C. SANDOZ MORITZ.

SHAKING DEVICE FOR SUCTION MACHINES.

APPLICATION FILED OCT. 30, 1911.

1,053,227.

Patented Feb. 18, 1913.

2 SHEETS—SHEET 1.

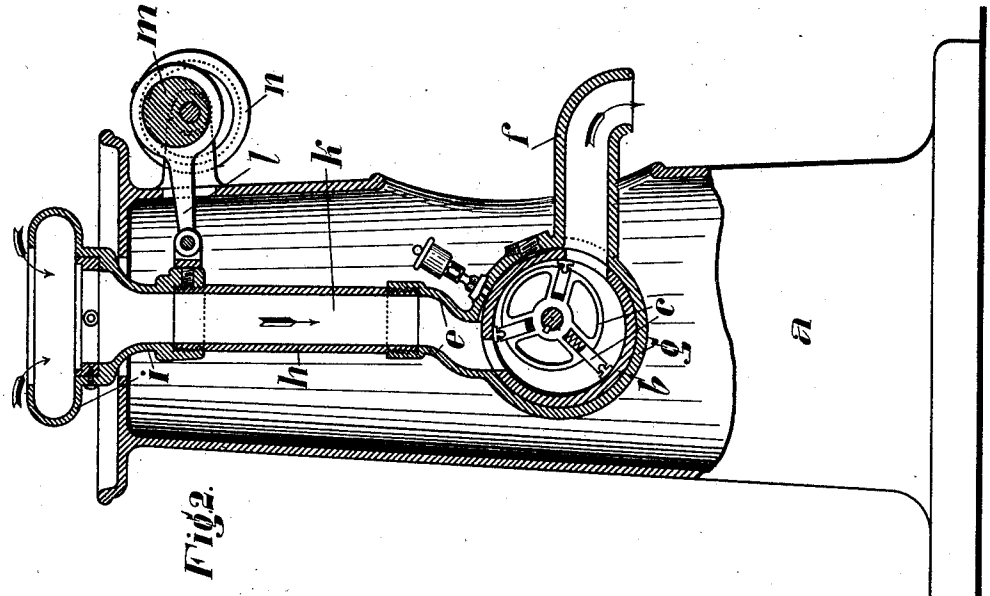

Fig. 2.

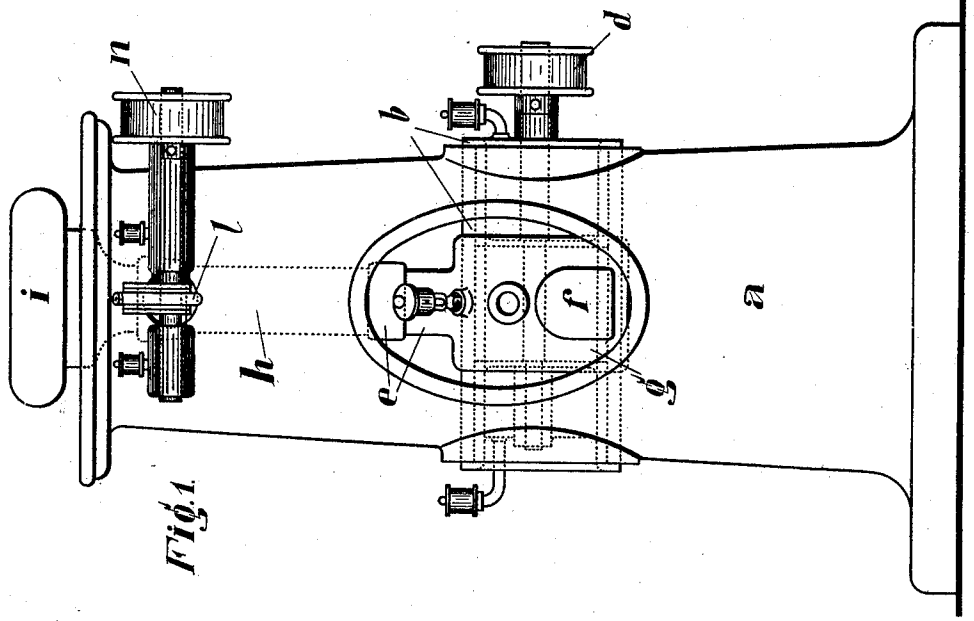

Fig. 1.

Witnesses

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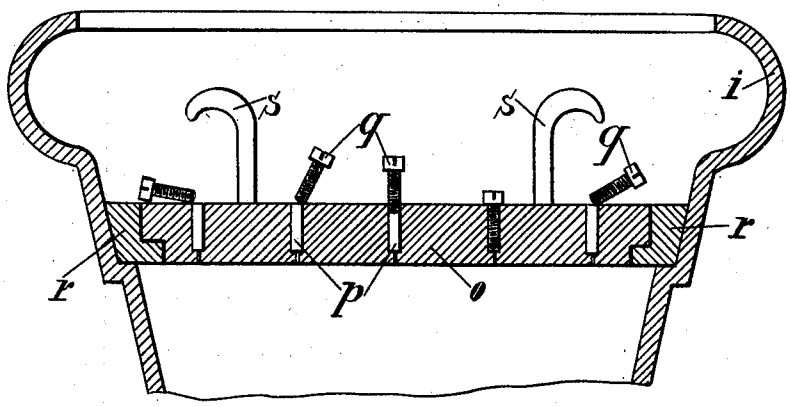
Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES SANDOZ MORITZ, OF TAVANNES, SWITZERLAND.

SHAKING DEVICE FOR SUCTION-MACHINES.

1,053,227. Specification of Letters Patent. Patented Feb. 18, 1913.

Application filed October 30, 1911. Serial No. 657,595.

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 Shaking Devices for Suction-Machines, of which the following is a specification.

The present invention has reference to improvements in suckers or aspirators such as are used for instance in the manufacture of watch or clock parts, for automatically inserting pins, studs, screws, rivets and the like objects into perforated plates, which when filled are removed to a polishing or buffing device, where the protruding heads of the inserted work pieces are finished-off, and the invention relates more particularly to improvements in the shaking device used in connection with such suction machines, for the purpose of keeping the parts to be inserted—which I will hereinafter refer to as "screws"—in constant motion, so that they will readily drop into the perforations in the removable plates. Heretofore these screws had to be inserted by hand, a very tedious and costly process. In a machine according to my invention the screws are simply piled onto the perforated plate within a receiving bowl and the fan and the vibrating device are started, when the screws will be tumbled about and readily drop into the perforations, aided therein by the powerful suction current of air.

In order to make this invention more readily understood I will now describe it with reference to the accompanying drawing, in which—

Figure 1 represents a front view of the improved shaking device, and Fig. 2 a side elevation thereof, partly in section. Fig. 3 shows a section through part of the receiving bowl and the perforated plate, with screws in various stages of insertion.

In the hollow vertical frame *a* is journaled the suction fan *c* within the housing *b* and is driven from the belt pulley *d*. Upon the casing *b* is airtightly packed and rotatably journaled the casing *g* provided with branch tubes *e* and *f*. The tube *e* communicates with a tube *h* and this in turn with the shaker-head or bowl *i*, intended to receive the parts to be suctionally operated upon. The suction canal thus formed is designated by *k*. To the lower contracted part of the receiving bowl *i* is pivoted the rod *l* of the eccentric *m*, which latter is driven from the pulley *n*. Within the bowl *i* is placed the exchangeable plate *o*, provided with a plurality of perforations or air passages *p* which correspond to the type of screw to be inserted. For conveniently handling the perforated plates they may be provided with handles *s*.

The operation of the described mechanism is the following:—Upon the fan rotating in a direction opposite to that of the clock-hands, the air is sucked through the suction canal and the fan, and is expelled out of the branch tube *f*, as indicated by the arrows. Into the receiving bowl *i* is placed the above described perforated plate, and screws *q* are tumbled upon the latter. The eccentric *m*, *l* is now actuated with the result that the entire rigid suction canal *i*, *h*, *e*, *g*, *f* is oscillated about the fan housing as fulcrum, the travel of the shaker head being obviously considerably larger than that of the casing *g*, which latter thus is subjected only to a minimum wear and tear on the supporting fan housing. The combined shaking and sucking action causes the screws to work into the perforations, whereupon the completely filled plate is removed for further treatment of the screws, and a fresh, empty plate is placed into the bowl.

What I claim is:—

1. In a machine of the character described, in combination, a receiving bowl; a perforated plate therein; a suction appliance; a casing operating on said suction appliance and having air intake and discharge ports respectively; rigid, hollow means for airtightly connecting said bowl and said suction appliance; means for operating said suction appliance; and means near the upper end of said rigid connecting means for imparting to said bowl a laterally reciprocating movement.

2. In a machine of the character described, in combination, a main housing; a bowl for receiving the parts to be operated upon; a removable plate in said bowl having perforations corresponding to the size and shape of the parts to be inserted; a suction appliance, comprising a housing, a rotary

member therein, and means for operating this member; a tube rigidly and airtightly connecting said bowl and said suction appliance and supported on said suction appliance; and means for imparting to said bowl vibratory movements about the said suction appliance as center.

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

CHARLES SANDOZ MORITZ.

Witnesses:
ADOLF LOCHER,
CARL LANGJAHR.