

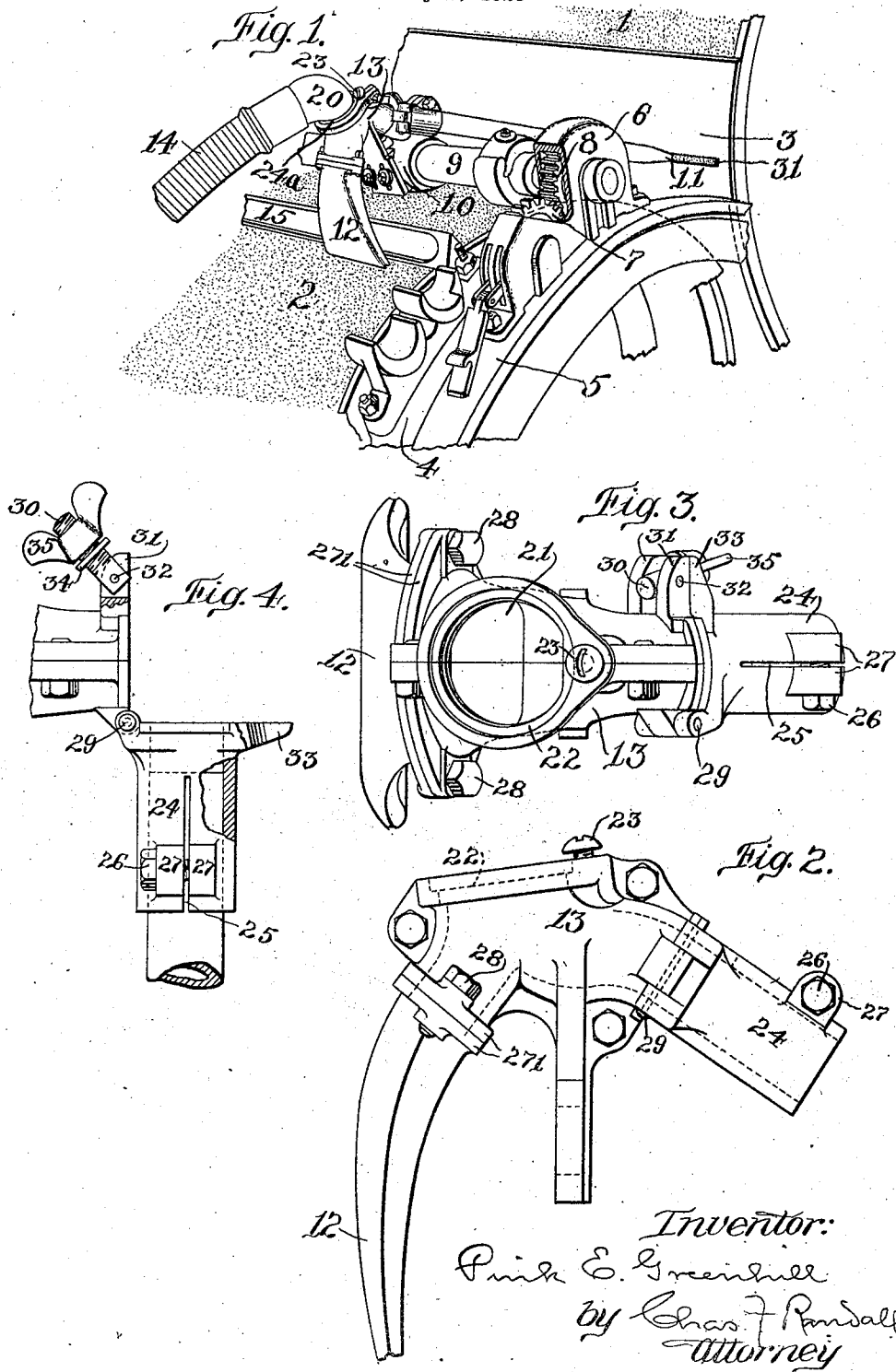
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PNEUMATIC STRIPPER FOR CARDING ENGINES

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PNEUMATIC STRIPPER FOR CARDING ENGINES.

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The invention has relation to the pneumatic stripper mechanisms which are employed for removing accumulations of dirt, short fibers, etc., from among the teeth of the card-clothing of the cylinders and other fiber-working elements of carding engines. Stripper mechanisms of the type to which the invention is designed to be applied have a carriage which has combined therewith means for traversing it across a carding engine, from one side of the latter to the other, lengthwise of the cylinders. It is customary to employ in connection with the said carriage one or two pneumatic nozzles normally having their open mouths disposed in close proximity to the card-clothed surfaces intended to be stripped.

The invention consists in novel combinations in which a stripper-nozzle is mounted in connection with the traversing carriage of a pneumatic stripper mechanism, with capacity to occupy either its working position extending from the carriage to the cylinder which is stripped, or a withdrawn or retracted idle position.

An illustrative embodiment of the invention is represented in the drawings, in which latter,—

Fig. 1 is a perspective view of certain portions of a carding engine, and of a vacuum stripper mechanism arranged to cooperate with the main cylinder and doffer-cylinder of the carding engine, with the said illustrative embodiment of the invention incorporated in connection with the cylinder-nozzles. The gear-box 6 is broken away partly in this view.

Fig. 2 is a side elevation of the three-way piece or suction-box and doffer-nozzle, detached, on a larger scale than Fig. 1.

Fig. 3 is a plan view of the parts which are shown in Fig. 2.

Fig. 4 is a partly sectional plan view of certain details in connection with the cylinder-nozzle.

Portions of the main cylinder and doffer of a carding engine are indicated at 1 and 2, Fig. 1. At 3 is indicated a portion of a door which forms a part of the cylinder casing, the said door being located in the angle between the cylinder and doffer, just above the doffer. At 4 is indicated a portion of supporting frame-work at one end of the doffer, and at 5 a portion of the guard enclosing

the doffer-gear (not shown). At 6 is a gear-box, resting upon the doffer-gear guard, and partially enclosing the spur-gears 7 and 8 by means of which rotary motion is transmitted from the doffer-gear to the traverse-screw (not shown), enclosed within the stationary traverse-tube 9, and cooperating with the nozzle-carriage 10 to cause the said carriage to travel from one side of the carding engine to the other side thereof, so as to traverse the cylinder-stripping nozzle 11 and doffer-stripping nozzle 12 along the peripheries of the cylinder and doffer, respectively, from end to end of the cylinder and doffer.

At 13 is a so-called three-way piece, constituting what may be termed a suction-box, which is mounted upon the stripper-carriage. It is hollow and to it is attached one end of the suction-pipe 14, Fig. 1. The said three-way piece or suction-box is attached to the two nozzles, 11 and 12, also, such nozzles communicating with the interior space thereof. The nozzle 11 extends rearwardly from the three-way piece toward the cylinder, its induct-end or mouth being entered into a slot 31 in door 3, the said slot extending horizontally lengthwise of the cylinder, so that the said end or mouth of the cylinder-nozzle works close to the face of the card-clothing of the cylinder. The doffer-nozzle 12 extends downward from the three-way piece alongside a fixed bar 15, Fig. 1, extending lengthwise of the doffer, above the latter, the induct-end or mouth of such nozzle working close to the face of the card-clothing of the doffer. This construction constitutes a combination nozzle device which is adapted to strip both the cylinder and the doffer at the same time.

Traverse tube 9 is mounted in parallelism with the surfaces of the card-clothing of the main cylinder 1 and doffer 2, respectively, and consequently as the nozzle-carriage 10 travels across the width of the carding engine, the mouths of the two nozzles 11 and 12 move in paths which are parallel with the said surfaces.

The suction-pipe 14 is connected with the three-way piece 13 by means of an L-shaped fitting or coupling-member 20, Fig. 1, which is attached to the suction-pipe. The three-way piece is formed at its top with an outlet opening 21, Fig. 3, around which is a depressed seat 22 that receives the free end

of said coupling-member. The said end is held within the said seat by means of a screw 23 screwing into a threaded hole in the top of the three-way piece and engaging by its outwardly extending flanged head over an annular shoulder 24^a, Fig. 1, on the exterior of such end.

For the connection of the cylinder-nozzle with the three-way piece, the latter is furnished in conjunction with one of its inlet-passages with a tubular socket, 24, within which the butt-end of said nozzle fits. The said socket is slitted longitudinally at 25, at its free end and for a distance therefrom, and thereby is rendered expansible and contractible. It is furnished with means for contracting it upon the inserted end of the cylinder-nozzle, such means comprising in this instance a screw 26 working in lugs 27, 27, with which the socket is furnished at opposite sides of the slit 25. The cylinder-nozzle may be adjusted lengthwise with relation to socket 24, to vary the closeness of approach of its induct or mouth to the surface of the card-clothing of the cylinder 1.

For the connection of the doffer-nozzle with the three-way piece, the latter is formed at the outer end of one of its inlet-passages with a flat face against which a flat face of the butt-end of the doffer-nozzle is fitted, laterally-projecting lugs 271, 271, being provided upon the three-way piece and the said butt-end, respectively, which lugs are engaged by screws 28, 28, serving to bind the doffer-nozzle to the three-way piece with the contacting faces of both thereof pressed firmly together.

In the present instance, for the purpose of carrying the invention into effect, the socket 24 is formed in a piece separate from the three-way piece, and connected with a rearward extension of the latter by means of a vertical pivot 29. This hinging of the socket to the three-way piece by such pivot enables the cylinder-nozzle to be swung laterally from its working position in Fig. 1 to a position parallel with or substantially so, and close to the traverse-tube 9, substantially at right-angles with the said working position. This provides for withdrawing the free end of the cylinder-nozzle from slot 31 in door 3, as for example in order to enable said cover to be moved into an open position or removed. It provides also for locating the cylinder-nozzle in an idle position, out of the way, when the stripper-attachment is not in use, as for instance while the cylinder card-clothing is being ground. For the purpose of retaining the cylinder-nozzle in its working position when required, keeper-devices are provided. Such devices include in this instance a screw 30, Figs. 3 and 4, having one end thereof located between upper and lower lugs 31, 31, on the three-way piece, the said screw being pivoted

to the three-way piece by means of a pin 32. The socket 24 is provided with a pair of lugs 33 between which the screw is adapted to enter as it is swung around into the position occupied by it in Fig. 3. A washer 34 and thumb nut 35 are mounted upon the threaded portion of the screw. By tightening up the wing-nut to press the washer against the backs of the lugs 33 the socket may be locked in place with the cylinder-nozzle extending from the three-way piece in working position, with its mouth-portion within slot 31 in door 3. Upon backing-off the wing-nut, the clamping screw 30 may be swung around so as to carry the washer and wing-nut outward free of the lugs 33, thereby unfastening the socket so as to leave the latter and the cylinder-nozzle free to be swung around laterally.

What is claimed as the invention is:—

1. A vacuum - stripper attachment for carding engines, comprising, in combination, a traversing carriage, a suction-nozzle, and means for mounting said suction-nozzle in connection with the carriage with capacity to assume a working position extending from the carriage to the cylinder to be stripped, and also to be swung laterally from the said working position to a position parallel with the cylinder-axis, or substantially so, and substantially at right-angles with the working position.

2. A vacuum - stripper attachment for carding engines, comprising, in combination, a traversing carriage, a suction-box in connection with said carriage, and a suction-nozzle connected with said suction-box, having a pivotal mounting enabling the said nozzle to occupy a working position with the mouth of the nozzle in proximity to the face of the card-clothing of the cylinder which is to be stripped, and also to be swung laterally from the said working position to a position parallel with the cylinder-axis, or substantially so, and substantially at right-angles with the working position.

3. The combination with a cylinder of a carding engine, and a casing-member having a slot extending lengthwise of the said cylinder, of a traversing stripper-carriage, a suction-nozzle, and means for mounting said suction-nozzle in connection with the carriage with capacity to assume a working position with its mouth-end occupying said slot and the mouth close to the surface of the card-clothing, and also with capacity to be swung laterally from the said working position into an idle position extending transversely of the carding engine and withdrawn from the slot.

4. A vacuum - stripper attachment for carding engines, comprising, in combination, a traversing carriage, a suction-box in connection with said carriage, a suction-nozzle extending downward from said carriage in-

to position to strip a card-clothed surface below the carriage, a suction-nozzle extending rearward from the carriage into position to strip a card-clothed surface at the rear 5 of the carriage, and means for mounting the second suction-nozzle in connection with the carriage with capacity to be shifted in a substantially horizontal direction relative to the carriage and independently of the 10 downwardly-extending nozzle into a retracted idle position.

5. A vacuum - stripper attachment for

carding engines, comprising, in combination, a suction-box, a socket hinged thereto, a suction-nozzle held in said socket, paired 15 lugs on the suction-box and socket, respectively, a screw-threaded keeper-stem mounted pivotally between the lugs of one pair and adapted to swing into place between the lugs of the other pair, and a keeper-nut on 20 said keeper-stem adapted to engage with the latter pair of lugs to hold the socket with the nozzle in working position.

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