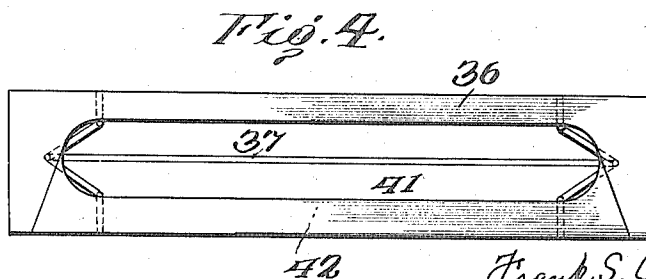
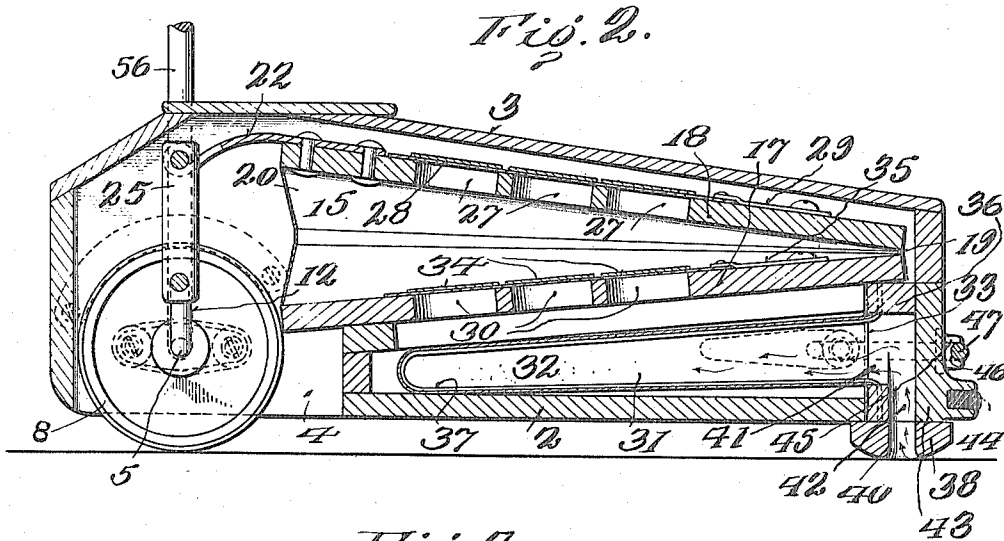
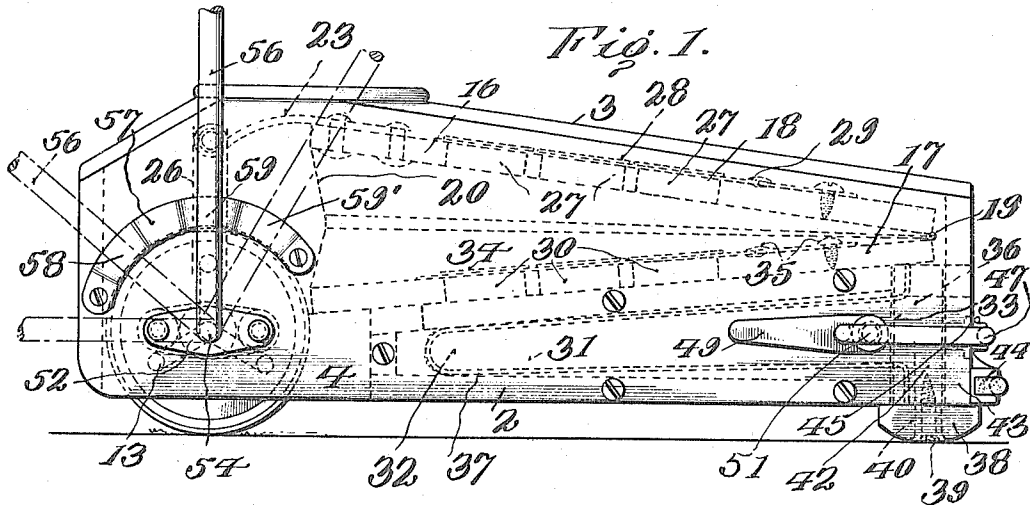


F. S. CHASE.
 SUCTION CARPET CLEANER.
 APPLICATION FILED APR. 30, 1913.

1,294,875.

Patented Feb. 18, 1919.
 2 SHEETS—SHEET 1.



Witnesses

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By

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Fig. 3.

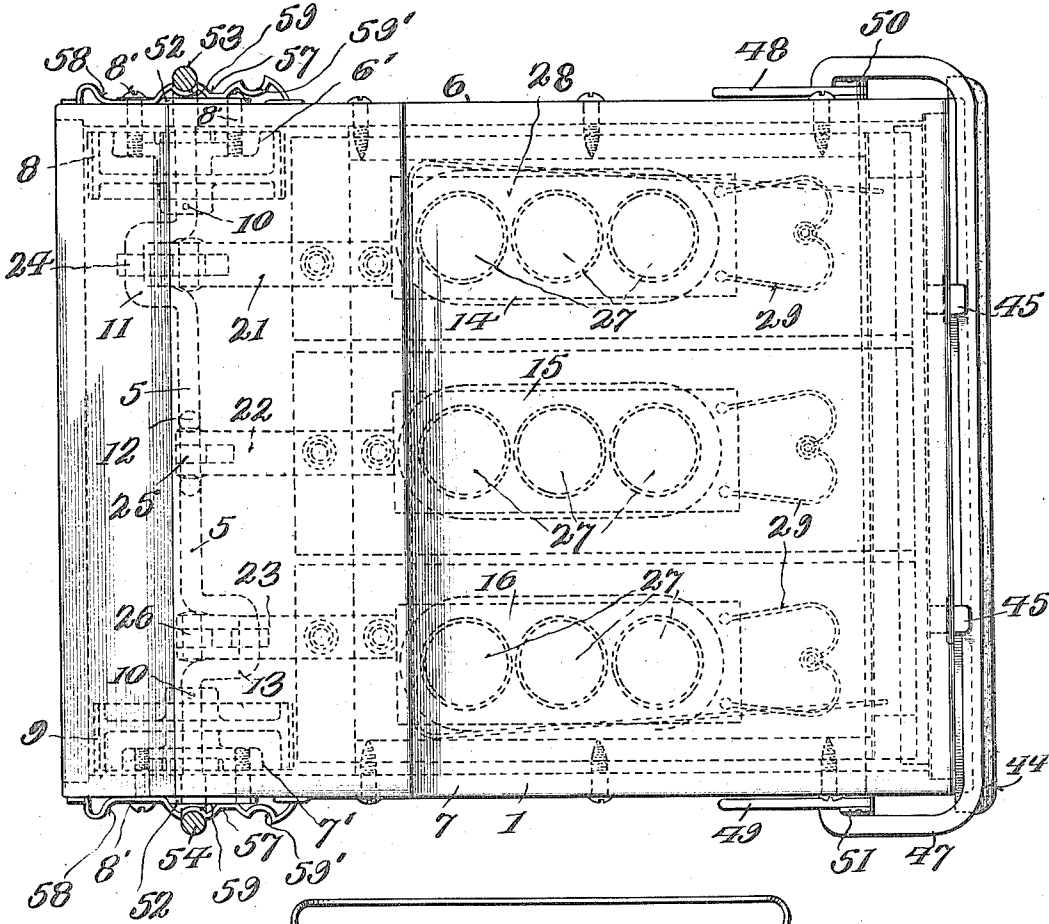
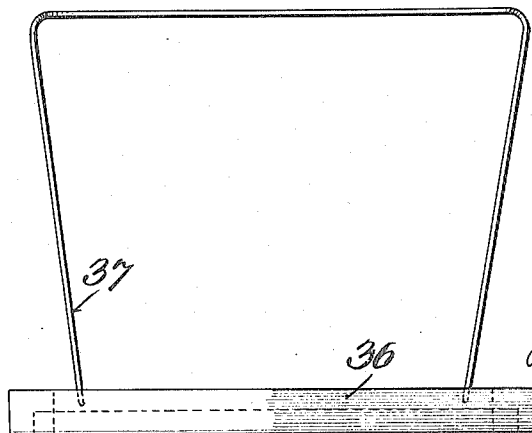


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANK S. CHASE, OF TORRINGTON, CONNECTICUT, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO THE TORRINGTON COMPANY, OF TORRINGTON, CONNECTICUT, A CORPORATION
OF CONNECTICUT.

SUCTION CARPET-CLEANER.

1,294,875.

Specification of Letters Patent.

Patented Feb. 18, 1919.

Application filed April 30, 1913. Serial No. 764,600.

To all whom it may concern:

Be it known that I, FRANK S. CHASE, a citizen of the United States, residing at Torrington, in the county of Litchfield, State of Connecticut, have invented certain new and useful Improvements in Suction Carpet-Cleaners, of which the following is a description, reference being had to the accompanying drawing and to the figures of reference marked thereon.

My invention relates to improvements in vacuum cleaners, and particularly to a suction carpet cleaner of what is known as the hand type, in which the device is of the shape and size of the well known household carpet sweepers, and the object is primarily to provide a cleaner of this type in which the suction devices are operated by the movement of the supporting wheels over the surface to be cleaned, the suction devices and dust bag being arranged to occupy a minimum space.

A still further object is to provide a simple, cheap and effective vacuum cleaner, having certain arrangements of parts and details of structure, all as hereinafter described.

The invention, therefore, consists in the matters hereinafter described and referred to in the appended claims.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved cleaner, showing the handle in two adjustments in dotted lines;

Fig. 2 is a vertical longitudinal sectional view;

Fig. 3 is a top plan view, showing the upper end of the handle bail broken away;

Fig. 4 is a front view of the frame for the dust bag;

Fig. 5 is a plan view of said frame, showing the dust bag wire form.

Referring now to the drawings, 1 represents the casing which as shown is of rectangular form in plan view, having a flat horizontal bottom 2 and a forwardly and rearwardly slanting top 3, which forms a compact and light case. The bottom 2, as shown in Fig. 2, is cut away at its rear end as indicated at 4. Extending transversely of the case above the said cut away portion is a shaft 5, having its ends mounted in bearings 6' and 7' secured to the inner faces of the side walls 6 and 7 of the casing 1, by

means of screws or bolts 8'. Secured on the said shaft adjacent the side walls 6 and 7, are the supporting wheels 8 and 9, which are keyed upon the shaft by means of pins 10, as clearly shown in Fig. 3 of the drawings.

The shaft, as will be readily understood, is rotatably mounted in the bearings 6' and 7', and has formed therein three cranks 11, 12 and 13, which are adapted to operate the bellows 14, 15 and 16, for causing the suction. These bellows being precisely alike, I will describe but one in detail, it being understood that all three of the bellows will be in communication with the dust bag. The arrangement and operation of the three bellows are such that one of them is at all times drawing the air through the dust bag, so that a continuous vacuum or suction is created therethrough.

The bellows are of the usual form, each having a top plate 18 hinged to the bottom plate 17 at 19, and connected at the sides and ends by means of the flexible air tight material 20.

As shown in Fig. 3, the bellows are arranged side by side above the dust bag, and the lower plate 17 secured to the casing against movement. The upper or top plates 18 of the bellows are each provided with rearwardly extending arms 21, 22 and 23, pivotally connected at their outer ends to the links or pitmen 24, 25 and 26, which have their other ends connected with their respective cranks 11, 12 and 13, as fully shown in Fig. 3 of the drawings.

The upper or top plates 18 of the bellows are provided with a series of openings 27, which communicate with the interior of the casing, and through which the air is discharged from the bellows. These openings are closed by the valve 28, which is on the outside of the upper plate and secured thereto at one end. The opposite end of said valve 28 is held down by the spring 29, which is of such a strength that the valve can move upwardly by the air pressure in the bellows, when the upper plate 18 is forced downwardly by the crank heretofore described.

The bottom plates 17 of the bellows are provided with series of openings 30, which communicate with the space 31, in which is arranged the dust bag 32. This space 31, as is readily understood, is made practically air tight, leaving its outer end open, as indicated at 33. The openings 30 in the bottom plate

17 of each of the bellows are closed by the valve 34, which like valve 28 is held down upon the plate by the spring 35. The valve 34, as shown in Fig. 2 of the drawings, is on the upper face of the bottom plate, or on the inside of the bellows, whereby this valve is closed when the bellows is being compressed and the top valve opened. When the bellows is being opened, the top valves are closed by suction and the bottom valves open.

The outer end of the bag containing space 31, as heretofore described, is open, as indicated at 33, and extending across the same is the bag supporting plate 36, which carries at its rear face the wire dust bag form 37, whereby the dust bag is supported in its open position within the space 31, and is readily removed with the plate 36. This plate 36, as shown, rests upon the upper face of one lip of the nozzle 38. This nozzle, as shown in Fig. 2 of the drawings, is rigidly secured to the casing 1 at its ends by means of the screws 39, and is provided with a vertical longitudinal slot 40 opening through the lower face thereof. The bag supporting plate 36 has a horizontal opening 41, communicating with the bag containing space 31, and said horizontal opening is in communication with a vertical opening 42, which communicates with the slot 40 in the nozzle, and through which a suction is created by means of the bellows, as heretofore described.

The bag supporting plate 36 rests upon the upper face of one lip of the nozzle 38, and is clamped in said position by means of the closing plate 43, which likewise has its lower edge resting upon the upper face of the other lip of the nozzle. The outer face of the plate 43 is provided with a groove in which rests a rubber strip 44, forming a buffer, so that the casing cannot come in contact with furniture or the like, when the device is in use.

The plate 43 is provided with studs 45 having grooves 46, in which a bail 37 rests, and by means of which the plate 43 is removably held in its position holding the bag supporting plate 36 in its proper position. The bail 47 has its ends pivoted in the levers 48 and 49, pivoted at 50 and 51 to the sides of the casing 1, whereby the bail is firmly clamped against the plate 43, locking the same in position.

Secured to the outer faces of the side walls of the casing are the plates 52, in which are pivotally mounted the ends 53 and 54 of the bail 56 of the handle. The plates 52 are screwed upon the sides of the casing, and are approximately in a horizontal alinement with the shaft 5, and secured to the sides above the plates are the segmental shaped plates 57. These plates, as shown in Fig. 3 of the drawings, extend outwardly, and are in the path of travel of the bail 56, and are provided with projections 58 at

their rear ends, and a central depression 59 and a forward depression 59', said forward depression being a greater distance from the side of the casing, as clearly shown in Fig. 3 of the drawings. By depressing the handle, the bail 56 is brought against the projection 58, and a slight pressure will raise the forward end of the casing from the floor.

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

1. A vacuum cleaner comprising a casing, a dust receptacle therein having an open mouth, a nozzle piece rigidly carried by the casing below the mouth of the dust receptacle, and a bag carrying plate independent of the nozzle closing the mouth of the dust receptacle and having a horizontal and a vertical passage therethrough and a closure plate completing said passages, the horizontal passage communicating with the mouth of the dust receptacle and the vertical passage extending from the horizontal passage to the nozzle.

2. A vacuum cleaner comprising a casing, a dust receptacle therein having an open mouth, a nozzle rigidly carried by the casing below the mouth of the dust receptacle, a bag-carrying plate extending across the mouth of the dust receptacle and having a horizontal passage therethrough and a vertical passage communicating with the horizontal passage and communicating with the nozzle, and a closing plate resting upon the nozzle and closing the end of the casing and one side of the vertical passage in the bag-carrying plate, and means for clamping the closing plate in position.

3. A vacuum cleaner comprising a casing, a dust receptacle therein having an open mouth, a nozzle rigidly carried by the casing below the mouth of the dust receptacle, a bag carrying plate independent of the nozzle and extending across the mouth of the receptacle and having a horizontal and a vertical passage extending between the mouth of the dust receptacle and the nozzle and a closure plate completing said passages, and means for holding the plate in position.

4. A vacuum cleaner comprising an inclosing casing, a suction bellows in the upper portion of said inclosing casing, a dust receptacle in the lower part of said casing and in communication therewith, said receptacle having an open mouth, a nozzle carried by the casing below the open mouth of the dust receptacle, and a removable plate composed of a bag holding frame and a closure plate extending across the mouth of the dust receptacle and provided with a right angled passage communicating at one end with the mouth of the dust receptacle and at the other end with the nozzle.

5. A vacuum cleaner comprising a casing,

5 a bellows in the upper portion of the casing,
a dust receptacle below the bellows having
communication therewith, said dust recep-
tacle having an open mouth, a nozzle rigidly
carried by the casing below the open mouth,
a removable bag-carrying plate composed
of a bag holding frame and a closure plate
extending across the mouth of the dust re-
ceptacle and provided with a right angled
10 passage forming a communication between
the same and the nozzle, a bail extending
across the outer face of the plate, and means
for clamping the bail for locking the plate in
position.

15 6. A vacuum cleaner comprising a casing,
a dust receptacle having an open mouth, a
nozzle below the open mouth and carried

by the casing, a removable plate resting upon
one lip of the nozzle and extending across
the mouth of the dust receptacle and having
20 a passage forming a communication between
the mouth of the receptacle and the nozzle,
a bag-carrying frame carried by the plate
and extending into the dust receptacle, and
a closing plate resting upon the other lip of
25 the nozzle and closing one side of said pas-
sage.

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

FRANK S. CHASE.

Witnesses:

CHARLES E. MOREHOUSE,
FRANK T. CASE.