

No. 859,863.

PATENTED JULY 9, 1907.

S. L. YOUNG & H. L. CONLEY.

SAND BLAST DEVICE.

APPLICATION FILED JUNE 23, 1906.

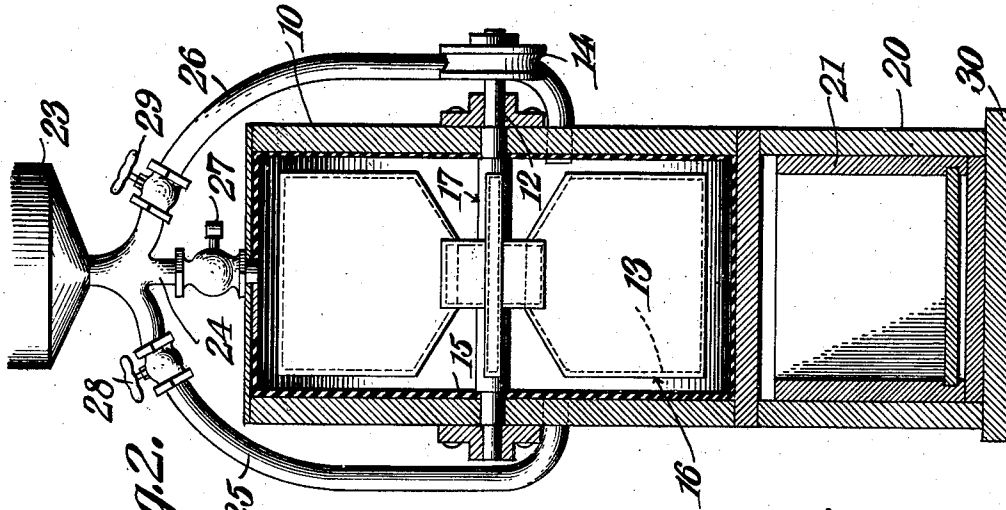


Fig. 2.

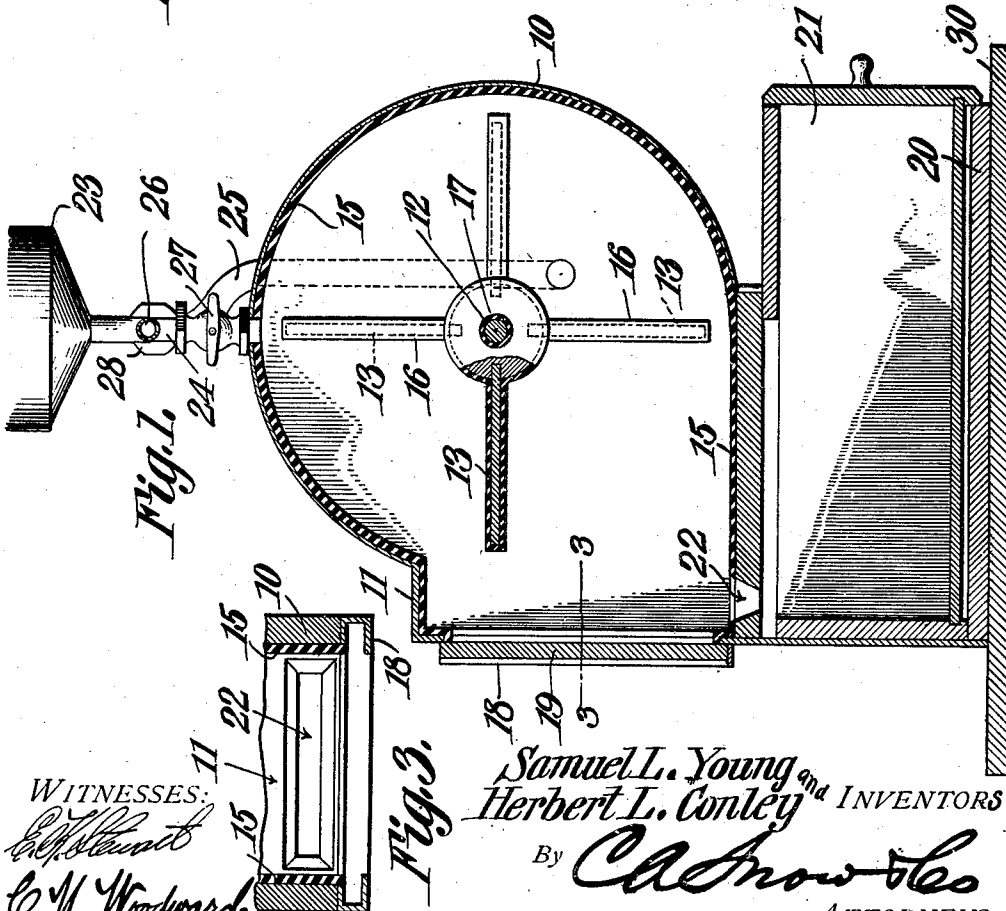


Fig. 1.



Fig. 3.

WITNESSES:
C. H. Woodward
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Samuel L. Young and
 Herbert L. Conley INVENTORS
 By *C. H. Woodward*
 ATTORNEYS

UNITED STATES PATENT OFFICE.

SAMUEL L. YOUNG AND HERBERT L. CONLEY, OF NEW CASTLE, PENNSYLVANIA, ASSIGNORS,
BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-FOURTH TO SMITH DEAN, ONE-EIGHTH
TO DAVID B. LONG, ONE-FOURTH TO ALFRED P. GRANT, ONE-FOURTH TO CASSIUS L.
FINNEY, AND ONE-EIGHTH TO AGNES L. LONG, ALL OF NEW CASTLE, PENNSYLVANIA.

SAND-BLAST DEVICE.

No. 859,863.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed June 23, 1906. Serial No. 323,145.

To all whom it may concern:

Be it known that we, SAMUEL L. YOUNG and HERBERT L. CONLEY, citizens of the United States, residing at New Castle, in the county of Lawrence and State of Pennsylvania, have invented a new and useful Sand-Blast Device, of which the following is a specification.

This invention relates to improvements in sand blast devices, and has for its object to simplify and improve the construction and increase the efficiency and utility of devices of this character.

With these and other objects in view, which will appear as the nature of the invention is better understood, the invention consists in certain novel features of construction as hereafter fully described and claimed.

In the accompanying drawings forming part of this specification and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation, it being understood that various changes in the form, proportion and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention within the scope of the appended claims.

In the drawings:—Figure 1 is a longitudinal sectional elevation; Fig. 2 is a transverse section; Fig. 3 is a vertical transverse section through the device.

The improved device comprises an inclosing casing 10, preferably in the form of a fan casing, and provided with a relatively large outlet throat 11 and with a shaft 12 carrying the fan blades 13, the shaft being provided with a drive pulley 14.

The casing 10 and its throat 11 are lined with a yielding material such as soft rubber, indicated at 15, and the fan blades 13 and shaft 12 are also covered with the same material, as indicated respectively at 16—17.

Means are provided such as guides 18 at the throat portion 11 of the casing for supporting the object to be treated by the blast, the object being indicated at 19.

Extending below the casing 10 is a sub-casing 20 in which a receptacle 21 is disposed, preferably in the form of a drawer, as shown, and formed in the throat portion 11 of the casing 10 adjacent to the supports for the object 19, is an aperture 22 communicating with the receptacle 21.

The receiver for the abrading element, which is usually sand, is represented at 23, preferably in funnel or hopper shape, and connected to the upper part of the casing 10 by a conductor pipe 24 and to the lower part of the casing by branch conductors 25—26, the conductor 24 having a controlling valve 27, and the branch conductor pipes having controlling valves 28—29.

With an apparatus thus constructed, if the valves

28—29 be closed and the valve 27 opened, the abrading material will be supplied to the casing at the highest point, and thus subjected to the influence of the fan for a greater length of time than occurs when the valve 27 is closed and the valves 28—29 opened, and the abrading material admitted to the casing at a comparatively low point. Thus the abrading material will be thrown with greater force against the object to be treated when admitted through the pipe 24 than when admitted through the pipes 25 and 26, as will be obvious. The force with which the abrading material is projected may thus be controlled to adapt it to the structure of the object 19, as comparatively soft objects require a less force than those of a harder nature or substance. As fast as the abrading material has accomplished its work, it falls through the aperture 22 into the receptacle 21, and is returned from thence to the receiver 23 to be again used, and so on so long as required. By this simple means a comparatively small quantity of the abrading material is required, as it can be used over and over again as frequently as required.

The device is designed for use by jewelers and others for treating comparatively small objects, and to this end a base plate 30 is disposed below the sub-casing 20 which may be attached to a support of any kind to which the driving power is attached.

The yieldable lining 15 of the fan casing and the like covering for the fan blades and shafts, protect the latter from the action of the abrading material.

What is claimed is:

1. In a device of the class described the combination with a fan casing having an outlet and a fan mounted to operate therein, and means for holding in the outlet of the casing an object to be treated; of a receiver, independent means for conveying an abrading material from the receiver to different points within the path of the blades, and a controlling device within each of said means.

2. In a device of the class described the combination with a casing having an outlet, means for holding in the outlet an object to be treated, rotatable fan blades within the casing for directing an abrading material against the object within the outlet, and a soft covering upon the fan blades and the inner faces of the casing; of a receiver, independent means for conducting abrading material by gravity from the receiver to different points within the path of the blades, and means within each of said conveying means for controlling the passage of material therethrough.

3. In a device of the class described, a fan casing having a fan operating therein, a receiver for a finely divided abrading element, a conductor for the abrading element leading from said receiver into the upper part of said casing, a conductor for the abrading element leading from said receiver to the lower part of said casing, means for independently controlling the flow of the element through said conductors, means for supporting the object to be treated in the path of the abrading

element, a receptacle, and a discharge aperture in the casing and communicating with said receptacle in position to receive the abrading element after its action upon the object.

- 5 4. In a device of the class described, a fan casing having a fan operating therein, a receiver for a finely divided abrading element, a conductor for the abrading element leading from said receiver into the upper part of said casing, a conductor for the abrading element
10 leading from said receiver to the lower part of said casing, means for independently controlling the flow of

the element through said conductors, and means for supporting the object to be treated in the path of the abrading element operated upon by the fan.

In testimony that we claim the foregoing as our own, 15 we have hereto affixed our signatures in the presence of two witnesses.

SAMUEL L. YOUNG.
HERBERT L. CONLEY.

Witnesses:

A. P. GRANT,
L. A. JOHNSTON.