No. 834,067. PATENTED OCT. 23, 1906.

C. A. LOUGHMAN & K. HESS.

SAND BLAST APPARATUS.

APPLICATION FILED NOV. 13, 1905.

FIG. 1

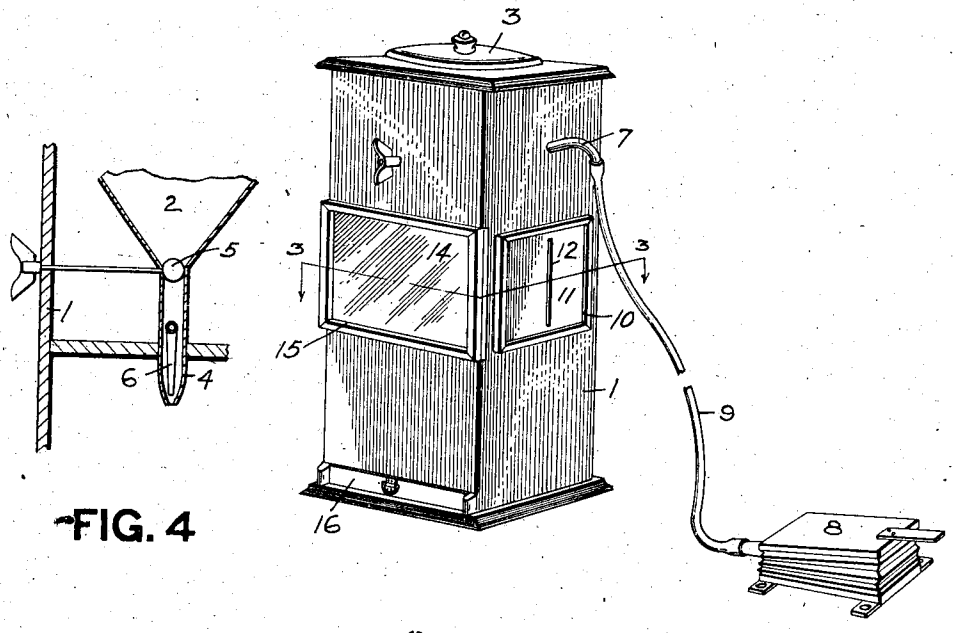


FIG. 4

FIG. 2

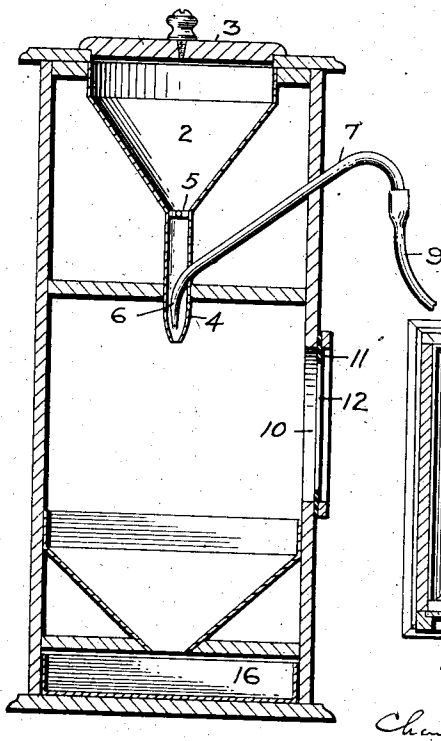
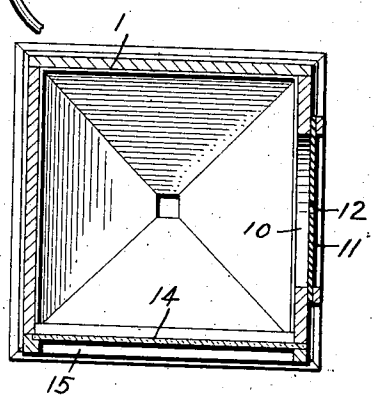


FIG. 3



WITNESSES.

J. R. Keller

Robert C. Potter

INVENTORS

Charles A. Loughman

and Karl Hess

By Kay Potter & Winter

attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES A. LOUGHMAN AND KARL HESS, OF BRADDOCK, PENNSYLVANIA.

SAND-BLAST APPARATUS.

No. 834,067. Specification of Letters Patent. Patented Oct. 23, 1906.

Application filed November 13, 1905. Serial No. 287,141.

To all whom it may concern:

Be it known that we, CHARLES A. LOUGHMAN and KARL HESS, residents of Braddock, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Sand-Blast Apparatus; and we do hereby declare the following to be a full, clear, and exact description thereof.

This invention relates to sand-blast apparatus, and especially to apparatus of this character for use by small manufacturing jewelers and in other small shops where it is impractical or impossible to have the usual power apparatus of this kind.

In the finishing of many pieces of jewelry and other ornamental objects it is necessary to subject the surface to the action of a sand-blast in order to give a dull or satin finish thereto. Many small manufacturing jewelers have occasion to give this finish to many articles made by them. Heretofore they have been compelled to send the article to some larger establishment in order to have this finish applied thereto. The cost of maintaining an ordinary sand-blast apparatus, as well as the space and power necessary therefor, is prohibitive in small shops.

Our invention is intended to supply a sand-blast apparatus which will meet the conditions above named. All jewelers are supplied with a small foot-bellows or hand-blower for operating the blowpipe used in melting precious metals. In our device this same bellows or blower can be used in conjunction with a special casing which we provide for doing the sand-blasting.

The invention consists in the particular arrangement of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of our sand-blast device. Fig. 2 is a vertical section therethrough. Fig. 3 is a horizontal section thereof on the line 3 3, Fig. 1; and Fig. 4 is a vertical section of a portion of the device, taken on a plane at right angles to the section shown in Fig. 2.

Our device comprises a suitable box or casing 1, which at its upper portion is provided with a receptacle or hopper 2 for the sand, this being closed by a suitable cover 3. The sand receptacle or hopper is provided with a nozzle 4, which is controlled by a suitable damper or valve 5. Projecting into the sand-nozzle 4 is an air-nozzle 6, forming a portion of a pipe 7, leading to the exterior of the casing and adapted to receive the air-blast from any suitable source, such as the foot-bellows 8, which is connected, by means of a tube 9, to the pipe 7. The compressed air coming through the nozzle 6 acts on the principle of an injector to blow the sand out through the nozzle 4 in a small but sufficiently powerful blast.

The chamber underneath the nozzle 4 is provided on one side with a suitable opening 10, through which the work can be presented to the sand-blast and withdrawn therefrom. In order to keep the dust from flying out, this opening will be provided with a suitable automatically-closing shutter, such as a sheet of rubber or other elastic fabric 11, provided with a slit 12, through which the hand of the operator can be inserted to hold the work underneath the sand-blast. The fabric being elastic will close around the wrist of the operator and prevent the dust from flying out. The casing will also be provided with a suitable glass or other transparent window 14, through which the progress of the work can be viewed. Preferably this window will be in a sliding panel 15. In the bottom of the chamber is provided a suitable pan 16 for receiving the sand that is blown down, which pan can be withdrawn through one side of the casing, as shown, in order that the sand may be again transferred to the hopper or receptacle 2.

The operation of the apparatus will be readily understood from the foregoing description and illustration.

The device is exceedingly simple, occupies a very small space, and is portable. The ordinary foot-bellows or blower used by jewelers will provide sufficient air-pressure to operate the same.

The apparatus is cheap of manufacture and is therefore available for even small jeweler-shops. As a consequence all work requiring a satin finish can be finished right in the shop and without incurring the expense and delay of sending it to a larger establishment for such finish.

What we claim is—

1. A sand-blast apparatus for small-shop use, comprising a sand holder or receptacle, an imperforate cover closing the same, a nozzle extending from the bottom of said sand-holder, a valve controlling the passage to

said nozzle, an air-nozzle associated with said sand-nozzle and acting as an injector to produce the blast, a closed chamber into which said nozzles project, said chamber being provided with an opening for the admission and withdrawal of the work, an automatically closing shutter for said opening and a removable sand-receiving receptacle in the bottom of said chamber.

2. A sand-blast apparatus for small-shop use, comprising a sand holder or receptacle provided with a nozzle, an air-nozzle associated with said sand-nozzle and acting as an injector to produce the blast, a closed chamber into which said nozzles project, said chamber being provided with an opening for the admission and withdrawal of the work, and an elastic fabric closing said opening and provided with a single narrow slit through which the work is entered and withdrawn.

3. A sand-blast apparatus for small-shop use, comprising a sand holder or receptacle provided with a nozzle, an air-nozzle associated with said sand-nozzle and acting as an injector to produce the blast, a closed chamber into which said nozzles project, said chamber being provided with a window through which the progress of the work can be viewed, and with an opening for the admission and withdrawal of the work, and an elastic fabric closing said opening and provided with a single narrow slit through which the work is entered and withdrawn.

4. Sand-blast apparatus for small-shop use, comprising a sand holder or receptacle provided with a nozzle, an air-nozzle associated with said sand-nozzle and acting as an injector, a closed chamber into which said nozzles project, said chamber being provided with an opening for the admission and withdrawal of the work, and a fabric closing said opening and provided with a narrow elongated opening having an elastic edge.

In testimony whereof we, the said CHARLES A. LOUGHMAN and KARL HESS, have hereunto set our hands.

CHARLES A. LOUGHMAN.
KARL HESS.

Witnesses:
JOHN F. MCCUNE,
IDA L. LEECH.