

G. E. RICHMOND.
WIND STACKER.
APPLICATION FILED NOV. 9, 1909.

994,338.

Patented June 6, 1911.

2 SHEETS-SHEET 1.

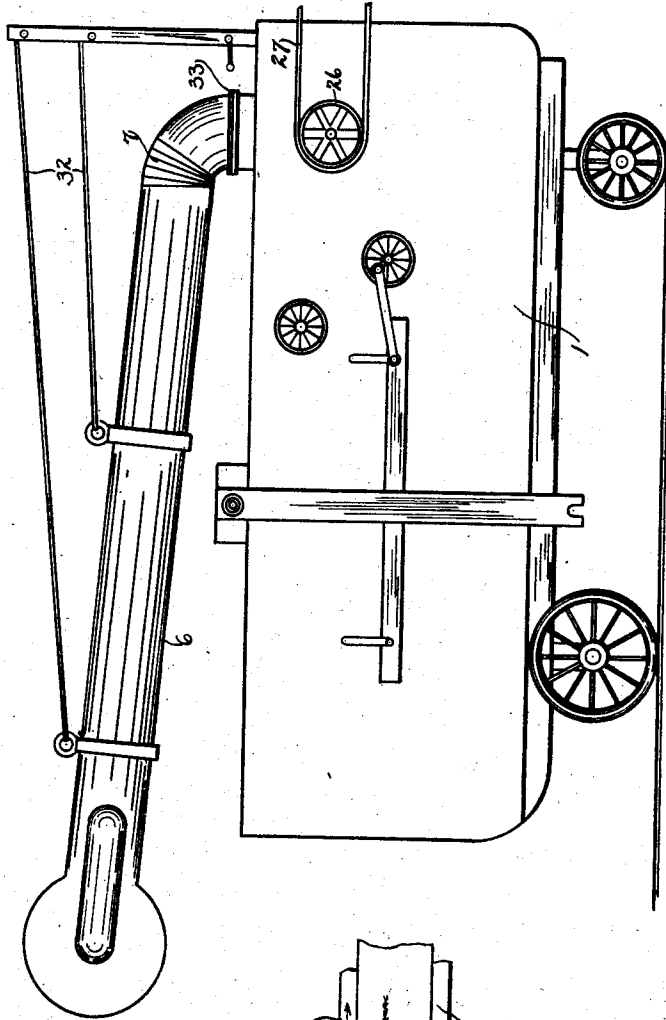


Fig. 1-

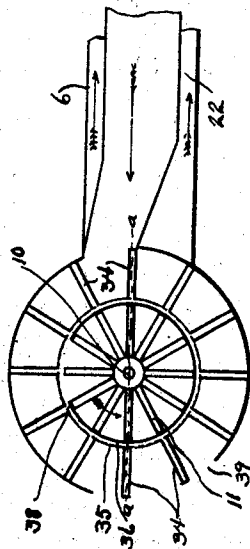


Fig. 3-

WITNESSES:
L. Sumner
Ed. S. S. S.

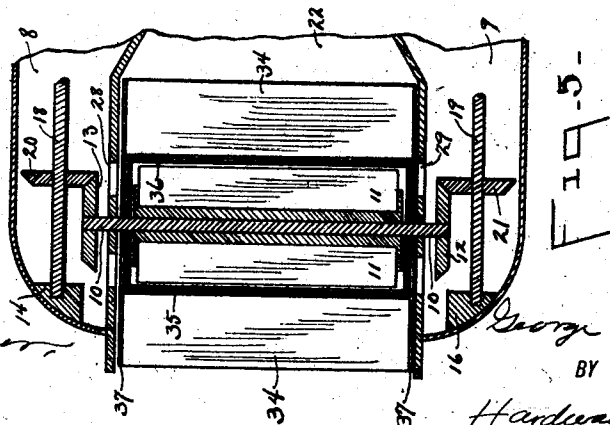
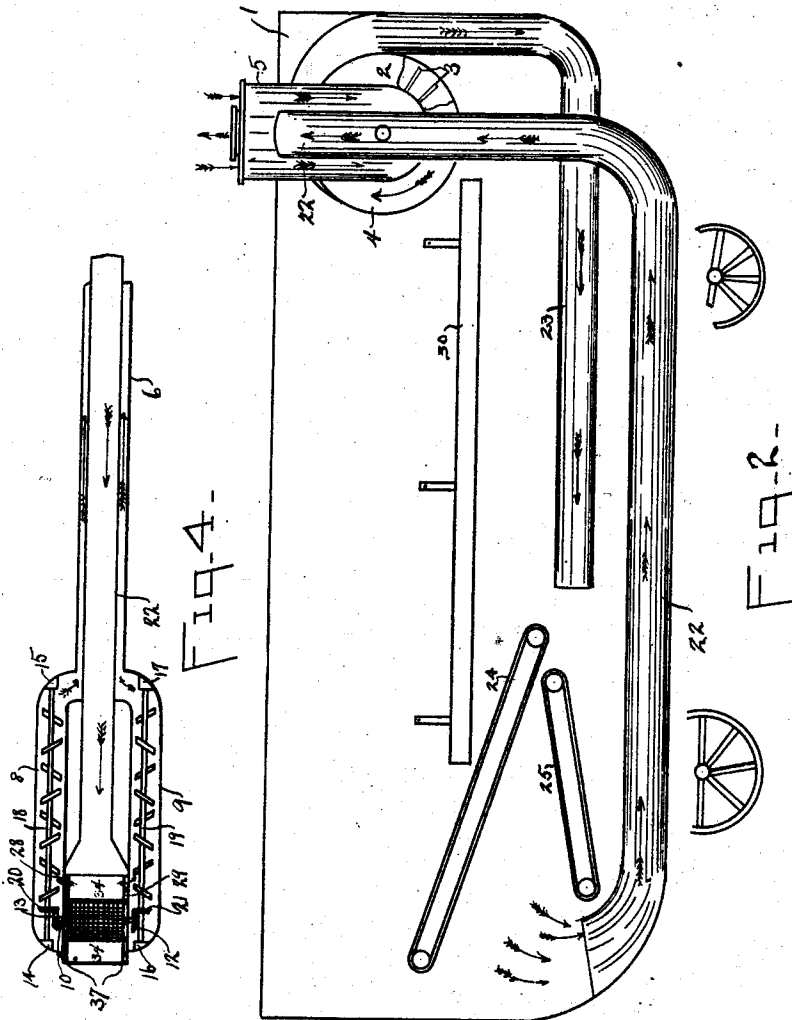
INVENTOR
George E. Richmond
BY
Hardway & Co.
ATTORNEYS

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2 SHEETS—SHEET 2.



WITNESSES:
L. J. J. J.
C. J. J.

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BY
Handway & Cady
ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE E. RICHMOND, OF HOUSTON, TEXAS.

WIND-STACKER.

994,338.

Specification of Letters Patent.

Patented June 6, 1911.

Application filed November 9, 1909. Serial No. 527,025.

To all whom it may concern:

Be it known that I, GEORGE E. RICHMOND, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Wind-Stackers, of which the following is a specification.

My invention relates to new and useful improvements in wind stackers, and more particularly to such devices as are adapted to be used in threshers.

The object of the invention is to provide a device of the character described whereby the power exerted to propel the cylinder, which threshes out the grain, may be utilized to create an air current to carry off the straw, and other refuse, and stack the same at a suitable distance from the machine, and further includes a mechanism whereby the chaff is separated from the grain and also carried off with the straw and refuse.

With the above and other objects in view, my invention has particular relation to certain novel features of construction and operation, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevation of a thresher with the stacker attached thereto. Fig. 2 is a side elevation of the thresher, with the rear casing wall removed showing the stacking mechanism, in detail. Fig. 3 is a side elevation of the discharge end of the stacker, and Fig. 4 is a plan view thereof. Fig. 5 is a sectional plan view of the discharge end of the stacker taken on the line *a-a* in Fig. 3.

Referring now more particularly to the drawings, wherein like numerals of reference designate similar parts in each of the figures, the numeral 1 refers to the inclosing casing of the thresher which is, substantially, of the usual shape and construction, and the numeral 2 refers to the cylinder thereof. This cylinder is disposed transversely of the casing and is rotatable in the usual manner, and is designed for the ordinary purpose. Secured to the shaft of said cylinder is a blow fan 3, provided for a purpose hereinafter set forth, and incased in a surrounding casing 4. This cylinder and blow fan, just referred to, are preferably, located near the fore part of the machine and a pneumatic tube 5 leads from the exterior of said machine and communicates with the casing 4 as shown in Fig. 2. This

tube 5 connects with, and is practically a continuation of, an outwardly extending pipe 6 which is connected to said tube 5 by means of a flexible joint 7.

The inlet end of the pipe 6 divides into two inlet tubes 8 and 9, as shown in Figs. 4 and 5. The free ends of these inlets are provided with bearings in which a shaft 10 rotates. This shaft carries a blow fan 11 rigidly mounted thereon. Partially surrounding this fan, a drum or casing 36 is rotatably supported on shaft 10, the upper part of said drum having an opening which extends throughout the length thereof. Surrounding this drum and of the same shape is a screen 35 which is held in position by end bearings 37. Upon the outer side of said screen and rigidly attached at both ends to said end bearings are paddles 34 extending substantially the length thereof and radiating therefrom. The ends of shaft 10 protrude through the inner walls of tubes 8 and 9 and carry bevel gears 12 and 13 within said tubes and rigid with said shaft. At either end of the inlet tubes 8 and 9 are located bearings 14, 15, 16 and 17 respectively. A longitudinal shaft 18 operates in bearings 14 and 15 and a similar longitudinal shaft 19 operates in bearings 16 and 17. These shafts carry bevel gears 20 and 21 which mesh with bevel gears 12 and 13 as is shown in Fig. 4. The shafts are further provided with angled fans so disposed as to be rotated by the current of air passing through said tubes and also disposed so as to impart opposite rotations to their respective shafts.

Within the pipe 6 a discharge pipe 22 is located, which is considerably smaller in diameter than said pipe 6 so as to allow a passage way therebetween. The inward end of pipe 22 is prolonged and projects through the walls of tube 5 and passes within casing 1 to the rear end thereof where it is flared, as shown in Fig. 2, while its outer or free end is curved slightly upward so as to discharge against the upper portion of paddles 34, as shown in Fig. 3. This discharge pipe is provided with a flexible joint 7 and both tubes 5 and 22 are provided with swing joints 33, whereby, the place of delivery may be varied to suit the convenience of the operator. From the casing 4, the pipe 23 leads and discharges in front of and beneath the carriers 24 and 25.

The operation of the device is as follows:—When the cylinder 2 is rotated,

through drive wheel 26 and drive belt 27, operatively connected with a suitable motor, the blow fan 3 is also set in motion. This causes, by suction, an air current through tube 5 and pipe 6, the air being drawn through openings 28 and 29 as indicated by the arrows. This current starts the rotation of fan 11 by reason of its direct action there-against. This rotation is increased through the angle fans carried by shafts 18 and 19, which are rotated by the current passing through inlets 8 and 9. The rotation of fan 11 operates to draw the air through pipe 22 from the interior of the machine casing, and causes the rotation of fan 34 in the same direction as fan 11 which in turn catches the straw, etc., which comes through pipe 22 by the action of the current therethrough as hereinbefore described. When the straw, etc., which is caught by fan 34 has reached the point 38 or outer edge of drum 36, the current of air is cut off by said casing and the straw, released from said current, is discharged by gravitation and the rotative movement of said fan, from the stacker. It is to be observed that the ends of drum 36 as well as the bearing plates 37 are provided with a plurality of openings through which the air current may pass from the interior of said drum to the passage ways 28 and 29 and thus a complete current circuit between the pipe 22 and the pipes 8 and 9, is provided.

What I claim is:—

1. In a device of the character described a current generator; an air inlet connected therewith; a discharge leading therefrom; a mechanism carried by the free end of said inlet and operated by the current passing through said inlet for creating a suction, and a discharge pipe within said inlet through which the suction operates.

2. In a device of the character described, a casing; a current generator carried thereby; an air inlet communicating with said generator; a discharge leading therefrom and discharging within the casing; a mechanism carried by the free end of said inlet and operated by the current passing through said inlet for creating a suction, and an outlet pipe through which said suction operates.

3. A wind stacker comprising a current generator, carried by the casing of a thresh-er; an inlet so disposed with relation to the generator as to induct the current

caused thereby; a discharge leading from the generator and discharging within the thresh-er casing; a suction pipe communicating with the interior of the thresh-er casing, extending through said inlet and terminating therewith, and a mechanism carried by the free end of the inlet and operated by the inlet current for creating a suction through said suction pipe.

4. A wind stacker comprising a current generator, carried by the casing of a thresh-er; an inlet so disposed with relation to the generator as to induct the current caused thereby; a discharge connected with the generator, receiving the current from the inlet and discharging the same within the thresh-er casing; a suction pipe communicating with the interior of the thresh-er casing and terminating without the same, and a mechanism operated by the inlet current and so disposed, with relation to the discharge end of the suction pipe as to create a suction therethrough.

5. In a device of the character described a current generator an air inlet connected therewith; a discharge leading therefrom; a mechanism carried by the free end of said inlet and operated by the current passing therethrough for creating a suction, and a pipe through which said suction may operate.

6. In a device of the character described a current generator; a current inlet disposed to conduct the current generated by said generator; a casing; a current conductor leading from the inlet and discharging within the casing; a device carried by said inlet and operated by the current passing therethrough for creating a suction, and a discharge pipe through which the suction operates.

7. In a device of the character described a casing; a current generator carried thereby; an air inlet communicating with the generator; a discharge leading therefrom and discharging within the casing; a suction generating mechanism disposed so as to be operated by the inlet current and an outlet pipe through which said suction operates.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE E. RICHMOND.

Witnesses:

E. C. GUY,
J. W. YEAGLEY.