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F. A. PULHEMUS & L. C. WALTER.

MACHINE FOR CLEANING DUST OR DIRT OUT OF TYPE CASES.

(Application filed July 12, 1897.)

(No Model.)

Fig. 1.

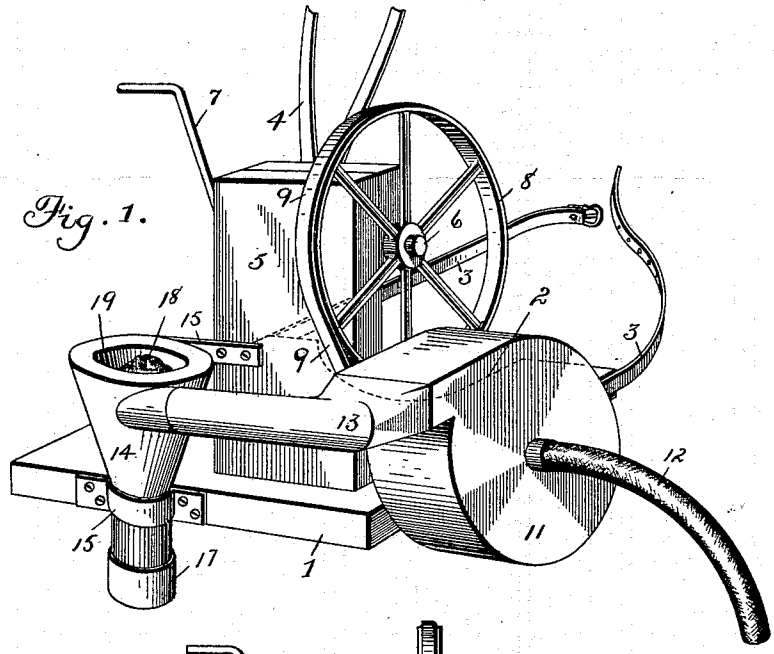


Fig. 2.

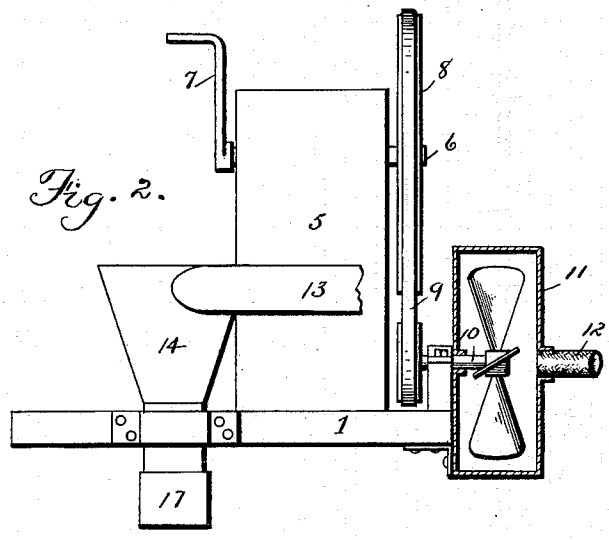
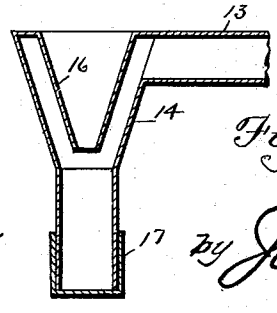


Fig. 3.



Witnesses
Lee I. VanHorn
Victor J. Evans

Inventors.
Frank A. Pulhemus
Lawson C. Walter.
By John Wedderburn
Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRANK A. PULHEMUS AND LAWSON C. WALTER, OF HOPKINS STATION, MICHIGAN.

MACHINE FOR CLEANING DUST OR DIRT OUT OF TYPE-CASES.

SPECIFICATION forming part of Letters Patent No. 612,137, dated October 11, 1898.

Application filed July 12, 1897. Serial No. 644,267. (No model.)

To all whom it may concern:

Be it known that we, FRANK A. PULHEMUS and LAWSON C. WALTER, of Hopkins Station, in the county of Allegan and State of Michigan, have invented certain new and useful Improvements in Machines for Cleaning Dust or Dirt out of Type-Cases; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to an improved device for cleaning type-cases designed to supersede the hand-bellows ordinarily employed for the purpose, and which are exceedingly objectionable for the reason that they serve merely to blow the dust out of the case and out of the different compartments thereof and scatter it over the room, leaving it to settle again as soon as the operation is suspended.

The present invention is designed to remove or overcome this objection and to collect the scattered dust by suction and deposit it in a dust arrester or condenser, from which it can be discharged at will and at any desired point. It will be understood from the following description and claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the improved machine or device. Fig. 2 shows the same in front elevation, the fan-casing being shown in section. Fig. 3 represents a vertical section through the dust-arrester and the dust-pipe connected therewith.

1 indicates the bed-plate upon which the several parts of the machine or apparatus are mounted and which is shown provided at one end with a concavity (indicated at 2) adapting it to fit against the waist of the person of the operator, and 3 indicates straps attached to the corners of the said concavity and adapted to be passed around the person of the operator and to be secured thereto by means of a suitable buckle on one of the straps adapted to engage the opposing strap.

4 indicates a second strap or loop attached to the base-plate 1 at or near the center of its length and provided on its outer end with a loop adapted to be passed over the head and to engage the neck of the operator for holding the bed-plate 1 in a substantially horizontal position. In suitable uprights 5 on the bed-plate 1 is mounted a transverse shaft 6, provided at one end with a crank-arm 7, by means of which the shaft is rotated.

8 indicates a band-wheel fast on the shaft 6 and carrying a band 9, which passes around a pulley-pinion on a shaft 10, which extends through a cylindrical casing 11, secured to the base-plate 1, and is provided inside of said casing with a fan-wheel, which by the rotation of the band-wheel 9, connected with the pulley on the shaft of the fan-wheel, imparts a rotary movement to the latter. The casing 11, inclosing the fan, receives its supply of air through a flexible suction-pipe 12, adapted to be grasped by the left hand of the operator and passed over the type-cases and the different compartments thereof for sucking up the dust and dirt therefrom in a manner that will be readily understood. The dirt and dust with the air thus drawn into the cylindrical casing pass out through a tangential duct 13, connected at its outer end with a dust-collecting chamber 14, which is secured to the outer end of the base-plate 1 by means of suitable supporting-arms 15. The dust-collecting chamber 14 is made preferably in the form of a double funnel, the duct 13 connecting with the outer funnel thereof, indicated in the sectional view Fig. 3, in which 14 indicates the outer and 16 the inner funnel.

13 is the pipe from the exhaust-fan.

17 is the cup which fits over the bottom of the outer funnel and in which the dust collects, removable at will.

18 is a sponge which rests lightly within the inner funnel and allows the air to escape through its pores, but collects what dust does not settle in the cup.

19 indicates the air-outlet of the dust-receptacle.

The air, dust, and dirt from the exhaust-fan pass into and between the outer and inner funnels at their upper ends, giving them a rotary movement as they pass around between the two funnels, and as they gradually work toward the bottom the air, dust, and dirt are separated, the air passing out through the air-outlet of the inner funnel and the dust and dirt settling into the receptacle or outer funnel at the bottom.

We have described a particular construction of apparatus by which the desired result of cleaning the type-case is effected; but it is obvious that other forms of suction apparatus may be used in lieu of the fan described, and the fan may be arranged to draw the dust and dirt in at its periphery and to discharge the same at its center. We do not wish to be restricted thereto; but any suitable form of suction apparatus may be substituted for the suction above referred to.

By the construction described a light, simple, and effective apparatus or machine is provided, which, being portable, renders it unnecessary to carry the cases to any particular point to be cleaned. All that is necessary is to pull the case out from the rack and pass the suction-pipe over the same, said pipe being grasped and manipulated by the left hand, while the machine is operated by means of the right hand, and the cleaning is made much more effective than by the ordinary process and without causing the flying dust to be inhaled by the operator.

By the use of the apparatus described the cases can be readily cleaned and in a very short space of time as compared with the operation of the bellows ordinarily employed for that purpose.

Having thus described the invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a machine for cleaning dust from type-cases, an exhaust fan and chamber, a flexible pipe leading to said chamber, and a conductor-pipe leading from said chamber and entering the dust-collecting chamber tangentially; with a cylindrical collecting-chamber, a small inverted conical tube attached at the base to the top of the chamber and the small end open below the line of entrance of the conductor-pipe, substantially as, and for the purpose set forth.

2. In a machine for cleaning type-cases, an exhaust fan and chamber, a flexible inlet-pipe leading to said chamber, a dust-collecting chamber, a conductor-pipe passing from the fan-chamber to and into the dust-collector, tangentially the upper end of the dust-chamber depressed to an elongated funnel, the small end opening below the line of entrance of the dust-tube, a saturated sponge in said funnel to filter the dust from the escaping air, and a removable cap for the lower end of the dust-chamber, substantially as, and for the purpose set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

FRANK A. PULHEMUS.
LAWSON C. WALTER.

Witnesses:
THOMAS GILLIGAN,
C. ELMER WOLFINGER.