E. COTTET.

COMBINED CARPET SWEEPER AND VACUUM CLEANER.

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1,051,391.

Patented Jan. 28, 1913.

Fig. 1.

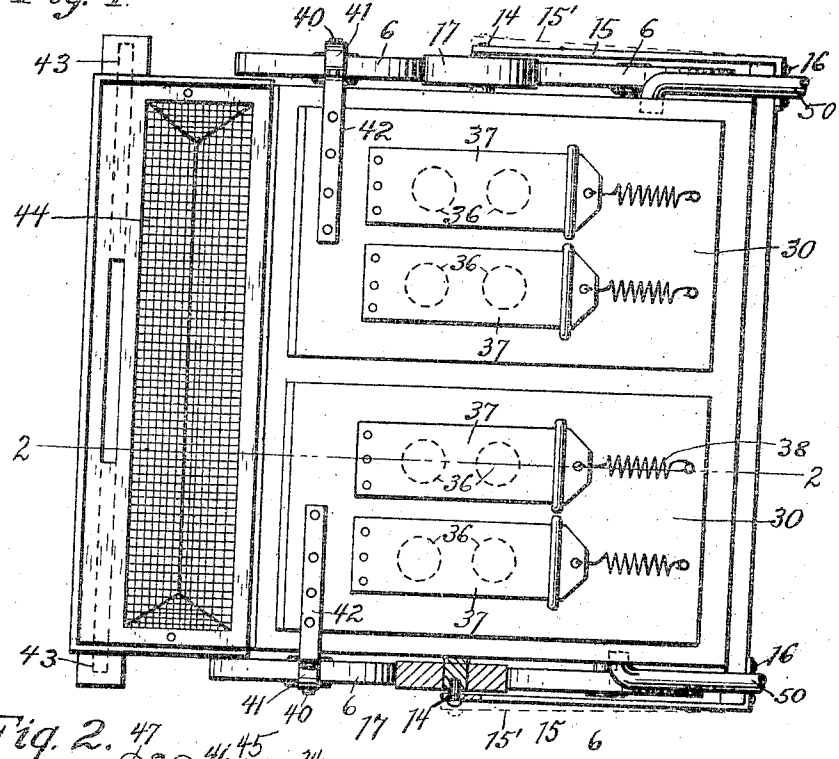
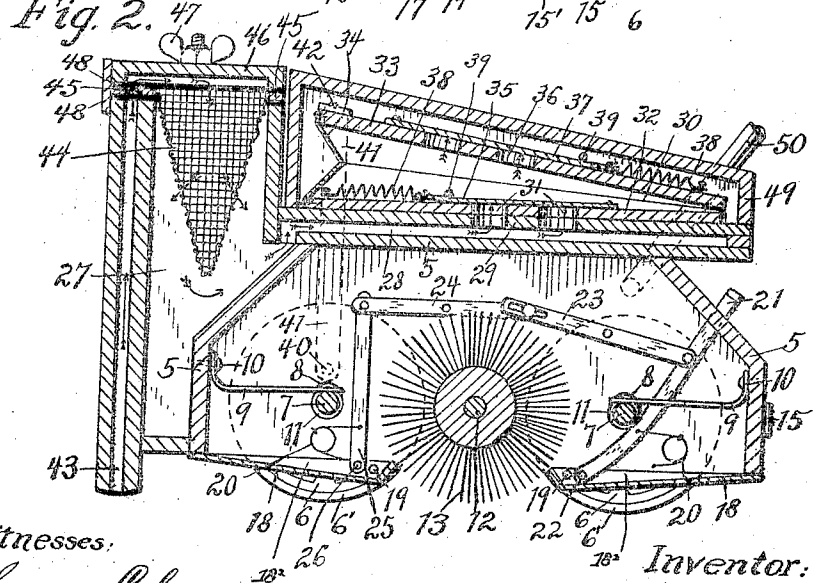


Fig. 2.



Witnesses:

Thomas Colon,

R. W. Stone.

Inventor:

Eugene Cottet,

By Joshua R. H. Potts

his Attorney.

UNITED STATES PATENT OFFICE.

EUGENE COTTET, OF BLOOMINGTON, ILLINOIS.

COMBINED CARPET-SWEEPER AND VACUUM-CLEANER.

1,051,391. Specification of Letters Patent. Patented Jan. 28, 1913.

Application filed April 1, 1912. Serial No. 687,807.

To all whom it may concern:

Be it known that I, EUGENE COTTET, a citizen of the United States, and a resident of the city of Bloomington, county of McLean, and State of Illinois, have invented certain new and useful Improvements in Combined Carpet-Sweepers and Vacuum-Cleaners, of which the following is a specification.

My invention relates to improvements in combined carpet sweepers and vacuum cleaners, and the object of this improvement is to provide a device of the character described which will be simple of construction and efficient in operation.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which—

Figure 1 is a plan view of my device with the cover portion removed, and, Fig. 2 is a vertical section of my device taken on line 2—2 in Fig. 1.

Like numerals of reference indicate like parts throughout the drawings.

The preferred form of construction, as illustrated in the drawings, comprises a casing 5 carried by driving wheels 6 mounted on shafts 7 and journaled in bearings 8, which bearings are formed with a greater vertical diameter than horizontal diameter to allow a slight vertical movement of said casing 5. Springs 9 are secured to the casing 5, as at 10, and rest on shafts 7, as indicated in Fig. 2, to yieldingly support the device and insure contact of all of the driving wheels 6 on uneven floor surfaces. Annular cushions 11, preferably of soft rubber, are provided in said bearings 8 on the shafts 7 to prevent noise in such bearings. Said driving wheels 6 are provided with tires 6′ of rubber or other suitable substance, to increase their tractive power. Situated through the lower central portion of said casing, having its axis in parallel relation with said shafts 7, is a rotative brush 13 mounted on a shaft 12 which is journaled on points 14 carried on the free ends of resilient supports 15. Said supports 15 are secured to the casing 5 by means of screws or bolts, as at 16. By flexing the members 15, as indicated by dotted lines 15′ in Fig. 1, the rotative sweeping brush 13 will be released and easily taken out for cleaning. Mounted on the end portions of the shaft 12 are driving pulleys 17 arranged to be frictionally actuated by the driving wheels 6.

Dirt collecting bottoms 18 are pivoted, as at 19 by means of their upturned edges 18′, to the casing 5 to swing downwardly to allow for cleaning the sweeper, and are nominally maintained in closed position by means of coiled wire springs 20, which are connected with the casing 5 and plunger 21 and link 25, and manually opened by means of forcing a plunger 21 downwardly. Said plunger 21 is pivotally connected with one of the upturned edges of said bottoms 18, as at 22, and operatively connected to one of the upturned edges of the other of said bottoms by means of levers 23 and 24 and connecting link 25, as at 26.

Formed on one end portion of the casing 5 is a dirt receiving chamber 27 in communication with an air passage 28 which is formed between the casing 5 and a base portion 29. Mounted upon said base 29 are a plurality of exhausting bellows 30 connected with said air passage 28 by means of intake ducts 31. Said bellows are composed of stationary sides 32, oscillative tops 33 and yielding connecting coverings 34 of a suitable material, such as leather, and provided with the intake ducts 31 and exhaust ducts 36. The intake ducts 31 are provided with valves 35 and the exhaust ducts 36 are provided with valves 37. Said valves 35 and 37 are alike in form and operation and consist of yielding material, such as leather, drawn taut over said ducts by means of helical springs 38. Guides 39 are provided to assist in maintaining such valves in position. When taking air into the bellows, the valves 35 will yield upwardly over their ducts, and when exhausting air, the valves 37 will yield in a like manner. One pair of the driving wheels 6 are rigidly secured to their axle 7 and provided with crank pins 40, and such crank pins are operatively connected with the bellows 30 by means of connecting rods 41 and members 42, as indicated in the drawings, in a manner to exhaust one bellows while the other is taking in air, and exhaust the other while the first is taking in air. On the opposite side of said dirt receiving chamber 27 formed on the casing 5, is a dirt collecting tool 43 communicating with said dirt receiving chamber, as indicated in Fig. 2. Said dirt collecting tool is

preferably formed sufficiently long to cover a space at least as wide as that required by the device in order to allow it to remove dirt from surfaces close to walls and the like.

A dirt separating sack 44 is secured to a frame 45 and is suspended in the dirt receiving chamber 27, and said frame 45 is clamped to the top of said dirt receiving chamber 27 by means of a removable cover 46 and thumb nuts 47, and provided with gaskets 48 to form air tight joints therebetween.

A suitable removable cover 49 is provided to inclose the bellows 30 and be removably secured to the base 29.

The device is provided with a handle 50 (shown broken off in the drawings) pivotally secured to the casing 5, by which the device is manually operated.

The operation of my device is as follows: The device may be moved in either direction. As the driving wheels 6 rotate, the rotative sweeping brush 13 will be actuated by means of the pulleys 17 being in frictional contact with said driving wheels. The air exhausting bellows will be actuated by one pair of the driving wheels 6, thereby exhausting air through the collecting tool 43, air chamber 27 and into said bellows through the intake ducts 31. The air, upon entering the dust collecting tool 43, will be laden with dust gathered from the surface over which said tool passes, carrying the dust with the air into the dust collecting sack 44 where the dust will be stopped and the air will pass through the meshes of said sack and into the bellows, as above described. By removing the thumb nuts 47 and cap 46, the dust collecting sack 44 will be easily removed for cleaning. The rotative brush will pick up any particles of dirt too large to be picked up by the dust collecting tool and deposit them on the dirt collecting bottoms 18. The dirt will be easily removed from such dirt collecting bottoms by pressing downwardly on the plunger 21, thereby opening both dirt cleaning bottoms 18 to allow the dirt to be removed.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the exact details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a sweeper the combination with a casing of two bottom portions hingedly connected to said casing; a plunger extended through said casing and pivotally connected with one of said bottom portions; a compound lever fulcrumed on said casing and connected with said plunger; and a connecting link connecting said other bottom portion with said compound lever, substantially as described.

2. In a sweeper the combination with a casing of two bottom portions hingedly connected to said casing; a plunger extended through said casing and pivotally connected with one of said bottom portions; a compound lever fulcrumed on said casing and connected with said plunger; a connecting link connecting said other bottom portion with said compound lever; and springs holding the bottom portions of said casing normally closed, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EUGENE COTTET.

Witnesses:
LETA NAFFZIGER,
HENRY SMITH.