise structure shown.

I claim as my invention—

- 5 1. A sand blast machine comprising a rotary closed drum with vent opening, a removable screen within said drum and rotating therewith, for carrying the objects to be acted upon, a sand blast mechanism within the screen and means for automatically returning the used sand to the blast mechanism during the operation of the machine, substantially as described.
- 10 2. A sand blast machine, comprising a frame, rollers journaled therein, a rotary drum supported thereon, a removable screen rotating therewith arranged within the same and adapted to carry the objects to be operated upon, sand blast mechanism arranged within said screen and means for automatically returning the used sand to the blast mechanism during the operation of the machine, substantially as described.
- 15 3. A sand blast machine, comprising a rotary drum having a stationary head at one end with a vent opening and a sand blast mechanism carried by said head and extending longitudinally into said drum and a rotary door at the other end of said drum
- 20 for the admission and withdrawal of the objects to be acted upon by said blast.
- 25 4. In a sand blast machine, a rotary drum for tumbling the objects to be acted upon, a sand blast mechanism arranged within the same and means in connection with said
- 30 drum for collecting and returning to said

blast mechanism the sand employed during the operation of the machine.

5. In a sand blast machine an outer drum, and a removable screen barrel for carrying the objects to be acted on, arranged within the same, said barrel being closed at one end only, a sand blast mechanism and means for rotating said barrel to tumble said objects during the operation of said blast.

6. In a sand blast machine, a rotary drum having a stationary head with vent hole therein adapted to receive a dust pipe, and a sand blast mechanism arranged within said drum.

7. In a sand blast machine, a rotary drum adapted to contain the articles to be treated, a sand blast mechanism arranged within the same, having a sand trough and a rotary stirrer and means for simultaneously driving said drum and stirrer.

8. In a sand blast machine, a rotary drum having a stationary head, a sand trough carried by said head, a series of blast nozzles communicating with said trough and an air blast pipe passing through said head and opening into said nozzles, together with means to control the supply of air and means to control the supply of sand to said nozzles.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

CHARLES A. DREISBACH.

Witnesses:

GEORGE LEETE PECK,
HENRY S. L. HALL.