

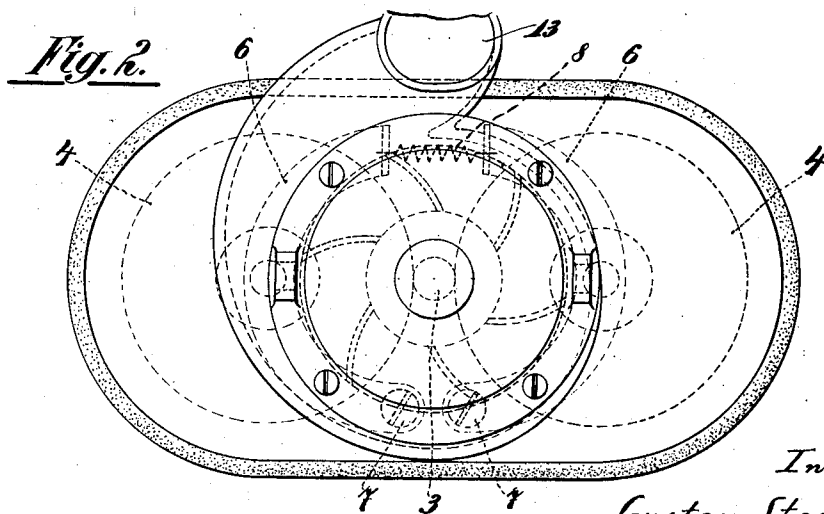
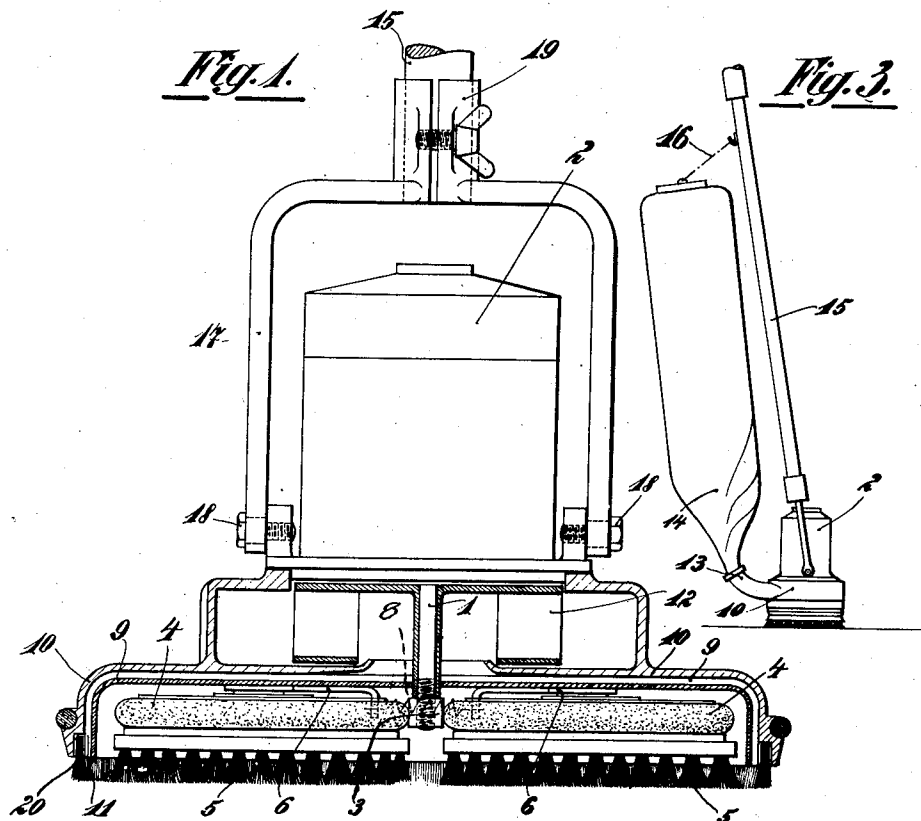
July 17, 1928.

1,677,533

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ELECTRICALLY ACTUATED SURFACING MACHINE

Filed May 4, 1926



Patented July 17, 1928.

1,677,533

UNITED STATES PATENT OFFICE.

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ELECTRICALLY-ACTUATED SURFACING MACHINE.

Application filed May 4, 1926, Serial No. 106,687, and in Germany March 9, 1926.

This invention has for its subject-matter a machine for the treatment of any kind of surface by means of a brush-like tool and specially for the execution of such work in which fine cuttings or shavings or dust are or is produced. The machine is more especially suitable and intended for the treatment of parquet flooring or other similar wood flooring. It may also be used, however, for the treatment of lignum vitae flooring or stone flooring or other desired surfaces consisting of other material. By using corresponding and suitable brushes the machine can be further used for surfacing, abrading, smoothing, waxing and polishing flooring and other surfaces. By providing the machine with a suitable accessory it may also be used as a suction or vacuum cleaner.

The machine is hereinafter described as applied for use in effecting the surfacing or shaving of flooring. It is already known in surfacing or shaving of flooring to use rotatable brushes. In apparatus of this type the cuttings or shavings or the dust in consequence of the high speed of rotation of the brushes, escapes outwardly and/or is ejected outwardly so that the chamber or room in which the work is carried on becomes filled with dust which can only be removed after considerable trouble and care.

A particular feature of the present machine consists in that the cuttings, shavings or dust created is prevented from rising externally of the machine. For this purpose the working space of the machine is surrounded by a suction space out of which the dust-laden air is sucked by means of a vane, wing or fan-wheel or the equivalent and thereafter conveniently delivered to an external filter-bag known per se in vacuum or cleaning apparatus.

In order that the invention may be clearly understood and readily carried into effect reference is made to the accompanying drawing which shows by way of example a constructional form in accordance with the present invention.

Figure 1 partly in section is a front elevation of the machine, the sectional part being shown as a central vertical section.

Figure 2 is a plan of Figure 1.

Figure 3 drawn to a reduced scale shows a general arrangement of the entire machine provided with a filter-bag.

A friction driving member 3 is rigidly secured on the shaft 1 of an electric driving motor 2 the said friction driver being adapted to engage with rubber bands or rings 4 which are arranged on steel-wire brushes 5. The brushes 5 are supported on flat arms 6 each of which is rockable about a pivot 7 the two arms 6 being constrained towards each other at their free ends by a spring 8 so that the rubber rings 4 and consequently the brushes are constantly maintained against the friction driving member 3.

The drive for the brushes and the brushes themselves are surrounded by a bell-like casing 9 which is arranged in a similar bell-like casing 10, a free space 11 being provided between the two casings 9 and 10.

On the electro-motor shaft 1 is secured a vane, wing or fan-wheel which as shown is retained in position on the shaft by means of the ring 3 and an external screw thread provided on the shaft 1 of the electric driving motor. The blades or vanes of the fan or wing-wheel 12 are so disposed that air is drawn in from the circumference of the brushes during the rotation of the motor shaft 1 and the working of the brushes, the said air being drawn in through the intermediate space 11 between the casings 9 and 10. The air thus sucked in is ejected through a pipe 13 into a filter-bag 14 which (known per se in vacuum or suction cleaners) is suspended in a readily removable manner from the handle-bar 15 of the machine by means of a chain 16 or equivalent.

The handle-bar 15 is conveniently secured by means of a split clamping device 19 which is rigidly connected with a strap 17 the said strap being pivotally mounted as at 18 on the machine-casing.

In order to ensure that the cuttings or shavings or the material removed by the steel-wire brushes 5 or the dust thrown up by the steel-wire brushes 5 shall enter the suction zone a curtain 20 is provided which surrounds the edges of the casing 10 the said curtain being formed of bristles or other like material which bears resiliently on the floor or other surface to be treated. Such curtain has a double function. First to prevent the projection of the cuttings, shavings or the material removed by the brushes beyond the suction zone and secondly to act as a diffuser that is to say to create a uniform distribution of the air drawn in throughout the circum-

ference of the casing so that such air current is more or less uniform all round the said casing more especially where the surface being treated is of a somewhat uneven nature.

Instead of bristles in the strict sense of the word, horse-hair or other kind of hair or material could be used for the curtain 20.

The brushes 5 are conveniently provided with steel bristles which are similar to and similarly arranged as steel-wire scratch-brushes or wire-brushes. The brushes are preferably conveniently removable and replaceable by other types of brushes so that the machine after surfacing, cutting, shaving or cleaning or other operation can also be used for smoothing as by abrading, waxing, polishing or any other desired operation.

What I claim is:—

20 A cleaning machine comprising a casing;

a motor mounted on said casing; a pair of brushes rotatably mounted in the lower part of said casing; a shaft for said motor adapted to rotate said brushes; a fan mounted on the shaft of the motor for creating a suction action; a curtain member in the form of a brush mounted on the outer lower edge of the casing and adapted to contact with the surface to be cleaned; and a bell-shaped casing mounted within and in spaced relation to the first-named casing to form a passage for the suction air from the curtain member to the fan, said passage limiting the suction action to the curtain member, and said curtain member preventing the particles loosened by the brushes from flying outwardly beyond the suction zone and creating a uniform distribution of the air of the suction action.

In testimony whereof I affix my signature.

GUSTAV STAEHLE.