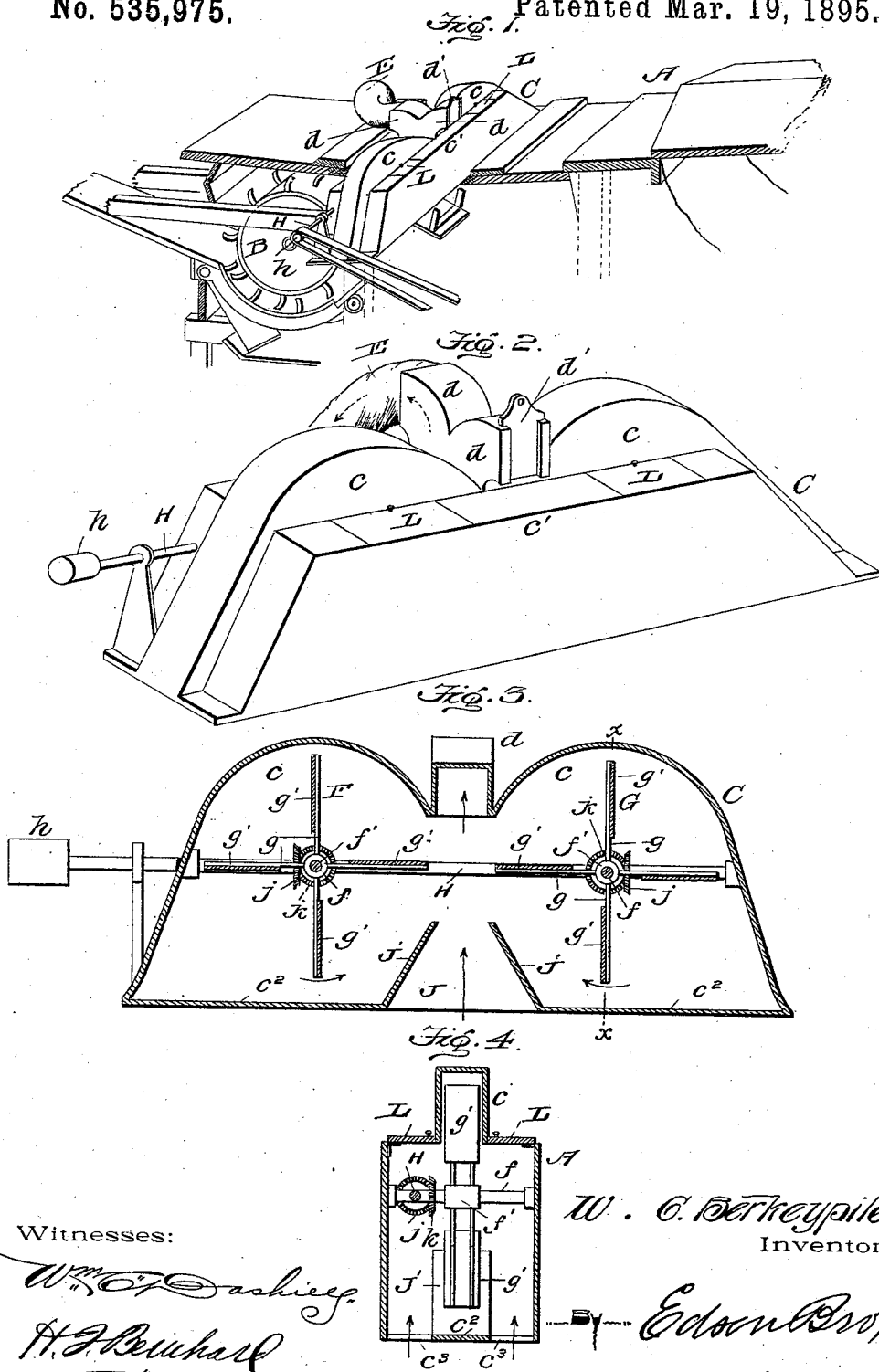


(No Model.)

W. C. BERKEYPILE.
DUST CONVEYER FOR THRASHING MACHINES.

No. 535,975.

Patented Mar. 19, 1895.



UNITED STATES PATENT OFFICE.

WELLINGTON C. BERKEYPILE, OF INDIANA, PENNSYLVANIA.

DUST-CONVEYER FOR THRASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 535,975, dated March 19, 1895.

Application filed July 26, 1894. Serial No. 518,665. (No model.)

To all whom it may concern:

Be it known that I, WELLINGTON C. BERKEYPILE, a citizen of the United States, residing at Indiana, in the county of Indiana and State of Pennsylvania, have invented certain new and useful Improvements in Dust-Conveyers for Thrashing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in dust collectors for thrashing machines, and the object that I have in view is to provide a simple means to be applied to the top of a thrashing machine and which is operated by connections with one of the shafts of the machine to run the collector at a comparatively high speed and cause it to act efficiently so as to draw all the dust, light chaff and other refuse from the neighborhood of the cylinder and deliver the same to a conduit or pipe by which the dust and other light refuse can be carried away from the primary machine.

With these ends in view, the invention consists in the construction and organization of parts, and in the combination of devices, which will be hereinafter fully described and claimed.

To enable others to understand my invention, I have illustrated the preferred embodiment thereof in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a view, partly in section, showing my improved dust collector applied to a thrashing machine. Fig. 2 is a perspective view of the dust collector detached from the thrashing machine. Fig. 3 is a longitudinal sectional view through the dust collector, and Fig. 4 is a transverse sectional view on the plane indicated by the dotted line $x-x$ of Fig. 3.

Like letters of reference denote corresponding parts in all the figures of the drawings, referring to which—

A designates the casing of the primary thrashing machine and B is the cylinder thereof. The top or upper part of this primary casing A is provided with a slot or opening, and over this slot or opening is fastened the casing C of my improved dust col-

lector, the latter being arranged transversely across the thrashing machine as indicated by Fig. 1 of the drawings.

The casing C of the dust collector is constructed with sloping ends and with the segmental central fan-casings c, c , the latter being raised above the level of the straight horizontal sides c', c' , of the casing C, and they are, furthermore, disposed on opposite sides of the discharge mouths d, d . These discharge mouths d, d , extend in opposite directions from the casing C, at the middle thereof, and they both communicate with the interior of the casing C, each mouth, d , being provided with a suitable cut-off or slide, d' , by which the outlet from the mouth can be closed. A discharge pipe or hose, E, preferably of canvas, although any suitable material can be used, can be coupled in any desirable way to either of the discharge mouths, d , according as it is desired to convey the dust either to the right or left hand side of the primary machine; and the mouth to which this pipe is coupled has its slide d' opened to permit the dust laden current of air to pass freely from the casing C and mouth d into the pipe E, while the slide of the other mouth is closed to prevent the dust from being blown out over the thrashing machine and the attendants.

Within the casing C are the rotary fans F, G, two in number, and preferably placed near the ends of the casing or on opposite sides of the transverse middle of the same. These fans are arranged transversely across the casing C, within the segmental parts c, c , thereof, and each fan consists of a shaft f , the hubs f', f' fastened or clamped to the shaft at suitable intervals from each other and provided with the radial arms or spokes, g , and the blades g' , preferably of metal, which are fastened to the arms or spokes of the two hubs, f', f' , near the ends of the latter and substantially parallel to the shaft f .

Both of the fans are rotated or driven from a longitudinal power shaft H which is common to the two fan shafts and which extends at one end through the casing c , the protruding end of the power shaft being provided with the driving pulley h around which is adapted to pass a belt or chain that is run by connection with one of the shafts of the primary thrashing machine. This common power

shaft is journaled in suitable bearings on the standards or a frame within the casing C, and the fan shafts are each journaled in suitable bearings on standards or in a frame also within the casing C.

The fans are geared to the common power shaft H by the intermeshing bevel gears *j*, *k*, which are fastened to the respective power and fan shafts, and these fans are rotated in opposite directions as indicated by the arrows so as to create currents of air which flow toward the center and discharge mouth, *d* of the casing C.

The length of the fans is equal to the width of the segmental parts *c*, *c*, of the casing or the space between the flat horizontal parts *c'*, *c'* of the casing, and the bottom of the casing along the central part below the segmental parts *c*, *c*, is closed by the bottom *c²*, thus leaving the inlet openings or passages *c³*, *c³*, see Fig. 4, at the sides of the casing and just below the parts *c'*, *c'*, at the top of the casing, whereby the dust laden air is admitted through the slots *c³*, *c³*, to the fans and by them forced toward the center and mouth *d* of the casing. The currents from the two fans are thus merged at the center of the casing, and to provide for the full free admission of the air to the casing C, I provide the inlet throat J at the middle of the bottom, said throat being formed by the reversely inclined boards or deflectors J' which are fixed to the bottom *c²* on opposite sides of the throat opening J in said bottom, see Fig. 3, whereby the dust laden air is admitted at the center as well as at the sides of the bottom of the casing.

This being the construction of my improved dust collector, the operation may be described as follows:—The power shaft is driven by suitable connections with the primary machine, and the two fans are rotated in opposite directions to create currents of air toward the center of the casing where they are merged into a common blast that is discharged through the mouth *d*, and the pipe E, and the dust laden air is drawn through the openings *c³* and the throat opening J so that all the dust and light chaff or refuse are drawn from the cylinder and its surroundings, thus taking up all the dust around the cylinder.

I am aware that changes in the form and proportion of parts and in the details of construction of the mechanism herein shown and described as an embodiment of my invention can be made without departing from the spirit or sacrificing the advantages of my invention and I therefore reserve the right to make such modifications as fairly fall within the scope of my invention, as for instance the detailed construction of the fan can be changed and the construction of the fan casing C varied within certain limits. This fan casing may be provided with doors L in the horizontal top

portions *c'* for having access to the gearing, the fan or other parts of the dust collector. Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a thrashing machine having a transverse opening in the top of the machine-casing, adjacent to the cylinder thereof, of the fan casing, C, fastened to said machine-casing transversely across the top thereof, and having inlet openings in its bottom which communicate with the opening in the top of said machine casing, the rotary fans F, G, journaled transversely in the casing, C, and arranged on opposite sides of a central discharge throat leading from the top side of said casing, and a power shaft extending longitudinally of the fan casing, at right angles to the fan shafts and geared directly thereto, one end of said power shaft projecting beyond the fan casing and the side of the machine casing and provided with a suitable driving pulley substantially as and for the purposes described.

2. The combination with a thrashing machine, having an opening in its top, of the casing C fixed transversely across the top of the thrashing machine, over the opening therein, and provided with the inlets *c³* at the sides of the bottom thereof, and with the inclined deflectors forming a central inlet throat between the side inlets, and, further provided in its top with the valved discharge mouths, a conveyer tube connected to one of the discharge mouths of the casing C, the rotary fans journaled transversely in said casing C, on opposite sides of the central inlet throat and the discharge mouths thereof, and a longitudinal power shaft journaled at right angles to the fan shafts and geared thereto, one end of said power shaft provided with a driving pulley, substantially as described.

3. A dust conveyer for thrashing machines comprising a casing provided with a valved discharge mouth at its top side and having its bottom constructed with the side inlets *c³* and with the inclined spaced deflectors forming a central inlet throat, shaft-bearings within said casing, rotary fans journaled in said bearings and arranged on opposite sides of the inlet throat and the discharge mouth thereof, and a power shaft arranged longitudinally of the casing, at right angles to the fan shafts, said power shaft being geared directly to both fan-shafts and having its protruding end provided with a driving pulley, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WELLINGTON C. BERKEYPILE.

Witnesses:

H. F. BERKEYPILE,

R. C. BERKEYPILE.