

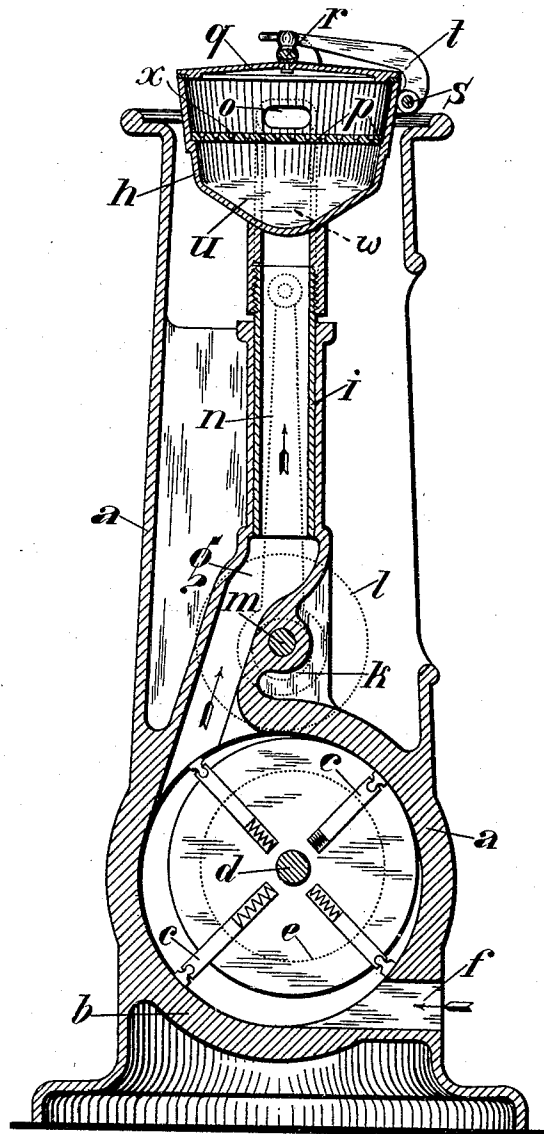
C. SANDOZ-MORITZ.
PRESSURE AIR DEVICE.
APPLICATION FILED OCT. 30, 1911.

1,062,608.

Patented May 27, 1913.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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Frank Simon

Inventor

Charles Sandoz-Moritz

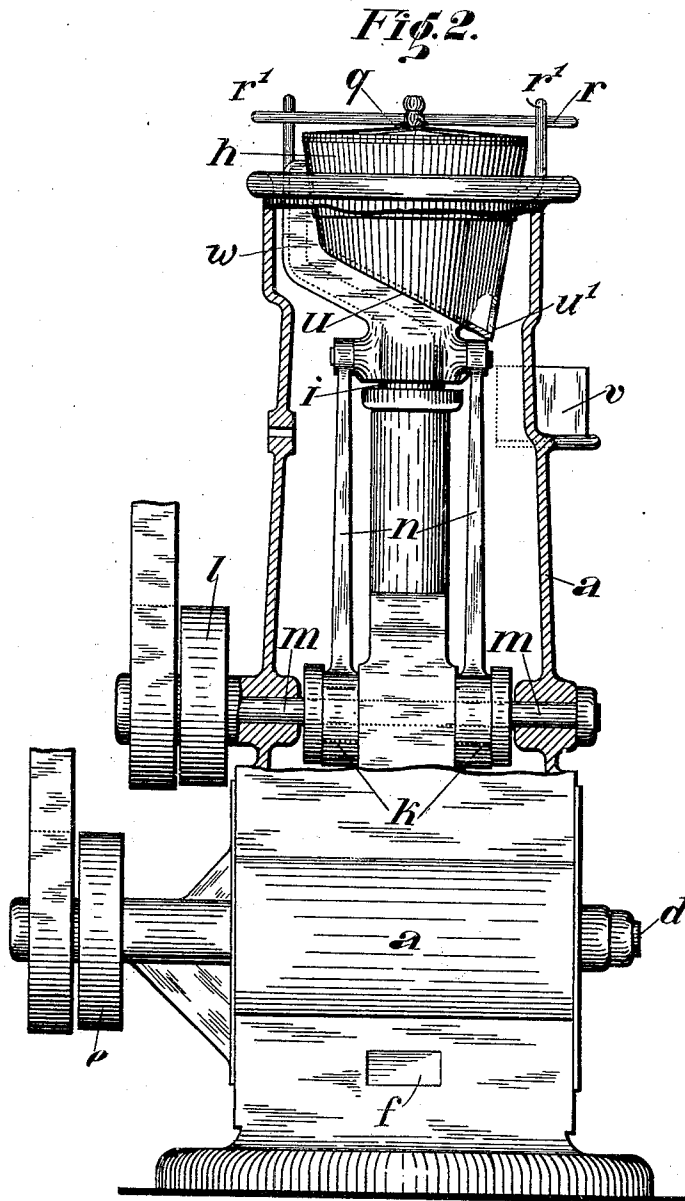
by Paul S. Phillips
his attorney

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UNITED STATES PATENT OFFICE.

CHARLES SANDOZ-MORITZ, OF TAVANNES, SWITZERLAND.

PRESSURE-AIR DEVICE.

1,062,608.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed October 30, 1911. Serial No. 657,596.

To all whom it may concern:

Be it known that I, CHARLES SANDOZ-MORITZ, a citizen of the Republic of Switzerland, and residing at Tavannes, Switzerland, have invented certain new and useful Improvements in Pressure-Air Devices, of which the following is a specification.

The present invention has reference to improvements in apparatus for assembling work parts or for temporarily inserting them in removable holders by means of pressure air.

It is now customary in various arts, especially in clock- and watch-making, to suck-in parts, such as pins, studs, screws, rivets, hands, and the like, for cleaning and other purposes, into perforations provided in plates or disks by means of suction-air in specially constructed, fan-actuated suckers with shaking action. It has been found, however, that dirt, grit, filings, chips and like impurities, detaching themselves from the shapen parts, are entrained by the suction current and are then apt to lodge in the fan and seriously interfere with its operation; furthermore, in devices of this type, the excess parts must be carefully and laboriously taken out of the sucker-bowl after each operation, before the perforated plate with the sucked-in parts can be removed.

The object of the present invention is to do away with these drawbacks by using pressure-air for forcing-in the parts, instead of drawing them in by suction-air, as heretofore, and to alternately increase and decrease the compression of the air-blast for the purpose of acting on the parts to be inserted more forcibly on the down-stroke of the containing bowl.

In order to make this invention more readily understood, I will describe it with reference to the accompanying drawings, which represent one embodiment of my invention.

Figure 1 represents a vertical section through the machine. Fig. 2 shows a side elevation of the machine, partly in section.

In the lower part of the tubular machine frame *a* is provided the blower or fan-housing *b*, in which rotates the fan *c* whose shaft *d* is driven from the pulley *e*. The rotation of the fan takes place in the direction of travel of the hands of a clock, and the air blast passes through the apparatus in the arrow-indicated direction, through the air canal *f*, *g* into the head or bowl *h*, into which

the parts to be assembled are placed, and finally out of the bowl. A tube *i* airtightly slides within the vertical part of the canal *g* and communicates above with a curved conduit *w* which, in turn, opens into the bowl *h* at *o*. To the member *i* are fulcrumed the upper ends of rods *n*, *n* secured to eccentrics *k*, *k*, which latter are driven from the shaft *m* with driving pulley *l*. Upon the shaft revolving, the bowl *h* will be reciprocated in an up and down direction. Below the orifice *o* is provided the false bottom *p* upon which the parts to be treated are placed. This plate *p* is provided with a number of perforations or air passages *x* to receive therein the work parts, such as screws, pins, studs, rivets, and the like. After the perforations are all filled, which requires but a few seconds, the plate is removed to a buffer or polisher or to other apparatus for further treatment, and in the meantime a fresh plate is introduced, so that the work suffers no interruption.

The bowl *h* is airtightly closed by the cover *q* of any suitable construction and operation. A preferred form of cover, which operates quickly and reliably, is shown in the drawings. To the center of the cover surface is secured the double-armed lock-bar *r* with capability of horizontal rotation. To the bowl are secured at opposite points two hook-shaped brackets *r*¹. For closing down the cover the bar *r* is swung around its central pivot until its free ends are caught below the hook parts of the brackets *r*¹. For the purpose of raising or lowering the cover there is secured to it one end of the swing-lever *t*, whose other end is pivotally secured to the bowl. The bottom *u* slopes toward the front of the bowl, as shown in Fig. 2, and just above the lowermost point there is provided at *u*¹ a discharge opening, from which issues the pressure-air and from which are delivered the excess pieces after each operation into an open tray *v*.

The operation of the described mechanism is as follows: The perforated plate or false bottom *p* is placed into the bowl *h*, the parts to be inserted are placed on top of the plate, and the cover *q* is closed down. Upon the fan being started, pressure-air is sucked in through port *f* and forced through the canal *g*, *i*, *w* and the orifice *o* into the bowl, passes through the perforated false bottom, through the lower part of the bowl and finally out at *u*¹. To the bowl, in the meantime, is im-

parted a vibratory up and down motion, with the result that the loose parts in the bowl are thoroughly shaken and alternately thrown upwardly and then again pressed home into the respective perforations of the work plate.

Each sudden descent of the bowl, obviously, will cause the inclosed column of pressure air to become momentarily still further compressed, and these quickly recurring extra-compressions, acting like hammer blows, greatly aid in forcing the work parts into the perforations in the plate. At the end of each operation, the false bottom is tilted, when the excess pieces will fall onto, and slide down, the slanting bottom *u* of the bowl, and are finally discharged into the tray *v*.

What I claim is:—

1. In a device of the character described, the combination with the work receiving bowl and the blower, of extensible means, airtightly connecting said bowl and said

blower, and means for imparting to said work receiver a reciprocatory up and down movement.

2. In a device of the character described, in combination, a blower; driving means therefor; a work receiver, comprising a bowl, an airtightly closable cover, a removable false bottom having perforations, and a sloping bottom, said bowl having an air inlet above said false bottom and a discharge opening at the lowermost part; a telescoping air conduit, airtightly connecting said bowl and said blower; and means for imparting to said work receiver and to part of the said telescoping air conduit a reciprocatory up and down movement.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES SANDOZ-MORITZ.

Witnesses:

ADOLF LOCHER,
CARL LANGJAHR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."