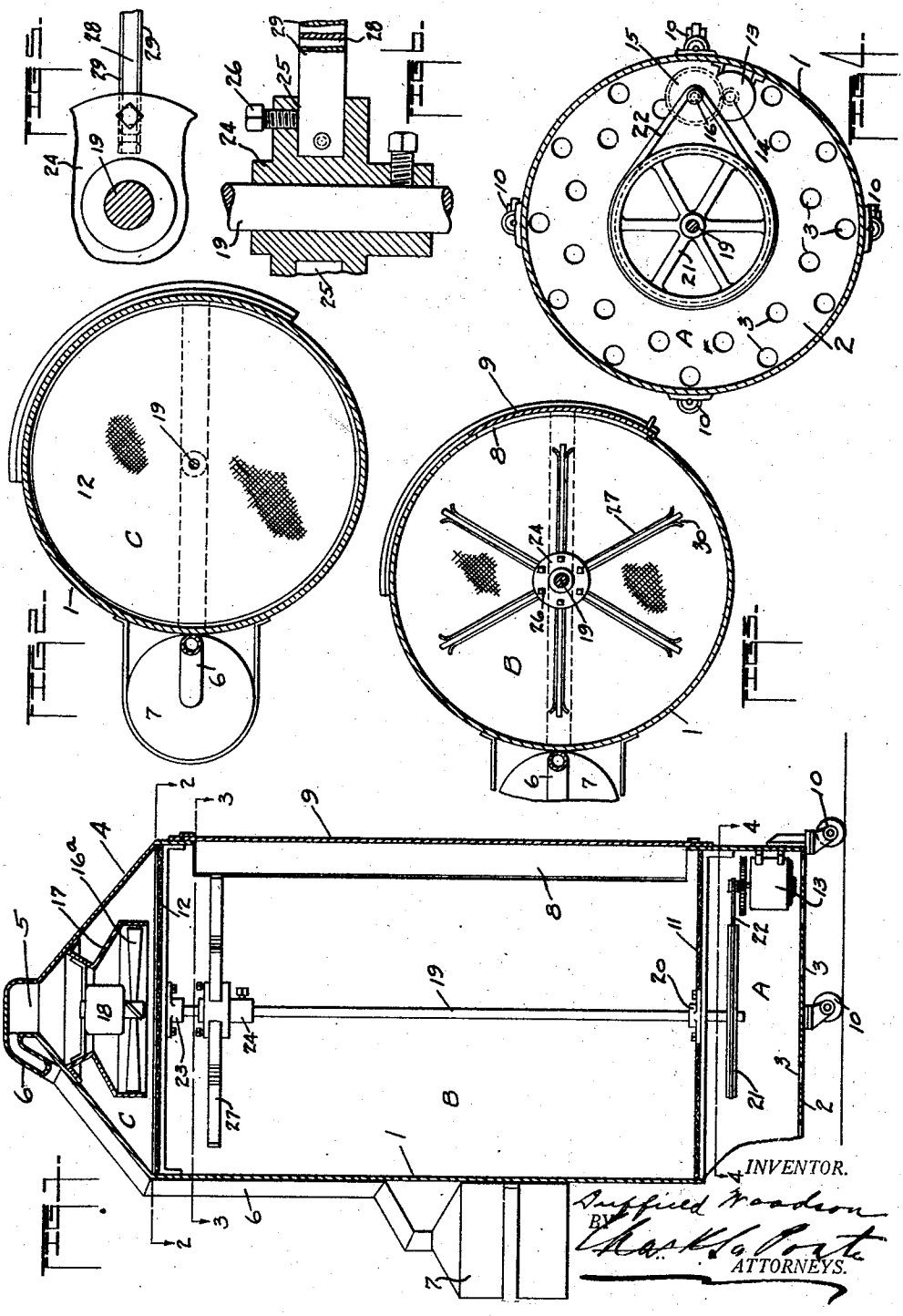
May 4, 1926. 1,583,511

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CLOTHES CLEANER

Filed April 10, 1922



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# UNITED STATES PATENT OFFICE.

DUFFIELD WOODSON, OF PEORIA, ILLINOIS.

## CLOTHES CLEANER.

Application filed April 10, 1922. Serial No. 551,033.

*To all whom it may concern:*

Be it known that DUFFIELD WOODSON, a citizen of the United States, a resident of Peoria, in the county of Peoria and State of Illinois, have invented new and useful Improvements in Clothes Cleaners, of which the following is a specification.

This invention has reference to a clothes cleaning apparatus, and has for its principal object to provide a suction-duster for clothing stores for the removal of dust from wearing apparel, and thus doing away with the tiresome and expensive method of cleaning by whisk-broom by hand.

The invention has for a further object to provide a portable container including a revoluble supporting means for clothing and similar wearing apparel, and a suction means and dust collector for receiving the dust drawn from the clothing by such suction means.

The invention has for a further object to provide a casing, preferably cylindrical in form and having a door-way for the introduction and removal of clothing in said casing; a hanger or rack revolubly supported in said casing and provided with a plurality of supports, and a variable speed suction fan and dust collector, the latter arranged to receive the dust drawn from the clothing by said fan.

That the invention may be more fully understood, reference is had to the accompanying drawings forming a part of the description, illustrating a preferred embodiment of the inveniton, in which:—

Figure 1 is a vertical sectional view through my improved suction duster;

Figure 2 is a cross-section in plan, as the same would appear if taken on the line 2—2 Figure 1;

Figure 3 is a cross-section in plan, as the same would appear if taken on the line 3—3 Figure 1;

Figure 4 is a cross-section in plan, as the same would appear if taken on the line 4—4 Figure 1;

Figure 5 is a detail in plan of one of the hangers or racks, and

Figure 6 is a detail in cross-section of the hanger or rack shown in Figure 5.

Like characters of reference denote corresponding parts throughout the figures.

In the drawings 1 denotes an upstanding cylindrical casing, the bottom 2 of which is provided with a plurality of air intake openings 3 and the top of said casing is preferably conical shape, as at 4 and provided with a central outlet opening 5. Connected to said conical end and communicating with said outlet opening 5 is a pipe or other conduit 6 which receives the dust and conducts the same to a dust collector 7 which may include any suitable sack, not shown, usual in devices of this kind. The wall of said casing, at a suitable point, is provided with a door-way or opening 8 of suitable height which is closed by a preferably sliding door 9 supported and guided in any suitable manner. I also preferably provide the apparatus with casters 10 by means of which the device is made portable so as to be moved from place to place.

The casing 1 is preferably divided into three compartments A, B and C, made possible by the partitions 11 and 12. The former located preferably below the plane of the door-way 8 and spaced suitably above the bottom wall 2, making provision for the compartment A in which is preferably located a motor 13 having a small pinion 14 meshing with a larger gear wheel 15 having associated therewith the small belt pulley wheel 16. The partition 12 is preferably located at the base of the conical end 4, making provision for the compartment C in the conical end of the casing in which is contained the variable speed suction fan $16^a$. Said fan being axially disposed in the casing 1 and enclosed within the open ended housing 17 secured within the casing and to the conical head thereof, see Figure 1. The fan $16^a$ carries its own motor 18, and provision is made, although not shown, for connecting the motor and fan to a wall socket or other suitable source of electric current. This arrangement is also provided for the motor 13, although not shown. The partitions 11 and 12 are preferably made of foraminated sheets so that air may be conducted therethrough under the action of the suction fan $16^a$, when in operation.

Arranged perpendicularly in the casing 1 and disposed axially thereof in the compartment B is a shaft 19. The lower end of said shaft passes through and is journaled in a suitable frame bearing 20 and attached to the end of said shaft, in the compartment A, is a large belt pulley wheel 21 adapted to be driven by a belt 22 from the small pulley

wheel 16. The upper end of said shaft 19 is journaled in a frame bearing 23 located just below the partition 12, as shown, and adjustably secured to said shaft and preferably located at or near the top thereof is a bracket-collar 24. This bracket-collar is shown provided with a plurality of radially disposed sockets 25 in which are removably secured, by set screws 26, the inner ends of hangers or arms 27 which radiate from the bracket-collar, somewhat in the manner shown in Figure 3. Each hanger preferably includes a bar 28 and spring plates or bars 29 disposed adjacent thereto or either side thereof. The forward ends of the plates or bars 29 being beveled or flared outwardly, as at 30, so as to make provision for the slipping of articles between said plates or bars 29 and the bar 28. By such an arrangement garments may be frictionally held on the hangers, or the garments placed on hangers provided with hooks and the latter caught over the tops of the hangers, or arms 27, as will be understood.

It is the practice and has been the custom for sometime in clothing establishments handling men's clothes and women's garments for attendants to brush the dust from garments supported from various display racks, by removing the garments, one by one, and brushing the same with a whisk broom. The apparatus herein described is intended to do away with this practice and substitute a mechanical means for removing the dust from garments by suction and to handle several garments at one time. The shaft 19 rotates very slowly and at such a speed that an attendant may slide the door 9, place and remove garments from the hangers during rotation. By employing a variable speed fan the suction draft may be light or strong, depending on the character of the articles to be cleaned. The open partition 12 will prevent very light and fluffy articles being drawn into the fan, should the suction be too strong. Ample provision is made, as disclosed for draft of air through the apparatus.

What I claim is:—

1. In an apparatus of the character described, in combination, an upstanding cylindrical casing having a door-way, a door to close said door-way, a shaft disposed axially of said casing, means for rotating said shaft, radially arranged garment suspending hangers connected with said shaft including supporting arms and resilient clamping plates cooperating with the arms to hold the garment thereon, a suction fan above the hangers, a dust collector, and means to convey the dust to the collector from the casing above the fan.

2. In an apparatus of the character described, in combination, an upstanding cylindrical casing having a perforated bottom wall, a conical head for said casing having an outlet opening, foraminated partitions near the top and bottom of the casing which divide the casing into three compartments, a centrally disposed shaft in the center compartment, actuating means for said shaft in the lowest compartment, a variable speed suction fan in the top compartment, a dust collector arranged exteriorly of the casing, and a pipe leading from the opening in the head of the casing to said collector.

3. In an apparatus of the character described, in combination, a portable enclosing casing arranged for the induction of air thereinto at the bottom and for its exhaust from the top, means for suspending garments within said casing, means for rotating said garment suspending means, a suction fan located above said garment suspending means, and a dust collector arranged exteriorly of said casing and in communication therewith, above said fan.

In witness whereof, I have hereunto affixed my hand this 1st day of April, 1922.

DUFFIELD WOODSON.