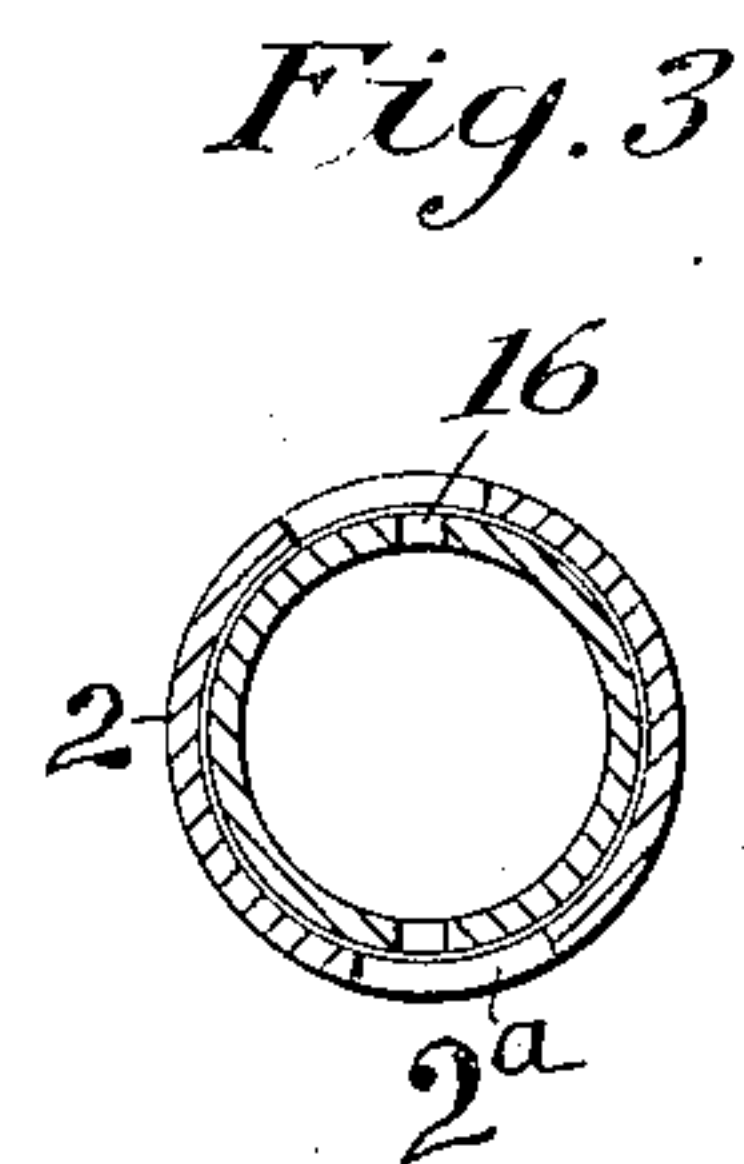
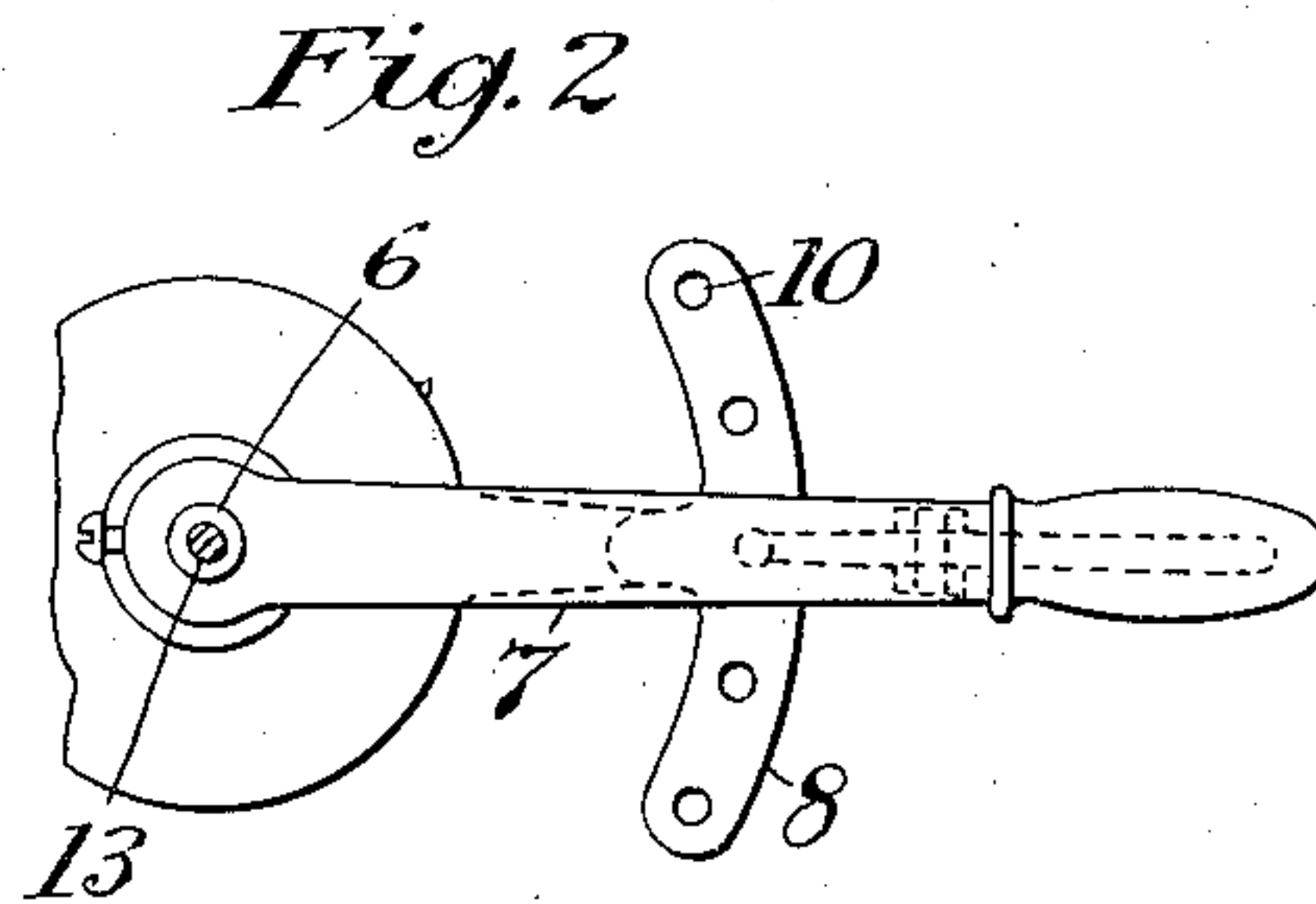
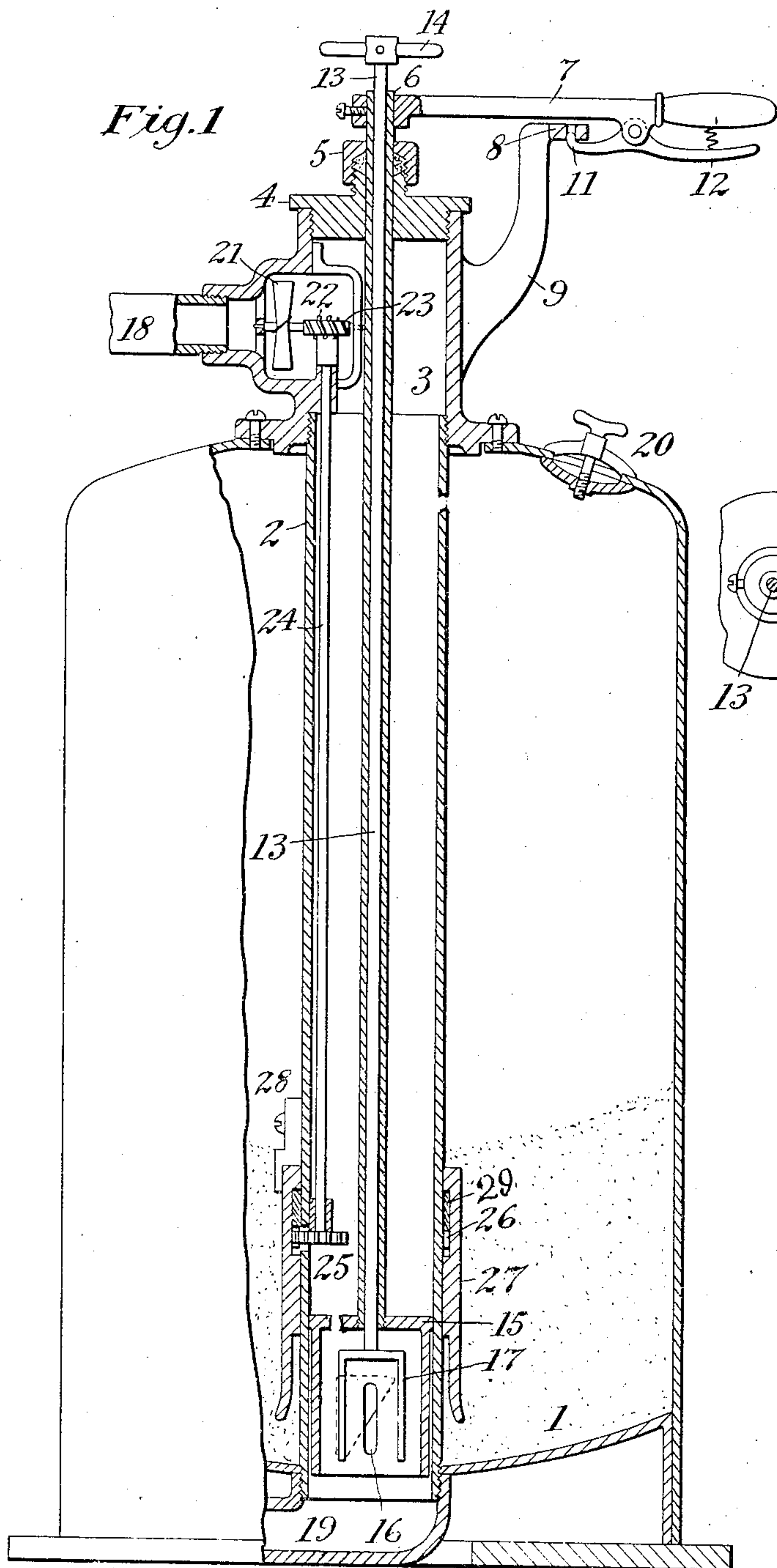


J. C. PANGBORN & T. HALL.  
SAND BLAST APPARATUS.  
APPLICATION FILED APR. 28, 1908.

925,591.

Patented June 22, 1909.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOHN C. PANGBORN AND THOMAS HALL, OF BROOKLYN, NEW YORK.

## SAND-BLAST APPARATUS.

No. 925,591.

Specification of Letters Patent.

Patented June 22, 1909.

Application filed April 28, 1908. Serial No. 429,588.

*To all whom it may concern:*

Be it known that we, JOHN C. PANGBORN and THOMAS HALL, both residing in Brooklyn, county of Kings, State of New York, have invented new and useful Improvements in Sand-Blast Apparatus, of which the following is a specification.

This invention relates to control of the passage of sand and air from a chamber under air pressure also means for preventing the sand from clogging in the chamber and in the discharge pipe.

In the accompanying drawing forming part of this specification is shown the invention in which—

Figure 1 is an elevation of the whole machine, part in section. Fig. 2 is a plan of controlling lever. Fig. 3 is a section of discharge gate.

Like figures refer to like parts.

1 is the chamber containing sand, 2 is a tube reaching through the chamber from top to bottom, 3 is a fitting having flanges screwed onto and around opening in chamber 1 and connected by screw thread to tube 2, 4 is a plug screwed into upper end of fitting 3, 5 is a stuffing box on plug 4, 6 is a tube inside of tube 2, 7 is a handle or lever fixed to upper end of tube 6, 8 is a quadrant plate supported by arm 9 from fitting 3, 10 are holes in quadrant, 11 is a pin on lever 12 hinged to handle 7, 13 is a solid rod through the tube 6 and extending above and below it, 14 is a handle fixed to top of rod 13, 15 is a valve or gate formed of a short tube secured to lower end of tube 6, 16 is an opening in the side of gate 15 opposite an opening 2<sup>a</sup> in the tube 2 shown in drawing by a diagonal dotted line across opening 16 shown in Fig. 3, 17 is a pronged fork fixed to lower end of rod 13, 18 is the inlet pipe for air, 19 is the outlet pipe, 20 is an opening for charging with sand having an air tight cover, 21 is wheel with vanes adapted to be driven by current of air from pipe 18, 22 is a screwthread on the shaft of the wind wheel, 23 is a pinion on shaft 24, the pinion gearing with the screw and driven by the screw, 25 is a pinion on the lower end of shaft 24 and gearing into an internal gear 26, the internal gear being part of a band or tube 27 that surrounds the tube 2 and is held in place by cleats 28 and ring 29 on tube 2,

portions of the band 27 being cut out forming fingers or prongs outside of openings 2<sup>a</sup> in tube 2.

The action of the parts is as follows: sand being provided in chamber and a pressure of air provided, the handle being at the end of quadrant. The opening 16 is opposite the solid part of tube 2 and not opposite the angular opening so that the sand cannot pass out. Moving the handle to various fixed positions on the quadrant brings the opening 16 of the gate opposite the angular opening in tube 2 to a less or greater degree as may be desired for passage of quantity of sand and held in fixed position by the pin 11 entering holes or notches in quadrant.

The fork 17 is for the purpose of loosening the sand in the tube 15 and also in the bend of outlet 19 by moving it up or down or by turning it by handle 14. The pronged band 27 is for the purpose of preventing the packing and clogging of sand in the chamber and is designed to be in continuous operation, the air pressure driving the wheel 21, on the same shaft is the screw 22 which turns the pinion 23 and shaft 24 moving the band 27 by the gear 25 in 26.

Having described our invention what we claim and desire to secure by Letters Patent is:

1. In a sand blast apparatus, a sand chamber, a cylinder in the chamber, openings in the cylinder near the bottom of the chamber, a cylindrical valve inside of the chamber and having openings to correspond with the openings in the cylinder so that the valve can be rotated to close the openings in the cylinder, a handle connected to the valve, means for placing the handle in a fixed position to regulate and control the rotary movement of the valve.

2. In a sand blast apparatus, a sand chamber, a cylinder having outlet openings, a hollow valve to control the area of the openings, a sand stirrer in the hollow valve and means for moving the stirrer from the upper part of the apparatus.

3. In a sand blast apparatus, a sand chamber, a cylinder having one or more outlets from near the bottom of the chamber, a circular stirrer around the cylinder, a wind wheel fitted to be operated by a current of

air and means for connecting the wind wheel to the circular stirrer.

4. In a sand blast apparatus, a chamber, a tube in the chamber reaching from the top to the bottom, an air inlet connected to the tube, a wind wheel adapted to be driven by air, a circular stirrer around the tube and

means for connecting the wind wheel to the stirrer.

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