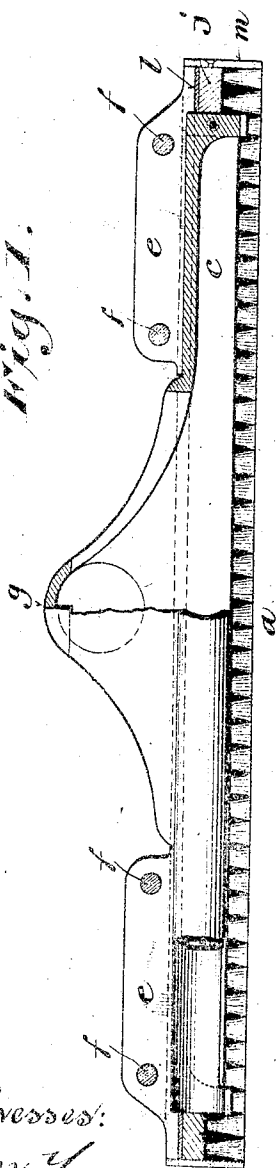


F. J. MATCHETTE & C. MOUKOS.
 VACUUM SWEEPER.
 APPLICATION FILED OCT. 6, 1905.

936,465.

Patented Oct. 12, 1909.

Fig. 1.



Witnesses:
 Geo W. Young,
 Chas. L. Goss.

Fig. 3.

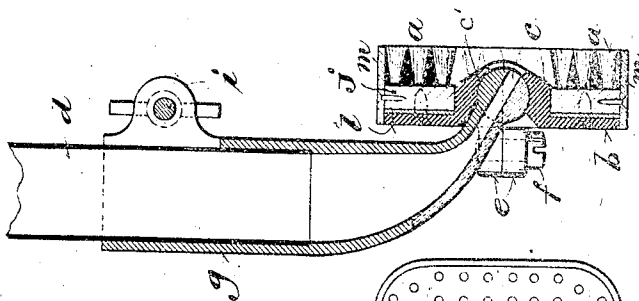
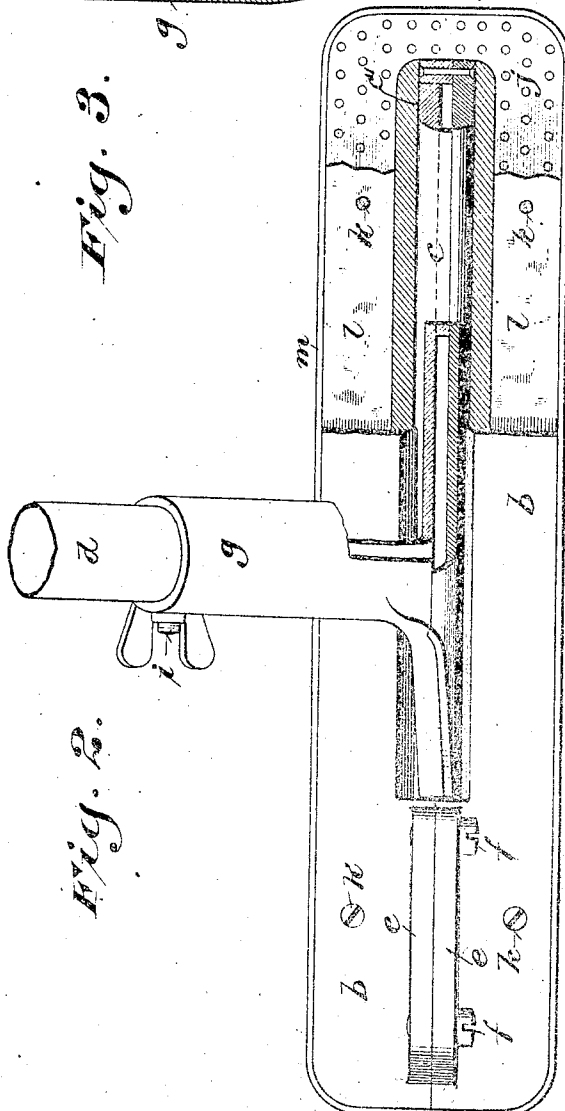


Fig. 2.



Inventors:
 Frank J. Matchette,
 Charles Moukos,
 By Wm. H. H. Smith, Attorney & Counsel
 New York, N. Y.

UNITED STATES PATENT OFFICE.

FRANK J. MATCHETTE AND CHARLES MOUKOS, OF MILWAUKEE, WISCONSIN; SAID
MOUKOS ASSIGNOR TO SAID MATCHETTE.

VACUUM-SWEEPER.

936,465.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed October 6, 1905. Serial No. 281,699.

To all whom it may concern:

Be it known that we, FRANK J. MATCHETTE, a citizen of the United States, and CHARLES MOUKOS, a subject of the Kingdom of Greece, both residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Vacuum-Sweepers, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof.

This invention relates more particularly to sweepers for removing dust and dirt from smooth hard surfaces such as wood and tile floors have. Its main objects are to provide improved features to loosen and remove dust and dirt from such surfaces and conduct them away to a convenient point of deposit or discharge, and thus prevent their escaping into and settling in the room in which they have been taken up; to maintain the brush forming a part of the device, in its proper working relation to the surface to be cleaned irrespective of the position in which the operating handle is held; to admit of sweeping under radiators, and other fixtures and furniture; to confine the air draft which removes the dust and dirt, close to and distribute it evenly over the surface covered by the brush; to provide for the renewal of the brush and for its adjustment with relation to the draft nozzle or orifice; and generally to improve the construction and operation of sweepers of this kind.

The invention consists in certain novel features of construction and in the peculiar arrangement and combinations of parts hereinafter particularly described and pointed out in the claims.

In the accompanying drawing like characters designate the same parts in the several figures.

Figure 1 is a transverse section of a sweeper embodying the invention, the section generally cutting the brush and nozzle centrally and lengthwise thereof; Fig. 2 is a plan view of the sweeper, the greater part of the tubular operating handle being broken away and parts of the brush back and nozzle being broken away and shown in horizontal section; and Fig. 3 is a longitudinal section of the sweeper cutting the nozzle and brush centrally and crosswise.

The sweeper comprises a brush *a* having a

transverse opening through the back and bristles on opposite sides of said opening, a plate *b* to which the brush is attached, a nozzle *c* and a tubular operating handle *d* through which air with dust and dirt is drawn and conducted away from the brush.

The plate *b*, which is preferably made of metal, is formed with a cylindrical bearing socket *c'* transverse to the handle *d* and extending below the lower faces of the plate on each side thereof, as shown in Fig. 3. This socket opens on the upper and under sides through said plate, which is preferably made in two sections or parts joined together in a plane cutting said socket lengthwise, the sections being formed at their adjoining edges with flanges *e e*, which are connected by screws *f f*. This construction and arrangement of parts facilitates machining or finishing said bearing socket, a part of which is formed in each section of the plate *b*, and also facilitates the insertion of the nozzle in said socket and the assembling of the parts of the sweeper.

The nozzle *c* is made cylindrical and fitted to turn in the socket in plate *b*. It has a draft orifice in the under side running lengthwise thereof in communication with the opening in the under side of the socket, and it is formed on the upper side with a neck or collar *g* in which the tubular handle or arm *d* for operating the sweeper is secured. This neck or collar is split lengthwise on one side to make it contractible, and is provided with a screw *i* for clamping it on the tubular handle *d*. By this means different tools or implements may be used with the same handle, and the change from one to another may be quickly made.

The nozzle is preferably made in two parts, which are joined together in a plane cutting the draft orifice lengthwise, so that when they are separated, the walls of the passage leading to said orifice may be polished or smoothed, to prevent obstructing or retarding the air draft and clogging with dirt and dust.

The openings through the upper and under side of the plate *b* into the nozzle socket are made of sufficient width to permit of freely turning the handle with the nozzle up and down, and varying its angle to the plate *b* without tipping the brush or closing the draft orifice in the nozzle. By turning the handle into a position approximately paral-

lel with the plane of plate *b*, as shown in Fig. 3, the brush may be thrust and the sweeper operated under radiators, tables or other fixtures and furniture.

The brush back *j* in which the bristles are held and which is fitted around the depending nozzle socket in plate *b*, is detachably secured to said plate by screws *k*, so that the brush may be easily removed and renewed or adjusted as the bristles wear off, by inserting shims *l* between it and said plate, which when the parts are assembled, reinforces and forms in effect a part of the brush back.

By the construction herein shown and described the draft orifice of the nozzle is brought close to the surface on which the brush rests or moves, into the most effective relation thereto, and the nozzle is hinged or pivoted in the brush in such a way and in such a position that the brush is held in alignment or parallel with the surface over which it is moved in the operation of the sweeper, irrespective of the angle or inclination at which the handle *d* is carried.

A strip *m* of leather, rubber or other suitable material, is tacked or otherwise fastened to the back *j*, and extending downwardly therefrom approximately to the ends of the bristles, forms around the brush a draft confining skirt which concentrates or localizes the draft at or near the plane of contact between the brush and the surface to be swept. The strip *m* extending upwardly around the margin of the plate *b*, forms a cushion or fender which prevents the sweeper from marring furniture, woodwork or any object against which it may be run.

In the operation of the sweeper the brush *a* is moved back and forth over the floor or surface to be swept, and loose dirt and dust is taken up and conducted off by a strong draft of air which is maintained through the nozzle *c* and handle *d*. The brush operates to detach and loosen dirt which may adhere to the floor or other surface, and also to agitate dust and dirt over which the sweeper passes, so that the air draft can more effectively act upon them. An inward draft or current of air being maintained through the space between the floor or other surface and the skirt *m*, any dirt or dust raised by the brush is immediately drawn into the sweeper and thus prevented from escaping into the room outside and settling again therein.

We are not confined to the details of construction and in the arrangement of parts in embodying the principle and intended scope of the invention.

We claim:

1. In a vacuum sweeper, the combination of a brush having an opening through the back and bristles arranged on opposite sides

of said opening to leave an uncovered space beneath said opening, a nozzle hinged to said back and having a draft orifice communicating through said opening in the back with the uncovered space between the bristles, a tubular handle attached to said nozzle, and a draft confining skirt surrounding the brush, substantially as described.

2. In a vacuum sweeper the combination of a brush having a transverse cylindrical bearing socket in the back formed with an opening in its under side, a cylindrical nozzle fitted to turn in said socket and having a draft orifice in the under side, and a handle attached to said nozzle including means to connect the nozzle with an exhaust, substantially as described.

3. In a vacuum sweeper the combination of a brush having a transverse cylindrical bearing socket in the back, formed with an opening in its under side, a cylindrical nozzle fitted to turn in said socket and having a draft orifice in the under side, a handle attached to said nozzle including means to connect the nozzle with an exhaust, and a draft confining skirt surrounding the brush, substantially as described.

4. In a vacuum sweeper, the combination of a back plate having a depending portion formed with a slotted transverse cavity, a nozzle located in said cavity, a brush having a transverse opening through the back, adapted to receive the depending portion of the plate, and bristles arranged at each side of the opening of the brush, substantially as described.

5. In a vacuum sweeper the combination of a plate, a handle provided with a nozzle having a draft orifice in the under side and supported from said plate, and a brush provided with an opening in its back to receive the nozzle and detachably secured to the under side of said plate, substantially as described.

6. In a vacuum sweeper the combination of a plate having a handle connected therewith and provided with a nozzle having a draft orifice in the under side, a brush attached to said plate, and means for adjusting the distance of the nozzle from the working face of the brush, substantially as described.

7. In a vacuum sweeper, the combination of a plate provided with a depending nozzle socket having an opening therein, a nozzle mounted in the socket having a draft orifice in communication with the opening of the socket, a handle connected with the nozzle, and a brush attached to said plate, having bristles arranged on opposite sides of the nozzle, substantially as described.

8. In a vacuum sweeper the combination of a plate having a transverse bearing socket opening on the under side below the lower face of the plate, a cylindrical nozzle fitted

to turn in said bearing and having a draft orifice in the under side, a handle attached to said nozzle, and a detachable brush having a transverse opening in the back through which said depending bearing and nozzle project, substantially as described.

9. In a vacuum sweeper the combination of a plate having a transverse cylindrical socket opening through the upper and lower sides of the plate which is composed of sections jointed together in a plane cutting said socket lengthwise, a nozzle fitted to turn in said socket and having a draft orifice in the under side, a handle attached to the nozzle including means to connect the nozzle with an exhaust, and a brush attached to said plate, substantially as described.

10. In a vacuum sweeper the combination of a plate having a depending transverse cylindrical bearing socket upon its under side and composed of sections which are joined together in a plane cutting said socket lengthwise, a nozzle fitted to turn in said socket and composed of sections which are joined together in a plane cutting the draft orifice of the nozzle lengthwise, a han-

dle attached to the nozzle including means to connect the nozzle with an exhaust, and a brush attached to said plate, substantially as described.

11. In a vacuum sweeper the combination of a plate having a transverse cylindrical socket opening through the upper and lower sides of the plate, a cylindrical nozzle fitted to turn in said socket, a tubular handle fitting in said nozzle, and a brush attached to said plate, substantially as described.

12. In a vacuum sweeper, the combination of a plate having a depending transverse socket, a brush having an opening to receive said socket, and provided with bristles at each side of the opening, a nozzle mounted in the socket, adapted to oscillate therein, and a tubular handle in communication with the nozzle, substantially as described.

In witness whereof we hereto affix our signatures in presence of two witnesses.

FRANK J. MATCHETTE.
CHARLES MOUKOS.

Witnesses:

HOWARD C. KAUFMAN,
CHAS. L. GOSS.