

June 23, 1936.

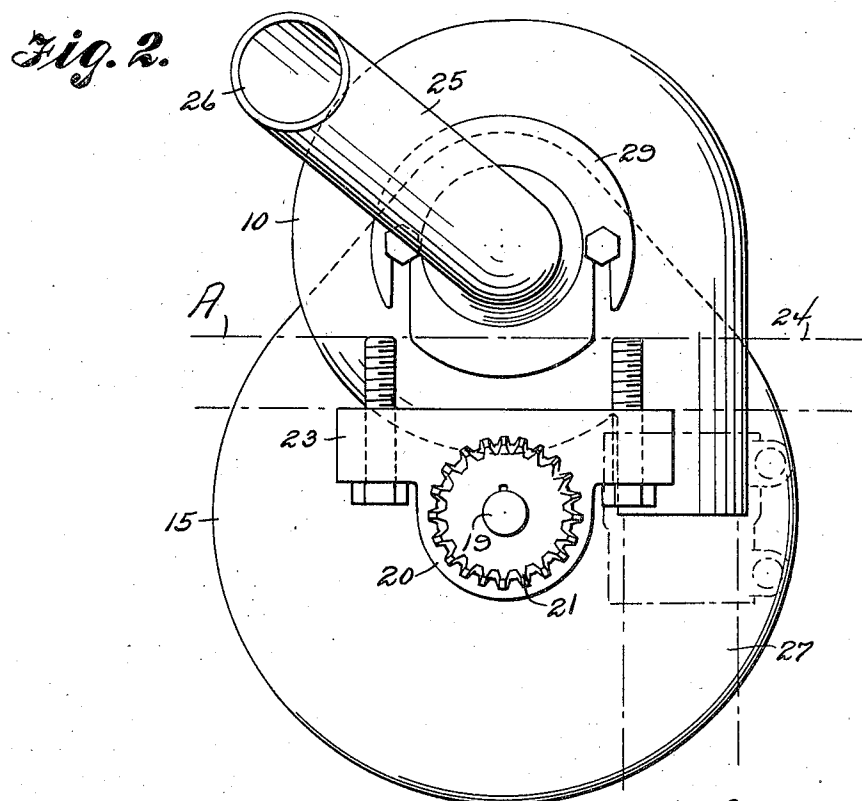
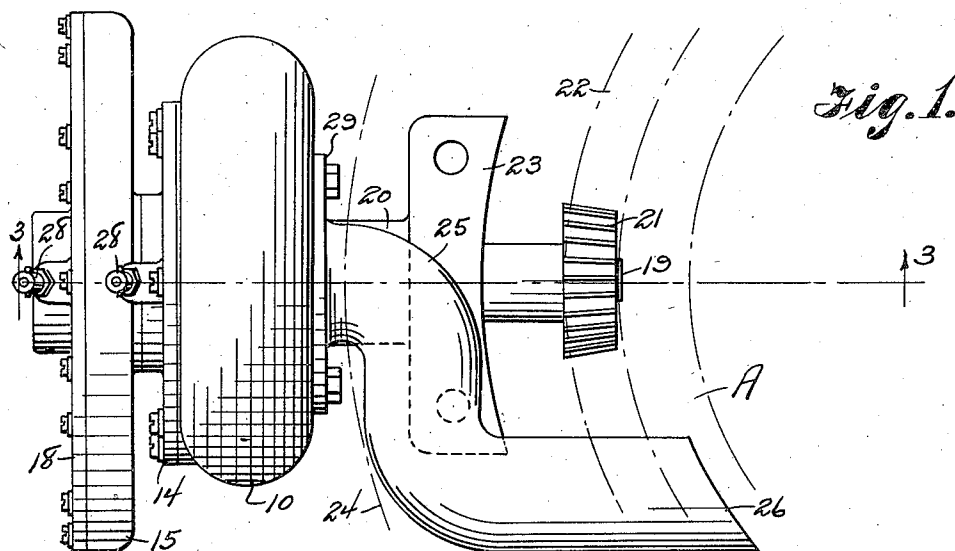
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2,045,509

CLEANING DEVICE FOR CIRCULAR KNITTING MACHINERY

Filed Aug. 6, 1935

2 Sheets-Sheet 1



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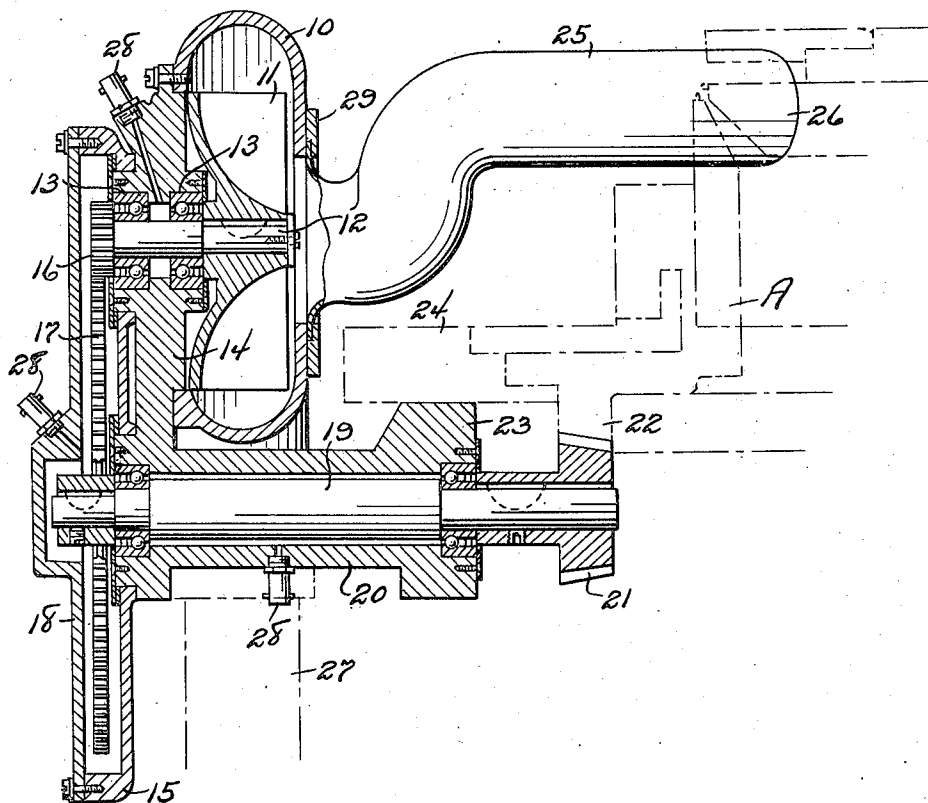
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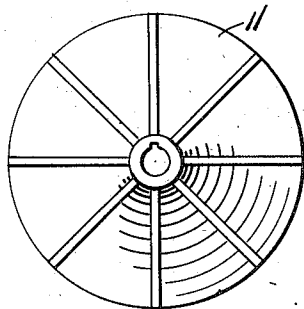
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*Fig. 3.*



*Fig. 4.*



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## UNITED STATES PATENT OFFICE

2,045,509

CLEANING DEVICE FOR CIRCULAR  
KNITTING MACHINERY

George W. Allred, Mayodan, N. C.

Application August 6, 1935, Serial No. 34,979

## 1 Claim. (Cl. 66—168)

The invention relates to a cleaner attachment for knitting machines and more especially to a suction cleaning device for circular knitting machines.

5 The primary object of the invention is the provision of a device of this character, wherein the same is stationarily mounted upon a knitting machine and when in position during the activity of such machine a suction is set up in the device  
10 for removing lint or fly created by the action of the needles on the yarn so that there will not be an accumulation of the lint or fly and in this fashion the perfect knitting of the fabric or cloth is assured and eliminates any damage to the work or  
15 to the machine.

In the operation of a circular knitting machine the speed and action of the needles on the yarn or whatever is being run produces a lint or fly and if such is not removed when it is first produced it will settle in the working parts of the machine, particularly the cylinder and dial which the needles operate in and should the lint or fly not be removed it accumulates on the edge of the cylinder and dial so as to be caught by the needles  
20 and knitted into the fabric or cloth with resultant damage to the work and in many cases breaks or bends the needles or obstructs the action of the needles whereby bad fabric or cloth is produced either having streaks, drop stitches, holes, tight stitches, loose stitches, etc. Another object of the invention is the provision of a device of this character, wherein the construction thereof assures the elimination of these difficulties and the production of clean and good fabric or cloth  
25 as the same depends largely upon the condition of the needles, cylinder and dial of the knitting machine.

A further object of the invention is the provision of a device of this character, wherein the same operates automatically in conjunction with the operation of the knitting machine and instead of blowing the lint or fly into the machine the said lint or fly is entirely removed for assurance of the perfect working of the knitting  
30 machine.

A still further object of the invention is the provision of a device of this character, which is simple in construction, thoroughly reliable and efficient in its operation, assuring a better fabric or cloth production in the operation of the knitting machine, minimizing needle breakage, overhauling and hand cleaning of the machine, strong, durable and inexpensive to manufacture and install.

55 With these and other objects in view, the in-

vention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, which disclose the preferred embodiment of the invention and pointed out in the claim hereunto appended.

In the accompanying drawings:

Figure 1 is a top plan view of the device constructed in accordance with the invention.

Figure 2 is a side elevation thereof.

Figure 3 is a sectional view on the line 3—3 of Figure 1 looking in the direction of the arrows.

Figure 4 is a detailed elevation of the suction fan wheel.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, the device comprises a suction fan housing 10 in which operates a bladed suction fan wheel 11 carried by a stud shaft 12 having coacting therewith antifriction bearings 13 fitted within a casting 14 supporting a gear casing 15. The stud shaft 12 carries a pinion 16 meshing with a driving gear 17, these being within the casing 15 which carries a removable cover plate or head 18 so that access may be had to the interior of said casing.

The gear 17 is fixed to a driving shaft 19 journaled in a bearing 20 formed with the casting 14. This shaft 19 also has fixed thereto a pinion 21 meshing with the ring gear 22 of a circular knitting machine, a portion thereof being diagrammatically shown in Figures 1 and 3 of the drawings and indicated at A.

The bearing 20 is formed with an attaching bracket 23 for the mounting of the suction cleaning device upon the head base 24 at the under side of the knitting machine A.

At the inner side of the housing 10 and centrally thereof is arranged a suction nozzle 25 which is extended to have its free mouth end 26 close to the head, needles and dial of the knitting machine A so that in the operation of the latter and the presence of lint or fly therein the suction fan wheel 11 will draw such lint or fly through the nozzle 25 into the housing 10 for discharge therefrom through an outlet pipe or conduit 27 leading from the periphery of said housing to any desirable point of deposit and in this fashion the knitting machine is automatically cleaned as the lint or fly is constantly collected and entirely removed from the machine when in action.

The nozzle 25 is directed toward the parts of the knitting machine to be completely clean, particularly the needles and the slots or guides there-

for in the head of such machine so that this lint or fly will not be worked into the goods, that is to say, the knitting yarn or cloth and the latter will be devoid of imperfections as a perfect knitting operation is assured in the working of the knitting machine when the same is maintained clean and free from accumulation of this lint or fly.

The housing has fitted therewith lubricating devices 28 for thorough lubrication of the movable parts of the device particularly the shafts 12 and 19 and the gearing connections therebetween.

The nozzle 25 is mounted on the housing 10 through the medium of a separable coupling 29 so that said nozzle can be detached when required and also access is had to the interior of the housing 10 for inspection or cleaning of the wheel 11 therein.

#### What is claimed is:

The herein described construction of cleaning attachments for the needles of rotary knitting machines, comprising a fan housing having a nozzle directed toward the needles of the knitting machine, a rotary suction fan in the housing which is provided with a stub shaft that carries a pinion, a casing to which the housing is removably secured and in which the stub shaft is journaled, a bracket carrying bearing integral with the casing and whose bracket is fixed to a stationary part of the knitting machine, a shaft journaled in the bearing and having a part to engage with a rotary part of the knitting machine for turning said shaft, a gear on said shaft in mesh with the pinion, and a removable closure plate for the casing.

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