Oct. 21, 1930. M. HECKMAN 1,779,129

PNEUMATIC STOCK CLEANER

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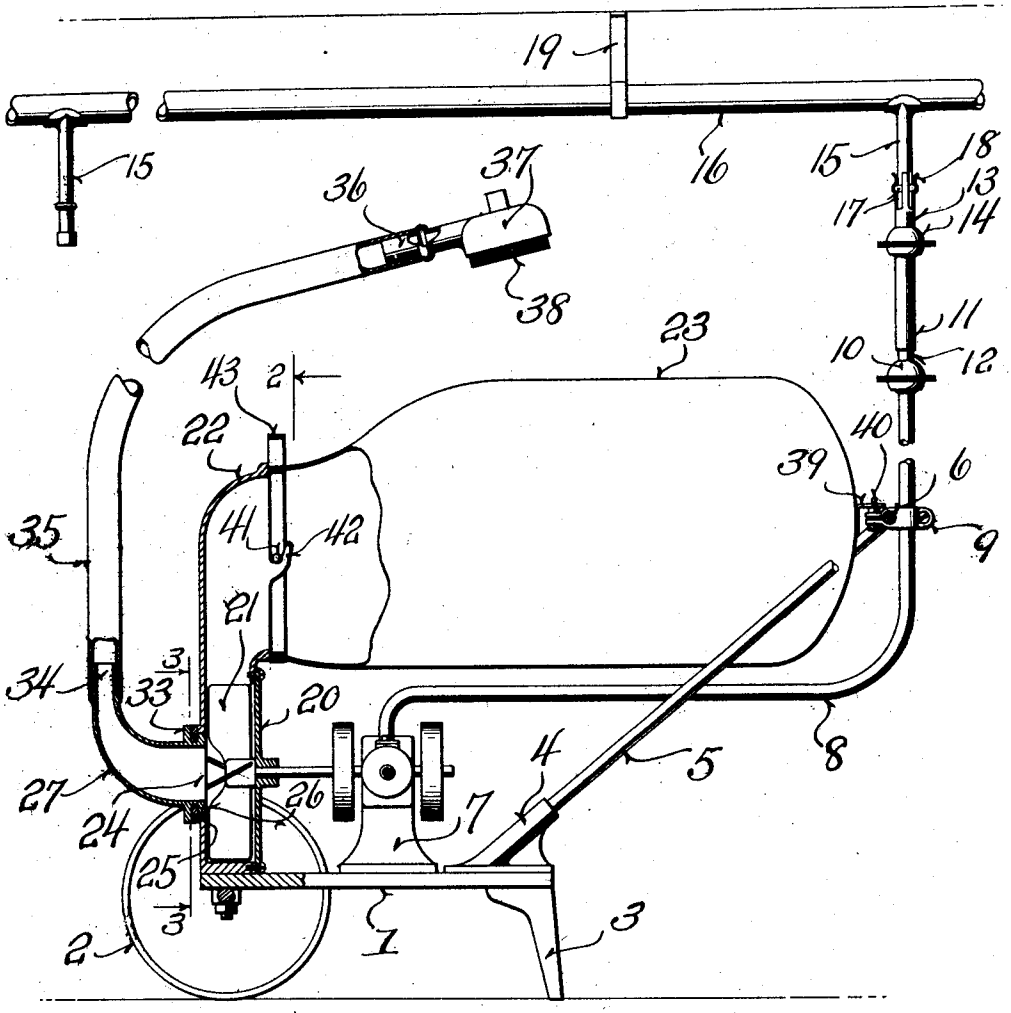


Fig. 1

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Fig. 2

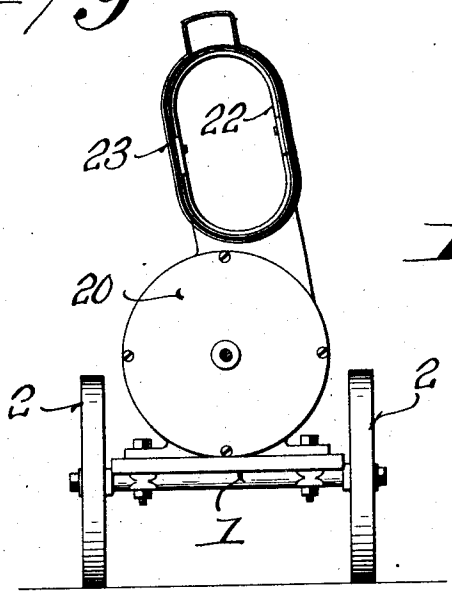


Fig. 4

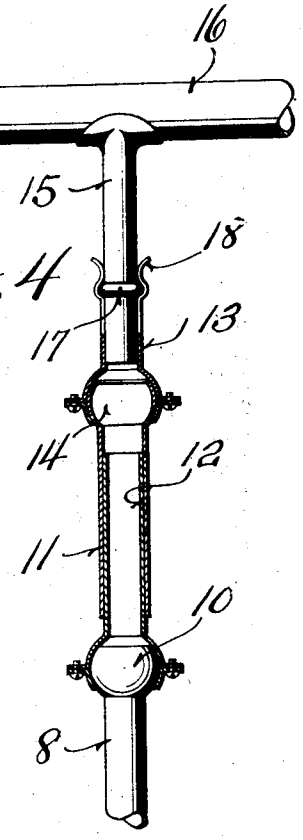
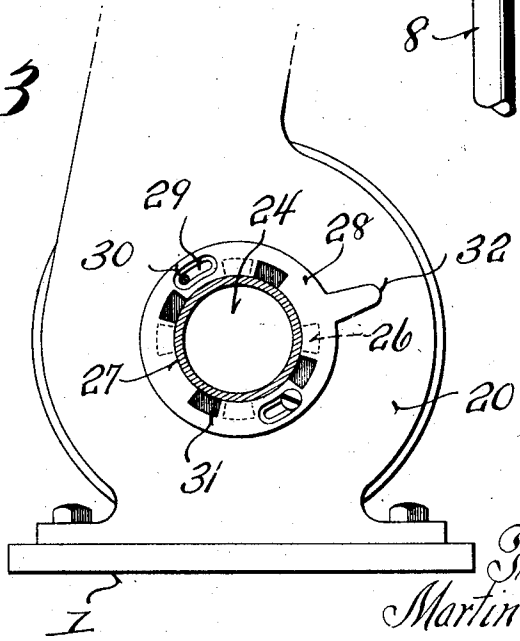


Fig. 3



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UNITED STATES PATENT OFFICE

MARTIN HECKMAN, OF SCHOFIELD, WISCONSIN

PNEUMATIC STOCK CLEANER

Application filed April 18, 1925. Serial No. 24,188.

This invention relates to pneumatic stock cleaners.

Objects of this invention are to provide a pneumatic device for cleaning stock which is so constructed that it may be applied in a ready manner, and may be used to quickly clean and groom the stock, which is of relatively simple construction and of compact formation.

An embodiment of the invention is shown in the accompanying drawings, in which:—

Figure 1 is a side elevation partly in section of the device.

Figure 2 is a sectional view on the line 2—2 of Figure 1.

Figure 3 is an enlarged sectional view on the line 3—3 of Figure 1.

Figure 4 is a detail of the exhaust connection.

The device is preferably portable, as illustrated in the drawings, although it is to be understood that it may be permanently fixed, if desired. Further, it is to be noted that although any type of motor may be used, that the invention has been disclosed as employing an internal combustion engine for the motor.

Referring to the drawings, it will be seen that the device comprises a portable frame 1 provided with a transverse front axle which carries a pair of wheels 2. The rear portion of the device is preferably provided with supporting legs 3 and with rigid sockets 4 adapted to receive the manipulating handle 5, such handle conveniently being of U-shape and having a transverse rear portion 6, as shown in Figure 1.

In rolling the device into position, the rear end is lifted by suitably elevating the handle and the device is readily pushed into place. When the weight is again placed upon the rear legs 3 the device is retained in place against inadvertent rolling motion. The frame 1 carries a motor 7 which, in the form shown, is an internal combustion engine. This invention has its exhaust pipe 8 extending transversely and then upwardly adjacent the handle. It is preferably secured to the handle by means of a clip 9 to secure the requisite rigidity and support for the pipe.

It is to be noted from Figures 1 and 4 that the upper end of the exhaust pipe 8 is connected by means of a universal joint 10 with a short section 11. This section 11 telescopically carries a similar section 12. The section 12 is provided with a fitting 13 for a purpose hereinafter to appear. This fitting 13 is also joined to the section 12 by means of a universal joint 14, as most clearly shown in Figure 4. The fitting 13 is adapted to slip over the lower end of a pipe 15 carried by an exhaust header 16. Preferably, the pipe 15 is provided with a bead 17 over which the spring arms 18 of the fitting 13 are adapted to be snapped. It is intended that the exhaust header 18 be carried by suitable hangers 19 (see Figure 1), and that it extend the full length of the barn. Preferably, this exhaust header is provided with a plurality of pipes 15 upon any one of which the exhaust pipe is adapted to be fastened.

The front end of the frame or carriage 1 carries the housing 20 of a centrifugal fan 21, such fan being preferably directly connected to the motor 7, as shown in Figure 1. The exhaust portion of this fan casing is enlarged, preferably merging into an oval discharge hood 22. A pervious sack or bag 23 is removably connected to the discharge portion 22, as shown in Figure 1. A convenient way of attaching the bag to the hood 22 is to provide pins 41 secured to the reenforcing ring around the mouth of the bag and to provide outwardly slanting hooks 42 on the housing 22. If desired, a handle 43 may be formed at the mouth of the bag and joined to one of the reenforcing rings. Thus in positioning the bag, it is merely necessary to bring it adjacent the mouth of the hood 22 and to slip the pins 41 into engagement with the hooks 42 and press the mouth of the bag downwardly. The slanting hooks 42 force the mouth of the bag into abutting engagement with the mouth of the hood 22. The casing 20 of the fan is provided with an inlet opening 24 (see Figures 1 and 3.) This inlet opening is

provided with a plurality of notches 25 which receive the lugs 26 of a suction hood 27.

A locking ring 28 is provided with a pair of arcuate slots 29 through which screws 30 pass, such screws extending into the housing 20. The locking ring is provided with a plurality of notches 31 which may be aligned with the notches 25 of the housing to thus permit the insertion of the lugs 26. When the lugs are in place, the locking ring is rocked by means of the manipulating handle 32 (see Fig. 3) to lock the lugs 26 behind such ring and within the notches 25 of the housing.

It is to be noted from Figure 1 that the suction hood 27 is provided with a flange 33 which contacts with the ring 28 and prevents further inward motion of the hood. Thus it will be seen that a very simple locking means has been provided for rigidly locking the suction hood to the housing of the fan.

The suction hood tapers to a pipe receiving end 34 upon which a flexible hose 35 is slipped. The other end of this hose is slipped upon the extended portion 36 of a cleaning tool 37. Preferably, this tool is provided with a curry brush 38 which is adapted for grooming of stock.

In using the device, the portable apparatus is readily pushed or rolled to the desired point. Thereafter the legs 3 are rested upon the floor and the exhaust pipe 8 of the motor aligned with one of the pipes 15 of the exhaust header. Thereafter, the fitting 13 is slipped on to the pipe 15, the spring arms 18 snapping over the bead 17 of the pipe and thus retaining the exhaust pipe in proper connection with the exhaust header.

It is to be noted that the universal joints 10 and 14 together with the telescopic portion of the pipe extension aid materially in this connecting operation. The engine is then started and the brush or cleaning tool is applied to the animal. The brush may be used in the usual manner with the assurance that particles of loose hair and dirt will be drawn from the hair of the animal. This cleaning operation takes place simultaneously with the brushing of the animal, and a very rapid and effective cleaning can be had.

It is preferable to provide a clip 39 upon the rear end of the bag 23. This clip 39 is apertured and is received upon a pin or upon the extended portion 40 of a clamping bolt for the clip 9. In this manner sagging of the bag is prevented and the correct positioning of such collecting bag is assured at all times.

It will be seen, therefore, that a very simple type of pneumatic stock cleaning apparatus has been provided and that this apparatus may be most readily operated even by an unskilled laborer to thoroughly clean and brush the animal.

Although the invention has been described in considerable detail, it is to be understood that the invention may be variously embodied and is, therefore, to be limited only as claimed.

I claim—

A portable stock cleaning device comprising, a motor driven suction fan having an inlet portion and an outlet portion, said inlet portion having a plurality of notches and having a notched locking ring mounted thereon for limited motion, the notches in said ring being adapted to align temporarily with the notches in said inlet portion, a suction hood having a plurality of lugs, said lugs being adapted to fit within the notches in said inlet portion when the notches in said ring are aligned with those in the inlet portion, said ring being adapted for partial rotation to lock the lugs in the notches of said inlet portion, whereby said suction hood is connected directly to said inlet portion and retained in place by said locking ring, and an annular flange on the suction hood adapted to abut said locking ring to limit the inward movement of said hood.

In testimony that I claim the foregoing I have hereunto set my hand at Schofield, in the county of Marathon and State of Wisconsin.

MARTIN HECKMAN.