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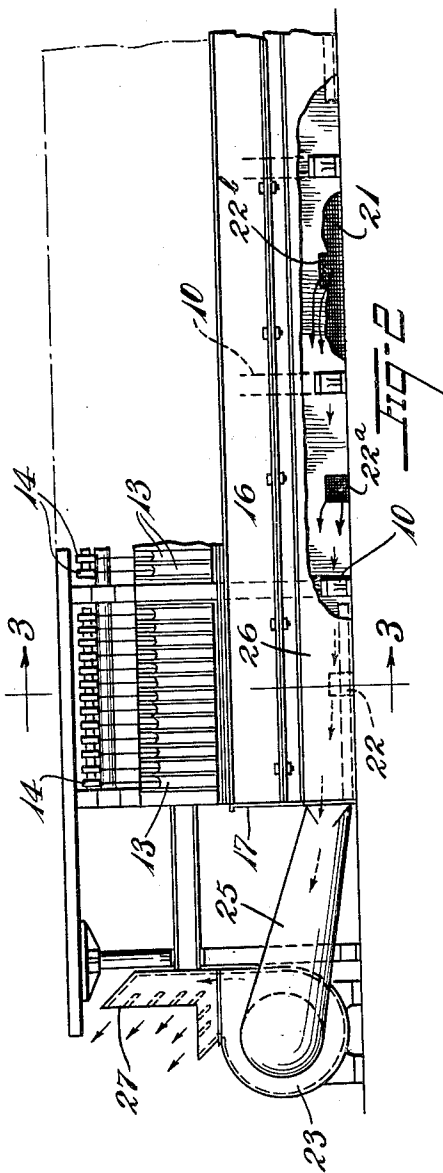
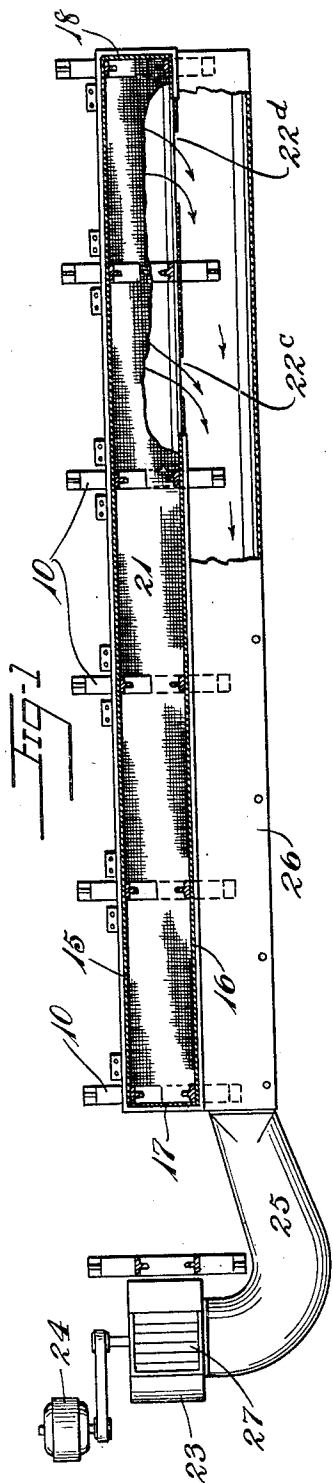
C. C. CADDEN

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LINT COLLECTOR FOR TEXTILE MACHINES

Filed Sept. 16, 1936

2 Sheets-Sheet 1



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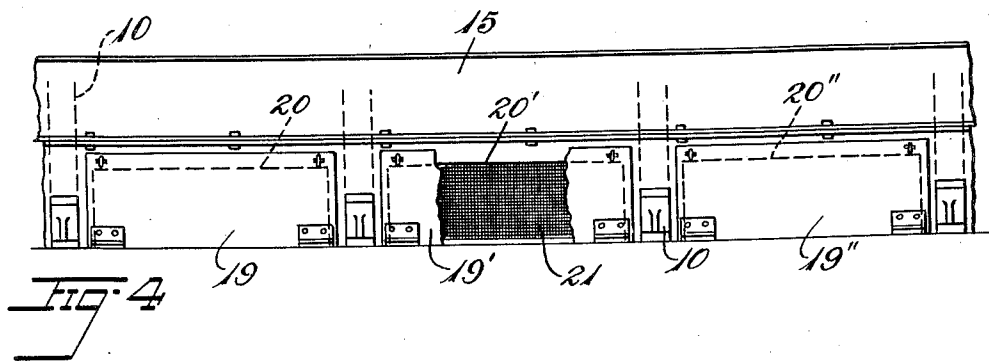
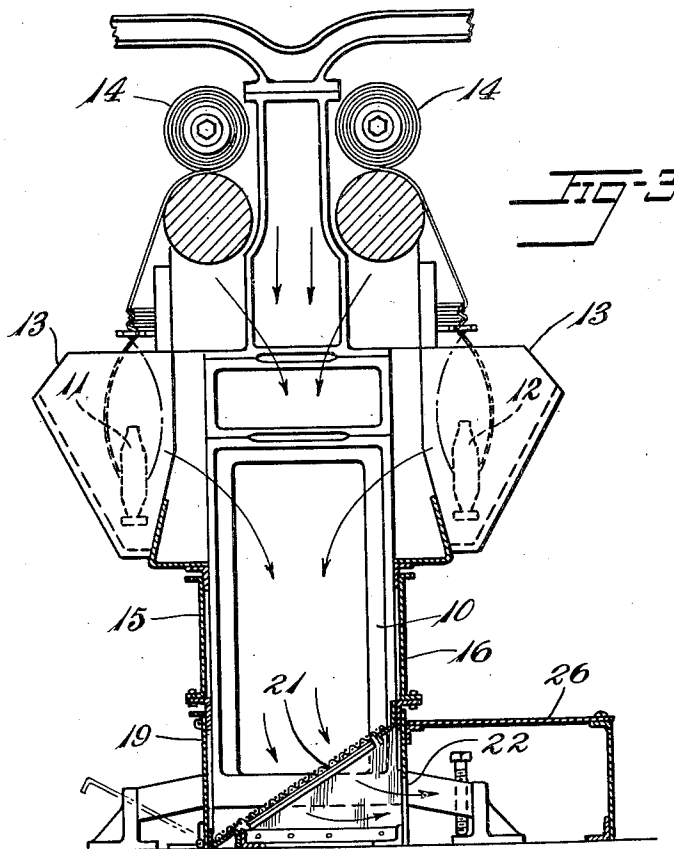
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UNITED STATES PATENT OFFICE

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LINT COLLECTOR FOR TEXTILE MACHINES

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corporation of New York

Application September 16, 1936, Serial No. 101,045

2 Claims. (Cl. 28—22)

This invention relates to lint collectors for textile machines.

In the manufacture of textiles where fibers are spun to produce yarns or threads and the yarns or threads pass through various operations at high velocity, a great amount of lint, consisting of fibers of extremely short length, is thrown from the yarns or threads into the surrounding atmosphere. This lint collects upon the machines interfering at times with their operation, and upon the employees, increasing the hazard to health, and upon the walls and floor, increasing the fire hazard.

The lint which settles upon the floor, walls, and machines, is contaminated with dust, decreasing its value.

The present invention aims to reduce the amount of lint in the air surrounding the machine and to provide for its collection.

The principal objects of the invention are to prevent contamination of the air, to promote the health of the employees, to reduce the cost of collecting the lint, and to reduce the fire hazard.

Other objects will appear from the following description and the accompanying drawings.

Of the drawings:

Fig. 1 is a plan view, partly broken away and partly in section, of the lint collecting device in its preferred form as applied to a textile machine.

Fig. 2 is a side elevation of the same, parts being broken away and parts shown in section, part of the textile machine being shown conventionally and part broken away.

Fig. 3 is a cross-sectional view of the same taken on line 3—3 of Fig. 2, parts of the machine being broken away.

Fig. 4 is a side elevation of the lint collector taken from the left of Fig. 3 to show the clean-out doors, parts being broken away.

Referring to the drawings, which, by way of example, illustrate the preferred embodiment of the invention as applied to a Barber Coleman rewinding or spooling machine, the frame of the machine comprises a series of rectangular frame castings 10 which support the mechanism. In the rewinding machine referred to, cops 11, 12, of yarn or thread are placed on spindles in pockets 13 along the side of the device and are rewound at 14 in a cheese. One cheese is made up from a number of successive cops and a carriage (not shown) travels continuously on a track (not shown) around the machine and comprises an automatic knot tying device which splices the yarns or threads end to end. The high speed at

which the rewinding machine operates causes a large amount of lint to be thrown from the thread or yarn. This lint collects upon the knotter necessitating frequent cleaning thereof, and fills the surrounding air with lint.

In order to provide a convenient compartment for collecting the lint according to the invention, I enclose the space occupied by the frames 10 by fastening side walls 15 and 16 and end walls 17, 18 thereabout. Hinged clean-out doors 19, 19', 19'' are provided along one side of the compartment to cover clean out openings 20, 20', 20''. An inclined partition 21, or wire screen is fixed to the side walls with its lower margin below the doors 19, 19', 19'' and its upper margin above a series of openings 22, 22a, 22b, 22c, 22d, formed through the opposite wall 16.

To cause the atmospheric air to be drawn toward the center of the rewinding machine and downwardly through the screen partition 21, as indicated by the arrows in Fig. 3, and thereby to cause the lint to be collected within the machine upon the screen 21, a blower 23, driven by any suitable source of power, such as the electric motor 24, is mounted at the end of the machine and its suction end is connected by a pipe 25 to a duct 26 built along the outside of wall 16 and connecting with the openings 22, 22a, 22b, 22c, and 22d.

The openings are graduated in area and are progressively larger as their distance from the blower is greater in order to equalize the flow of air through different positions along the machine.

In order to provide for cleaning the knotter and its carriage, the discharge pipe 27 is arranged to discharge its air angularly upward and away from the rewinding device across the path travelled by the carriage as it passes the end of the machine.

In operation, the air from the room is drawn in through the rewinding devices, carrying the lint inwardly and depositing it upon the screen 21 as the air is drawn therethrough. From the screen, the lint is readily removed at intervals through the doors 19. As the lint does not pass through the duct 26 or the blower, no accumulation of lint takes place in these parts to restrict their operation or cause fire hazards. The air discharged from the blower keeps the knotter in clean condition.

While the invention has been shown as applied to a rewinder it is apparent that it may be used for removing lint from other textile machines.

such for example as re-spoolers, slubbers, winders, creels, and weaving and knitting machines.

I claim:

1. A textile machine of the rewinding type, in
5 which lint is generated in the operation of re-
winding, said machine comprising an upright
frame structure having a central space extending
vertically from the zone of lint generation down-
ward to the bottom of the machine, a casing at
10 the sides of said structure, said casing being pro-
vided with openings in the lower portion there-
of, a conduit extending along said casing in com-
munication with said openings, suction producing
means in communication with the conduit for
15 producing an induced draft vertically downward
through said machine and into and through said
conduit, filter means in the lower portion of said
casing for separating lint from the air stream be-
fore the latter enters the conduit from said cas-
20 ing, and means at the lower portion of the cas-
ing to permit access to the filter means for remov-
ing lint accumulations therefrom.

2. A textile machine of the rewinding type, in

which lint is generated in the operation of re-
winding, said machine comprising an upright
frame structure having a central space extending
vertically from the zone of lint generation down-
ward to the bottom of the machine, a casing at
the sides of said structure, said casing being pro-
vided with openings in the lower portion thereof,
a conduit extending along said casing in com-
munication with said openings, suction producing
means in communication with the conduit for
producing an induced draft vertically downward
through said machine and into and through said
conduit, means in the lower portion of said casing
for separating lint from the air stream, said last-
mentioned means comprising a filter structure
15 disposed obliquely across the bottom portion of
said casing in such arrangement as to filter
lint from the air stream before the latter enters
said conduit from said casing, and means at the
lower portion of the casing to permit access to
20 said filter structure for removing lint accumula-
tions therefrom.

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