R. OLLEO.

DUST COLLECTOR FOR BEATING MACHINES.

APPLICATION FILED SEPT. 4, 1918.

**1,329,138.**

Patented Jan. 27, 1920.

Fig. 1.

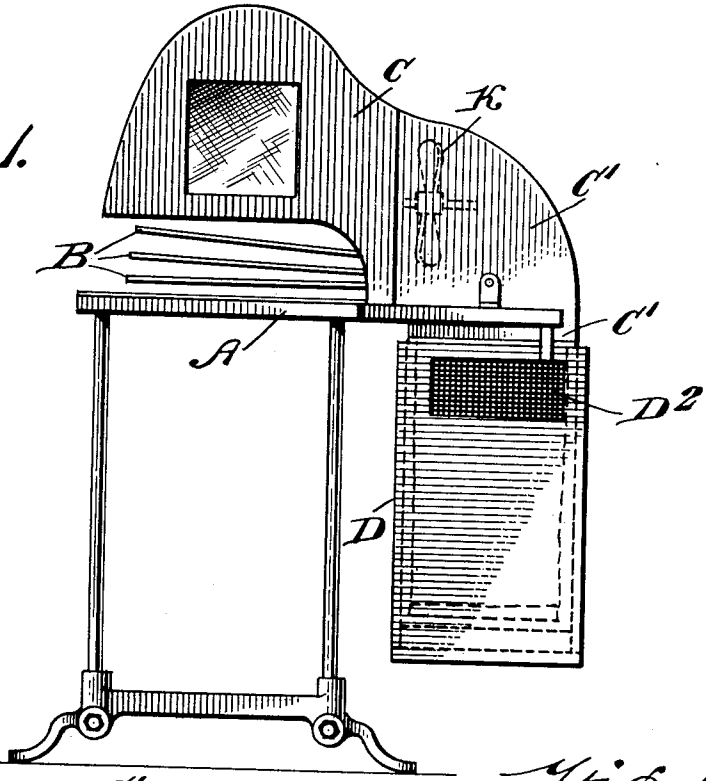



Fig. 2.

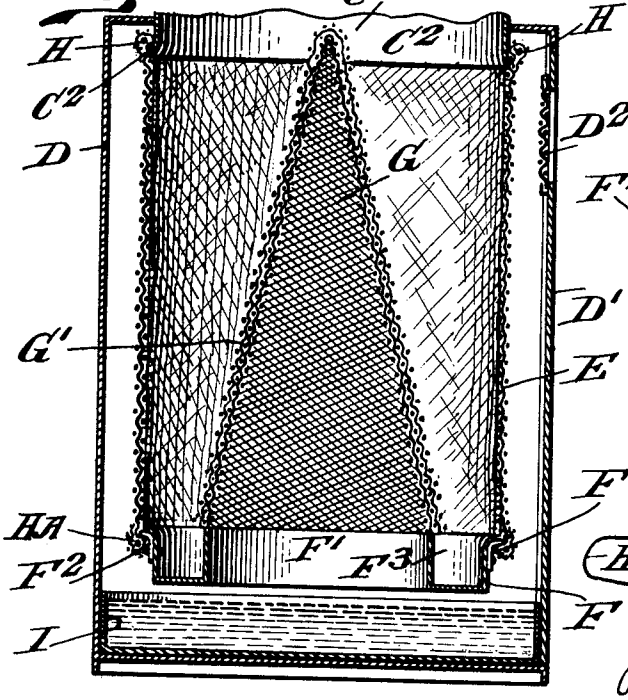



Fig. 3.

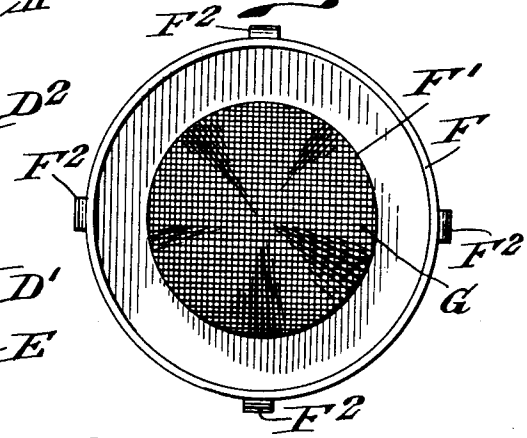



Fig. 4.




Inventor

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# UNITED STATES PATENT OFFICE.

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## DUST-COLLECTOR FOR BEATING-MACHINES.

1,329,138. Specification of Letters Patent. Patented Jan. 27, 1920.

Application filed September 4, 1918. Serial No. 252,511.

*To all whom it may concern:*

Be it known that I, RALPH OLLEO, a subject of the King of Italy, and a resident of New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Dust-Collectors for Beating-Machines, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My present invention has for its general object to provide a simple and effective collecting screen for the dust and the like carried by a stream of air discharged by pneumatic dust collecting apparatus. My invention was especially devised for use in, and as a part of a fur beating machine, such as is disclosed in my prior Patent, Number 1,229,778, granted June 12, 1917, wherein the dust, hairs and other fibers beaten out of a piece of fur or fabric being cleaned or renovated is sucked by a fan into a dust and air conveying conduit, and specific objects of the invention are to provide improved means for straining the dust, hairs or fibers out of the stream or air set in motion by the fan, which may be readily incorporated in the beating machine with a minimum of addition to its cost and bulk, and which may be readily taken apart when necessary for cleaning, inspection or repairs.

The various features of novelty which characterize my invention are pointed out with particularity in the claims annexed to and forming a part of this specification. For a better understanding of the invention, however, and the advantages possessed by it, reference should be had to the accompanying drawings and descriptive matter in which I have illustrated and described the best form of my invention now known to me.

Of the drawings:

Figure 1 is an elevation of a fur beating machine equipped with my invention.

Fig. 2 is a vertical section through the dirt screening and collecting portion of the machine shown in Fig. 1.

Fig. 3 is a plan view of a portion of the dust screen; and

Fig. 4 is a view showing a detail of construction.

The beating machine shown in the drawings in which my invention is incorporated comprises a work table A, beater sticks B, operated by mechanism not shown for beating fur or other material resting on the table A, and a dust collecting hood or conduit C into which the dust, hair or fibers loosened from the work by the action of the beater sticks is sucked by the action of a fan K. Beyond the fan K the dust collecting conduit comprises a downturned portion C′, which terminates, as shown, slightly below the level of the table A, the lower end of the conduit portion being outwardly flared as indicated at $C^2$. A pervious flexible tubular member E is detachably secured to the lower end of the conduit section C′. Advantageously the tubular member E is formed of jute bagging or the like relatively heavy fabric textile, and is provided at its upper end with a hem and with an elastic gathering string or belt element H located in the hem. The element H may advantageously be formed, in practice, (see Fig. 4) of a main inextensible section of cord or the like, and an extensible section H′ composed of spring wire coiled into a helix. The gathering string element H serves to hold the upper end of the member E snugly about the outwardly flared lower end C′ of the conduit section C. The lower end of the member E is secured to the periphery of an annular member F, which may advantageously be formed out of sheet metal stamped into the form of a shallow cup with a large central hole in its bottom surrounded by an uprising flange portion F′. This provides a circular dirt collecting trough $F^3$ between the outer side of the flange F′ and the inner side of the cup body proper. Advantageously, the upper end of the body of the member F is outwardly flared, and has lugs $F^2$ or outwardly bent projections secured to its periphery at intervals. Advantageously the lower end of the tubular pervious member E is detachably secured about the body of the member F by means of an elastic gathering string HA, which may be similar to the gathering element string referred to above and is received in a hem formed at the bottom of the member E. A conical screen element G is secured to the upper end of the flange portion F′ of the member F. The conical screen G advantageously consists of a body portion formed of fine mesh wire screen which is soldered at its base to the upper end of the flange F′. Advantageously a thin woven fabric G′, such as cheese cloth,

covers the woven wire body portion of the screen G.

The member E and annular bottom member F are inclosed in a housing D through the upper end of which the lower portion of the dust conduit C′ projects. The housing D is provided with a removable side or door section D′, and is formed with screen covered window openings $D^2$ adjacent its upper end and located in the sides of the housing and in the door section D′. The bottom wall of the housing D is located at some distance below the bottom of the member F and supports a water pan I, the upper edge of which is located slightly below the bottom of the member F, so that the water pan I may readily be removed when the door section D′ of the housing is opened.

In operation the dust and dirt laden stream of air drawn through the conduit C by the action of the fan K is discharged into the pervious tubular section E through the lower end of the conduit section C′. From the space within the tubular section E the air may escape outwardly through the porous section E proper, or inwardly through the screen G. In either event the major portion of the dust, hairs, fibers, or other dirt carried by the air, is strained out and deposited against the inner wall of the tubular element E and the outer surface of the conical screen G. Preferably the screen G should be more porous than the fabric forming the tubular screen E when the two screens are equally clean, so that the major portion of the dust escaping with the air will pass through the screen G and will impinge on the water in the pan I. The air after escaping from the interior of the tubular screen E into the surrounding housing D, passes out of the latter through the windows $D^2$. In practice, after the apparatus has been in operation for some time, fibers and hairs will collect upon the conical screen G′ to such an extent as to materially decrease the porosity of this screen and in consequence a relatively greater portion of the air entering the tubular screen portion E will then be discharged directly through the latter when the screen G is not thus clogged by hair or fiber. At all times, however, the pervious tubular section E increases the available discharge area and reduces the back pressure effect on the fan of the dirt arresting screens. When necessary to take the apparatus apart for cleaning or for other purposes, the member F with the screen G attached thereto may be readily disconnected from the pervious tubular element E, either with or without disconnecting the latter from the conduit section C′. This taking apart of the apparatus is facilitated by the flexible character of the member E. When the apparatus is thus taken apart, dust, hairs, fibers or the like collecting on the outer surface of the screen G, and on the inner surface of the tubular element E may easily be brushed off and the apparatus may then be put together again in its normal operative condition.

While in accordance with the provisions of the statutes, I have illustrated and described the best form of my invention now known to me, it will be apparent to those skilled in the art that changes may be made in the form of the apparatus disclosed without departing from the spirit of my invention, as set forth in the annexed claims.

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

1. In apparatus of the class described, a conduit having a downwardly turned discharge end, a pervious tubular member formed of cloth secured to and depending from the discharge end of said conduit, a rigid annular member to which the lower end of the tubular member is attached, and a screen in the form of an inverted cup having its lower edge secured to the said annular member, and forming a pocket with the annular member and the lower end of the tubular member.

2. In apparatus of the type described, the combination with a conduit having a downturned discharge end, a tubular member formed of cloth and secured to and appending from the discharge end of said conduit, a rigid annular member having the form of an open top trough to the outer rim of which the lower end of said tubular member is connected, and a screen in the form of an inverted cup having its lower edge secured to said annular member at the periphery of the central opening in the latter.

3. In apparatus of the class described, a conduit having a downwardly turned discharge end, a pervious tubular member formed of cloth secured to and depending from the discharge end of said conduit, a rigid annular member to which the lower end of the tubular member is attached, and which depends from and is supported by said tubular member, and a screen in the form of an inverted cup having its lower edge secured to the said annular member, and forming a pocket with the annular member and the lower end of the tubular member.

4. In apparatus of the class described, a conduit having a downwardly turned discharge end, a pervious tubular member formed of cloth secured to and depending from the discharge end of said conduit, a rigid annular member to which the lower end of the tubular member is attached, and which depends from and is supported by said tubular member, and a screen in the form of an inverted cup having its lower edge secured to the said annular member, and forming a pocket with the annular

member and the lower end of the tubular member, a pervious housing inclosing the said construction and a liquid container located in said housing beneath the central opening of said annular member.

5. In an apparatus of the class described, a conduit having a downwardly turned discharge end, formed with an outwardly flared lip, a pervious tubular member formed of cloth having a hem formed at its upper end and an elastic band inclosed in said hem detachably attached by means of said band to the flared lip of the conduit, a rigid annular member to which the lower end of the tubular member is attached, and a screen in the form of an inverted cup having its lower edge secured to the said annular member and forming a pocket with the annular member and the lower end of the tubular member.

6. In an apparatus of the class described, a conduit having a downwardly turned discharge end formed with an outwardly flared lip, a pervious tubular member formed of cloth having hems formed at its upper and lower edges and elastic bands secured in said hems, said member being detachably attached at its upper end by means of the elastic band therein to the flared lip of the conduit, a rigid annular member having an outwardly flared lip to which the lower end of the tubular member is detachably attached by means of its elastic band, and a screen in the form of an inverted cup having its lower edge secured to the said annular member and forming a pocket with the annular member and the lower end of the tubular member.

RALPH OLLEO.