No. 862,053. PATENTED JULY 30, 1907.

L. B. COBB.

CARPET BEATING MACHINE.

APPLICATION FILED OCT. 28, 1905.

3 SHEETS—SHEET 1.

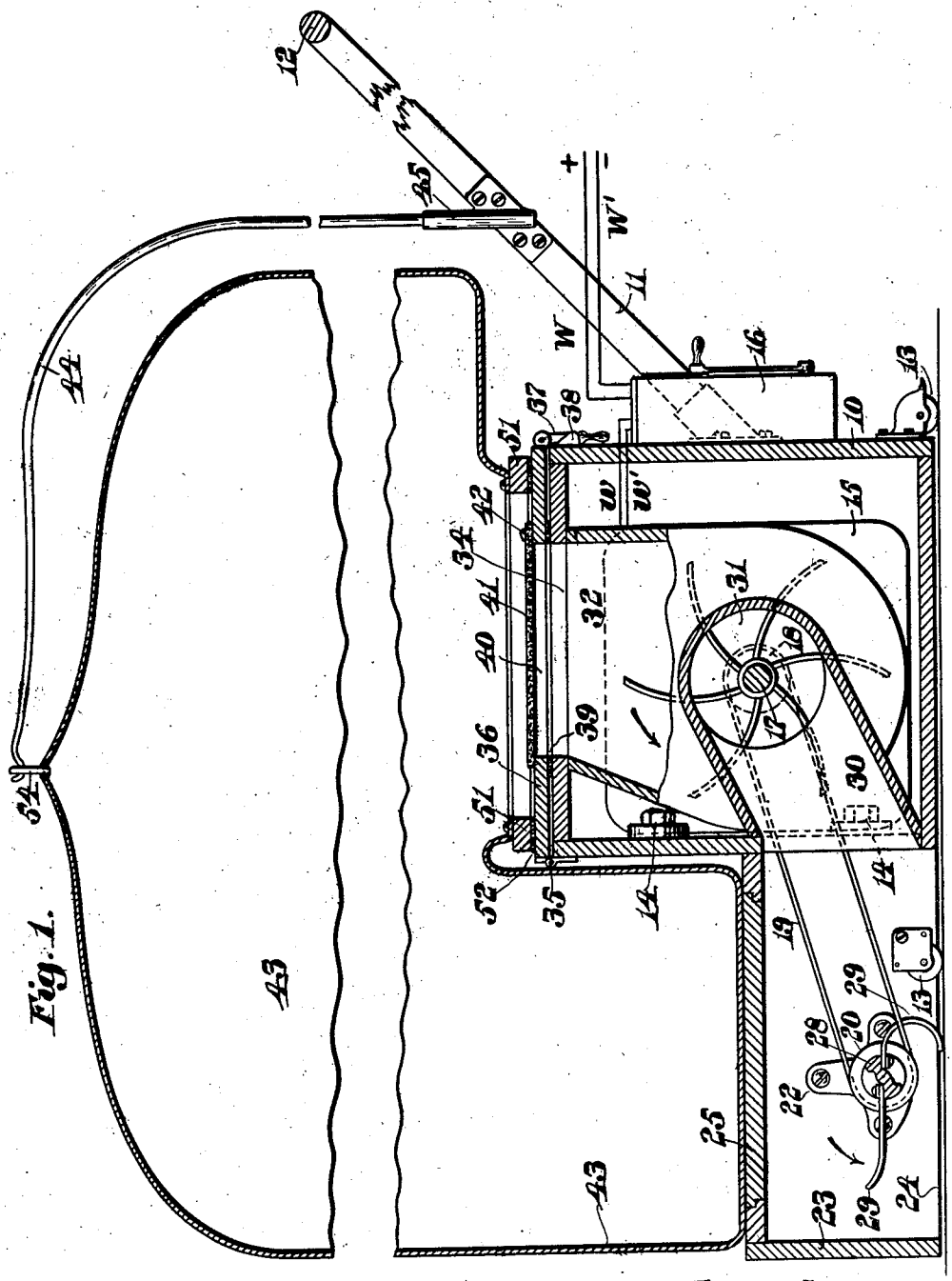


Fig. 1.

Witnesses:
Robert A. Jewett
Roswell F. Hatch.

Inventor:
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3 SHEETS—SHEET 2.

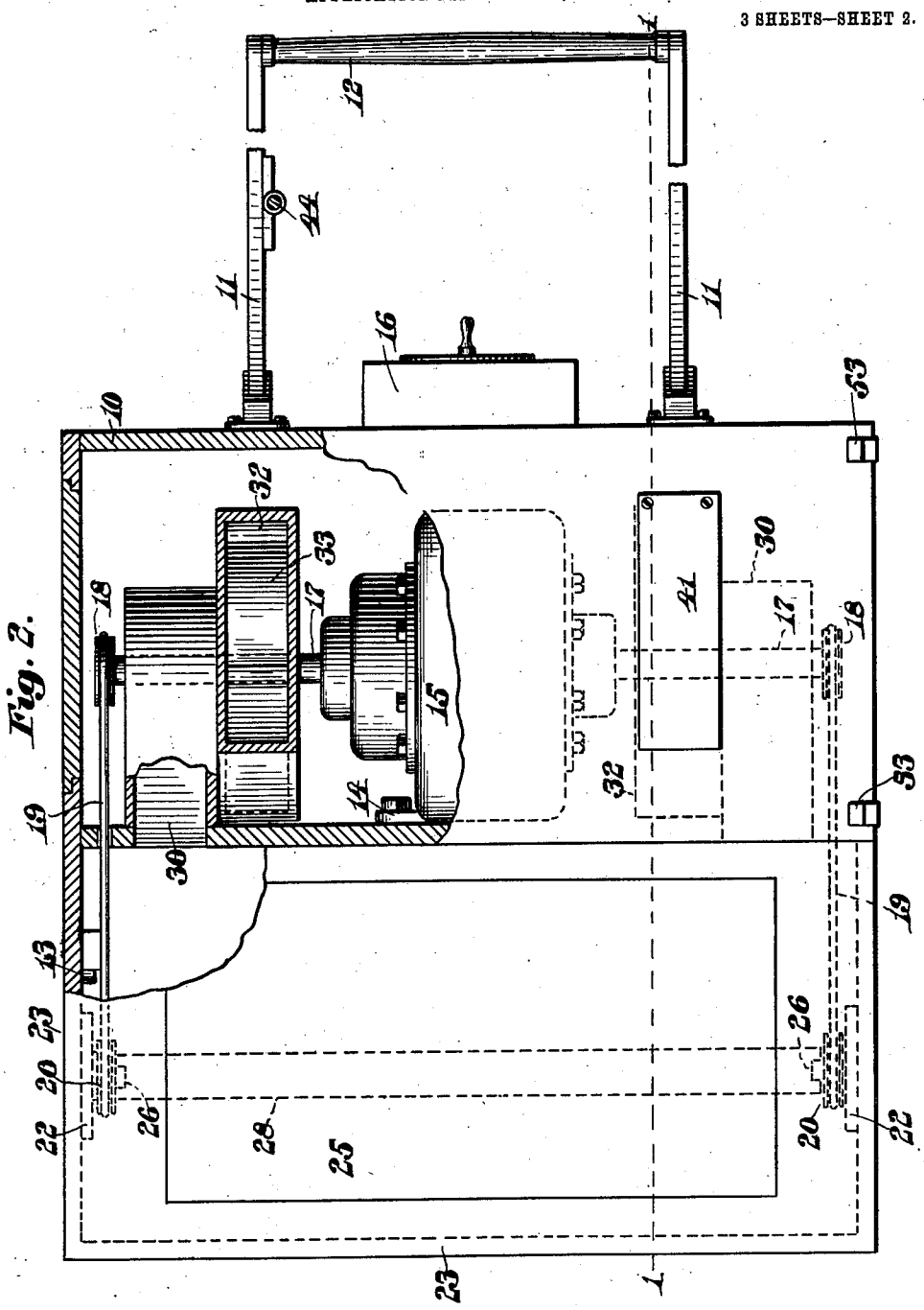


Fig. 2.

Witnesses:
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3 SHEETS—SHEET 3.

Fig. 8.

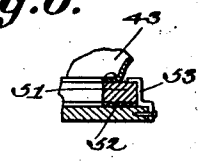


Fig. 7.

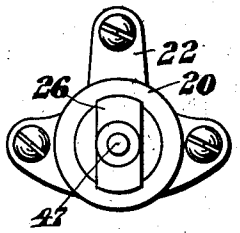


Fig. 3

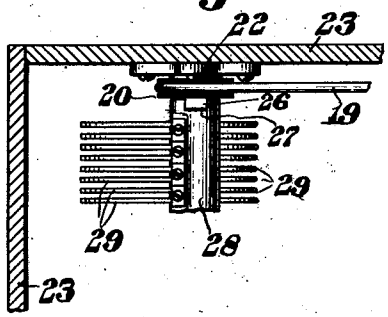


Fig. 6.

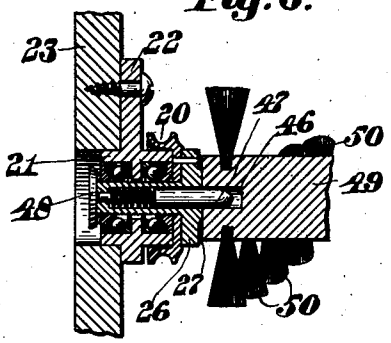


Fig. 4.

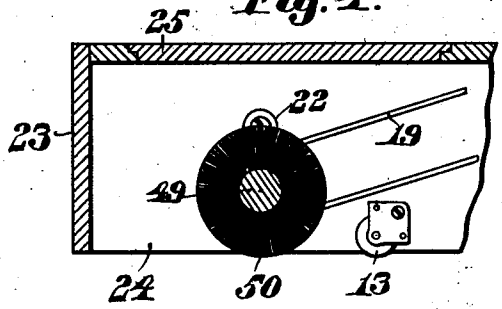
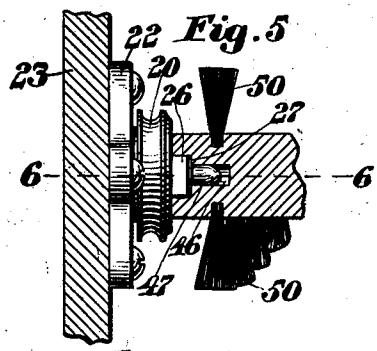


Fig. 5



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UNITED STATES PATENT OFFICE.

LEANDER B. COBB, OF MELROSE, MASSACHUSETTS, ASSIGNOR TO AMERICAN CARPET BEATER CO., OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

CARPET-BEATING MACHINE.

No. 862,053. Specification of Letters Patent. Patented July 30, 1907.

Application filed October 28, 1905. Serial No. 284,820.

To all whom it may concern:

Be it known that I, LEANDER B. COBB, a citizen of the United States of America, and a resident of Melrose, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Carpet-Beating Machines, of which the following is a specification.

This invention relates to carpet beating machines and particularly to that class of machines which are adapted to beat the carpets without removing them from the floor and in which the dust and dirt removed from the carpet by the action thereon of a cleaning mechanism is conveyed by means of suction devices into a receptacle carried by said machine. Usually machines of this class are constructed with motors on the exterior of the casing, this motor being connected by chains or other devices to the cleaning mechanism. This in practice has been found objectionable and one of the objects of this invention is to overcome this difficulty by providing a machine in which the motor is inclosed within the casing upon the fan shaft, which shaft is connected by means of a belt to the shaft of the cleaning mechanism.

Another object of the present invention is to make provision whereby a beating mechanism may be used and when desired removed entirely from the machine and replaced by a rotary brush so that when the beating of the carpet has been accomplished the same machine may be utilized to brush the same and leave it in a thoroughly cleansed condition.

The invention consists further in certain novel features of construction and arrangement of parts which will be readily understood by reference to the description of the drawings and to the claims to be hereinafter given.

Of the drawings: Figure 1 represents a vertical section of the machine embodying the features of this invention, the cutting plane being on line 1—1, Fig. 2. Fig. 2 represents a plan of the same with the dust receptacle removed therefrom and portions of the casing broken away to show the interior mechanisms. Fig. 3 represents a horizontal section of a portion of the machine showing a section of the beating mechanism and the means for driving the same. Fig. 4 represents a vertical section of a portion of the machine showing the beater mechanism replaced by a rotary brush. Fig. 5 represents a section of one end of said brush shown in connection with its supporting and driving mechanism. Fig. 6 represents a vertical section of the same, the cutting plane being on line 6—6 on Fig. 5. Fig. 7 represents an elevation of the brush and beater-supporting bracket and driving pulley and Fig. 8 represents a sectional detail showing a means of securing the detachable receptacle to the cover.

Similar characters indicate like parts throughout the several figures of the drawings.

In the drawings, 10 is a casing to the rear of which is secured rearwardly extending arms 11 the free ends of which are connected together by a handle 12 by which the machine may be moved about the room upon the supporting rollers 13. To the interior of the main casing 10 is secured at 14 a motor 15 of any well-known construction, this motor being connected by means of wires *w w'* to a rheostat 16 secured to the rear of the machine, said rheostat being connected with some suitable source of electric energy by means of the service wires W W'. The shaft 17 of the motor 15 extends outwardly from the motor casing in both directions and has secured to its outer ends pulleys 18 connected by means of the belts 19 to pulleys 20 revolving in bearings 21 formed in a bracket 22 secured to the interior walls of a forward extension 23 to said casing 10. This forward extension 23 is open at the bottom as shown at 24 and is provided with a removable cover 25 giving access to the interior of the compartment formed by said forward extension. The pulleys 20 are each provided with lugs or similar members 26 entering a diametrical slot 27 in the end of the beater shaft 28. The shaft 28 has secured thereto a plurality of beaters 29 which are revolved at a high rate of speed by means of the motor 15 through the medium of the shaft 17, pulleys 18—20 and connecting belts 19. From the rear of the compartment formed by the extension 23 inclosed passages or conduits 30 extend into the compartment formed by the main casing 10 and through the openings 31 communicate with the fan chambers 32 in each of which is revolved at a high rate of speed by means of the motor 15 an exhaust fan 33 secured to the shaft 17. The fan chambers 32 are open at the top as at 34. At 35 is hinged to the casing 10 a cover 36 provided with a locking device 37 coöperating with lugs 38 on the rear wall of the casing 10 to lock said cover in closed position. A packing 39 is secured to said cover and bears against the upper face of said casing to prevent leakage between the same. This cover 36 is provided with openings 40 corresponding to and registering with the openings 34 of the fan chambers and each of said openings 40 is closed by a flap valve 41 secured to said cover at 42, said valve being made of leather or any other suitable material.

Secured to the cover 36 is a woven receptacle 43 supported by the bracket 44 secured at 45 to one of the arms 11. When an electric current is conveyed to the motor 15 to cause the same to operate and drive the fans 33 in the direction indicated by the arrow in Fig. 1 and at the same time drive the beaters in the same direction, the operator by the handle 12 may move the machine on its rollers 13 over the carpet and cause the same to be thoroughly beaten by the beaters 29, the fans 33 causing

the dirt raised from the carpet by the beating process to be sucked through the passages 30, openings 31, into the fan chambers 32 where it is forced by the action of said fan through the openings 34, raising the flap valves 41 and causing the dust and dirt taken from the carpet to enter the receptacle 43 where it will collect in that portion of the receptacle resting upon the forward extension 23 where owing to its lower level it is less liable to return and interfere with the operation of the valves 41. The valves 41 prevent the return of any accumulated dirt and dust received into the receptacle 43. The receptacle 43 is woven in such a manner as to collect the dirt and dust and prevent it from passing through the weaving thereof while at the same time the weaving is sufficiently open to permit the free passage of pure air from said receptacle when freed from the dirt and dust.

The beater shaft is provided with a socket 46 with which co-acts the spring-pressed bolt 47 which is provided on its outer end with a button 48 by which said trunnion may be removed from said socket 46 to permit the removal of the beater shaft 28. A brush shaft 49 provided with the brush members 50 is provided with a similar socket 46 and diametrical slot 27 to coöperate with the bolt 47 and lug or member 26 to cause said brush to be driven when it is desired to use the same in place of the beater mechanism.

The mouth of the bag or receptacle 43 is secured to a frame 51 provided with a packing 52. This frame 51 extends the whole width of the casing 10 and is held in position by means of clips 53 on the cover of the casing 10 when in operation. When it is desired to empty the bag or receptacle the link 54 is removed from the supporting bracket 44, the locking device 37 is removed from the lugs 38, the cover 36 is moved into a vertical position about the hinge 37 and then the frame 51 of the receptacle is slid from beneath the clips 53 permitting said frame to be thrown over into a horizontal position to secure access to the interior of said receptacle. This makes a very compact carpet beating mechanism with all of its operating parts inclosed in such a manner as to prevent tampering therewith while at the same time they are easily accessible when it is desired to secure access thereto.

The convenience of utilizing one machine for both the beating process and the final cleansing process by means of rotary brushes is obvious while the advantage of placing the motor which drives the fans and the cleansing devices directly upon the fan shafts and intermediate of said fans is so apparent as to obviate any further explanation.

It is believed that the operation of the invention will be thoroughly understood without any further description.

Having thus described my invention, I claim:

1. In a carpet cleaner, the combination with a casing having an open bottom and openings in its top, of a suction fan within said casing, a cover hinged to said casing and provided with openings registering with openings in the top of said casing, valves closing the openings in said cover, a detachable frame secured to said open cover, a flexible dirt receptacle secured to said frame, a carpet cleaning device within said casing, and mechanism for driving said fan and carpet cleaning device.

2. In a carpet cleaner, the combination with a casing having an open bottom and openings in its top, of a cover hinged to said casing and provided with openings registering with openings in the top of said casing, a detachable frame secured to said open cover, a dirt receptacle secured to said frame, a carpet cleaning device within said casing, mechanism for driving said cleaning device, and means for carrying the dirt raised by said cleaning device into said dirt receptacle.

3. In a carpet cleaner, the combination with a casing having an open bottom, of a suction fan within said casing, a cover secured to said casing and provided with openings therethrough, valves closing said openings, a detachable frame secured to said open cover, a flexible dirt receptacle secured to said frame, a carpet-cleaning device within said casing, and mechanism for driving said fan and carpet-cleaning device.

4. In a carpet cleaner, the combination with a casing having an open bottom, of a suction fan within said casing, a cover secured to said casing and provided with openings therethrough, valves closing said openings, a dirt receptacle detachably secured to said cover, a carpet-cleaning device within said casing, and mechanism for driving said fan and carpet-cleaning device.

5. In a carpet cleaner, the combination with a casing; of a suction fan within said casing; a cover secured to said casing and provided with an opening therethrough; a valve closing said opening; a dirt receptacle detachably secured to said cover; a carpet-cleaning device adapted to deliver the dirt removed from the carpet to the interior of said casing; and mechanism for driving said fan and carpet-cleaning device.

6. In a carpet cleaner, the combination with a casing; of a suction fan within said casing; a cover hinged to said casing and provided with an opening therethrough registering with an opening in the top of said casing; a valve closing said opening in said cover; a detachable frame secured to said open cover; a flexible dirt receptacle secured to said frame; a carpet cleaning device adapted to deliver the dirt removed from the carpet to the interior of said casing; and mechanism for driving said fan and carpet-cleaning device.

Signed by me at Boston, Mass., this 27th day of October, 1905.

LEANDER B. COBB.

Witnesses:
WALTER E. LOMBARD,
EDNA C. CLEVELAND.