J. C. LUDEN.

DUST COLLECTING MACHINE.

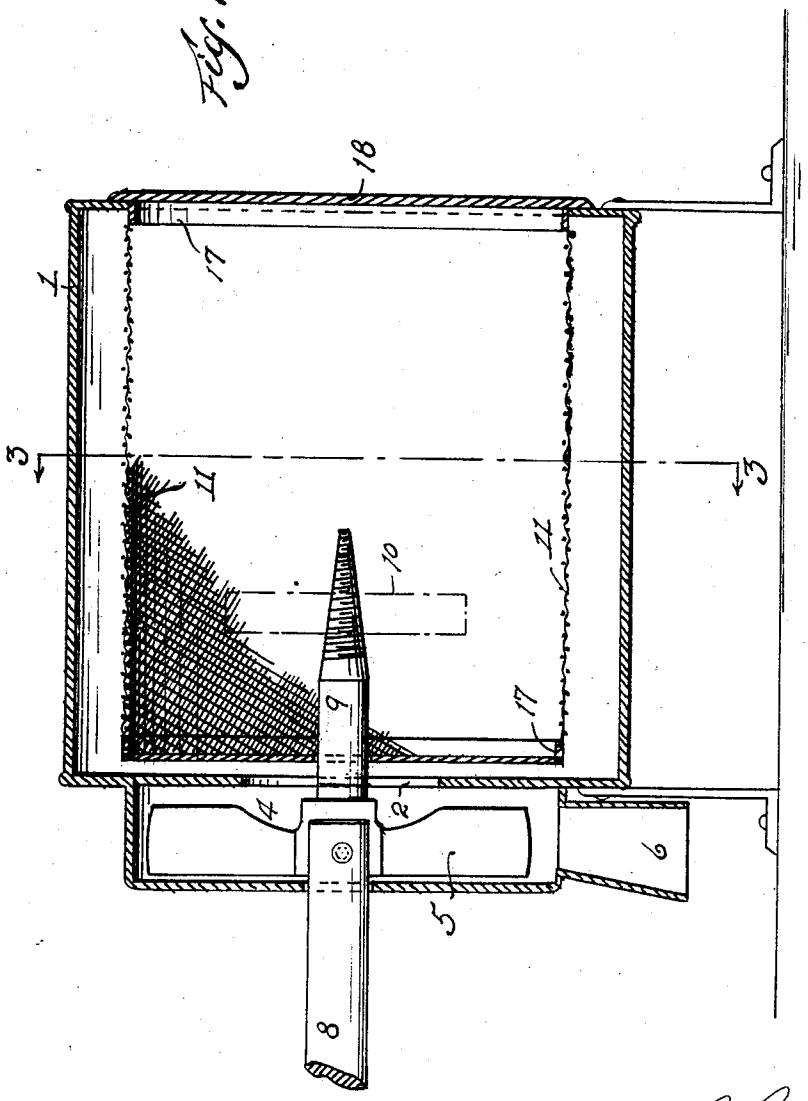
APPLICATION FILED JAN. 31, 1921.

1,393,892.

Patented Oct. 18, 1921.

2 SHEETS—SHEET 1.

Fig. 1.



Jacob C. Luden, Inventor

By [signature], Attorney

J. C. LUDEN.

DUST COLLECTING MACHINE.

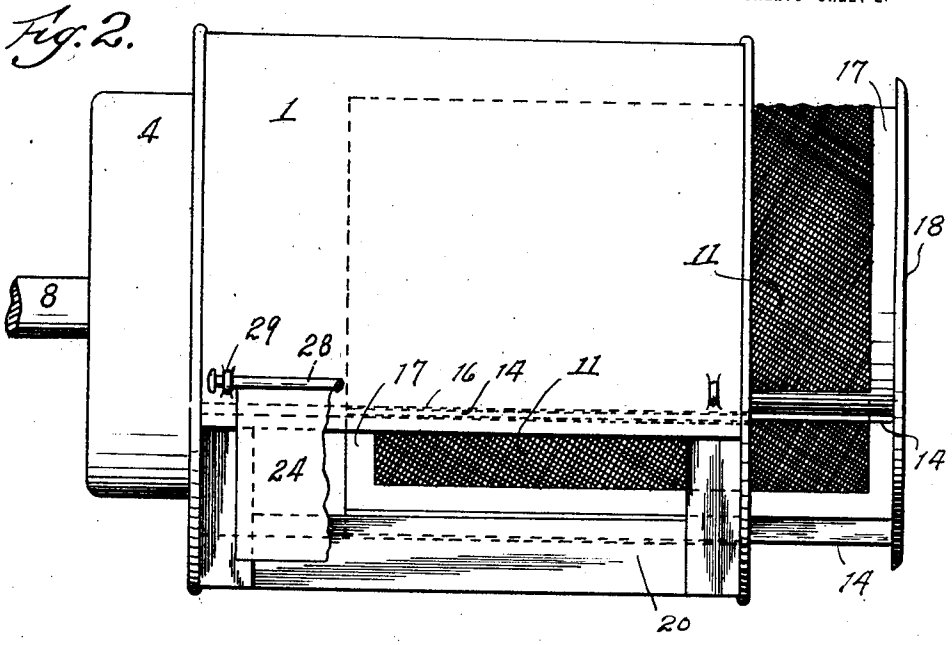
APPLICATION FILED JAN. 31, 1921.

1,393,892.

Patented Oct. 18, 1921.

2 SHEETS—SHEET 2.

Fig. 2.



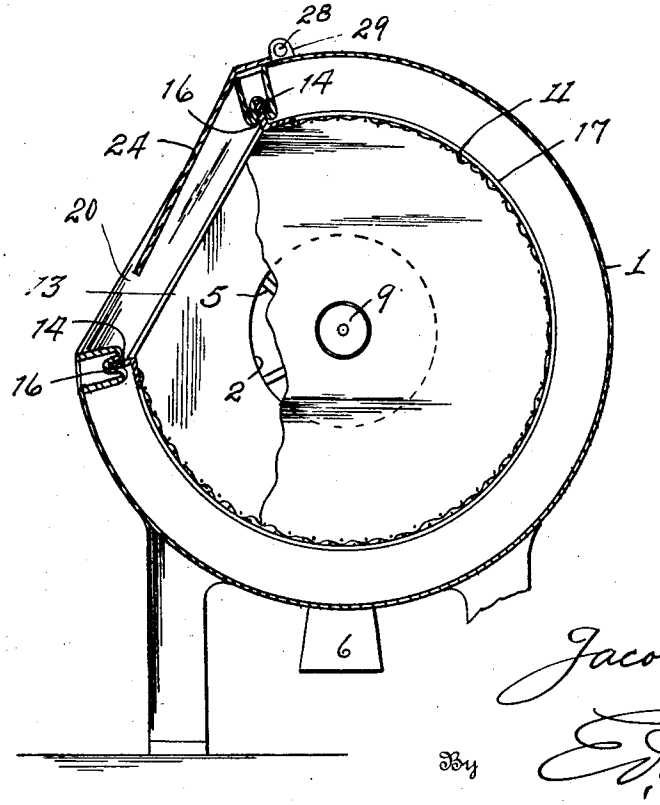


Fig. 3.

Inventor

Jacob C. Luden

By

Attorney

UNITED STATES PATENT OFFICE.

JACOB C. LUDEN, OF READING, PENNSYLVANIA.

DUST-COLLECTING MACHINE.

1,393,892. Specification of Letters Patent. Patented Oct. 18, 1921.

Application filed January 31, 1921. Serial No. 441,238.

To all whom it may concern:

Be it known that I, JACOB C. LUDEN, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Dust-Collecting Machines, of which the following is a specification.

This invention relates to improvements in dust collecting machines, such as are used by jewelers and others for polishing or otherwise treating precious metals, and in which it is desired to save the particles of metal resulting from such polishing or other action.

The invention contemplates a machine of very simple construction, comprising relatively few parts, and consists mainly of a casing inclosing a suction fan, and a removable dust catching cylinder.

The invention is intended for the same general purposes as those for which my previous machine was intended, and which is described and illustrated in Letters Patent No. 1,160,628.

In my present invention I have succeeded in producing a cheap, simple and still very effective machine for the purpose intended, and in addition, one in which the removal of the dust catching member is as simple as mechanically possible.

The invention is more fully described in the following specification and clearly illustrated in the accompanying drawing, in which:—

Figure 1 is a central, longitudinal sectional view of my machine. Fig. 2 is a plan view thereof, and Fig. 3 is a sectional view taken through 3—3 of Fig. 1.

The numeral 1 designates a substantially cylindrical cylinder, forming the casing of the machine. This cylindrical casing is open at both ends, the opening at one end being restricted, as at 2, and forming an air outlet, and this outlet leads into a chamber 4 formed on the end of the casing 1, and in this chamber I locate a suction fan 5 of any ordinary structure. An outlet 6 from this chamber is provided, which may lead to any suitable receptacle into which it is desired to have the current of air and fine dust discharged. 8 designates a power shaft on which the fan is mounted, and 9 is a wheel spindle, mounted to rotate with the power shaft, and on which a polishing wheel or other like device 10 may be secured.

The opposite end of the casing 1 is provided with a relatively larger opening in which may be inserted a cylindrical dust collecting member. This member is slightly flattened for a portion of its circumference, as indicated at 13 and the entire cylinder, except for this flat portion, is made up of a wire mesh of suitable size, 11, to catch and retain the larger particles of dust thrown off by the polishing wheel. Along both longitudinal edges of the flattened portion of the member 11 is formed a rib 14, and the casing 1 is also formed with a pair of grooves 16 adapted to receive these ribs, and to act as a guide for the cylinder as it is moved into and out of the casing. The cylinder is formed with a band 17 at both ends to which the wire mesh is secured by solder or otherwise, and the outer end of the cylinder is formed with a head portion 18, which closes that end of the cylinder and which projects beyond the line of the wire mesh cylinder, and thus forms a stop to determine the full closed position of the cylinder in the casing, which position is shown in Fig. 1 of the drawing.

The casing 1 is formed with an opening 20, registering with the opening in the wire mesh of the cylinder, to permit access to the polishing wheel by the operator, and this opening is provided with a suitable curtain 24, secured to the top of the casing 1 and adapted to hang partially over the opening and thus serve to protect the operator from flying particles thrown off by the polishing wheel.

It is evident that when the shaft 8 is rotated, through the application of power thereto of any desired method or device, the fan will create a suction in its chamber and draw the air through the opening 2, thus carrying off all the smaller particles of metal and dust to be deposited through the outlet 6 to the desired receptacle. The heavier or larger particles will be retained inside the cylinder 11, which may be removed by simply sliding it out of the casing.

The space surrounding the cylinder within the casing is sufficiently large to provide proper circulation of air and to in-

sure the carrying away of all of the lighter dust which may have passed through the wire mesh cylinder 11.

The curtain may be made in any desired form and of any suitable material, and it will preferably be mounted on a rod 28 mounted in supports 29, so that it may be folded back over the top of the casing when not required.

Having thus fully described my invention, what I claim and desire to secure by Letters Patent is:—

1. In a dust collecting machine the combination of a casing having a restricted opening at one end, a suction chamber into which said opening leads, a suction fan rotatably located within the chamber, a wheel spindle carried by the fan, a substantially cylindrical dust collecting member within the casing, said member forming a closure for the opposite end of the casing, longitudinal ribs formed on the cylindrical member, and the casing having receiving grooves for said ribs, whereby the cylindrical member may slide into the casing and be guided longitudinally.

2. In a machine of the character described, a casing having an open portion at the front, a perforated cylindrical member fitting slidably within the casing and forming a closure for one end of the casing, said casing having a restricted opening at the opposite end, and a suction chamber formed on the casing into which said restricted opening leads, a power shaft, a fan thereon and located within the suction chamber, and a spindle located within the casing carried by the shaft and adapted to receive a polishing wheel.

In testimony whereof I affix my signature.

JACOB C. LUDEN.