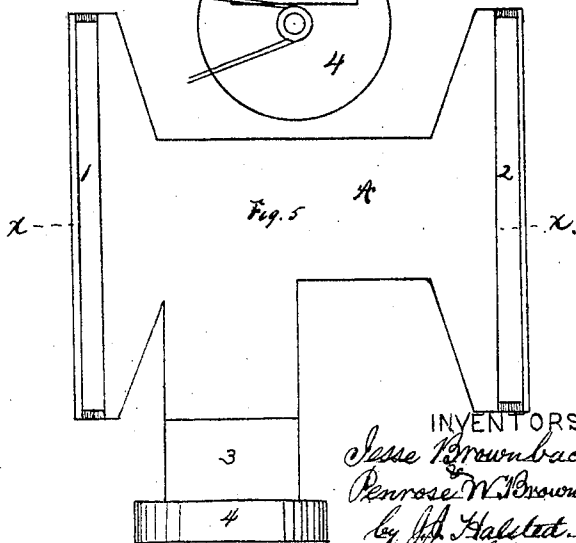
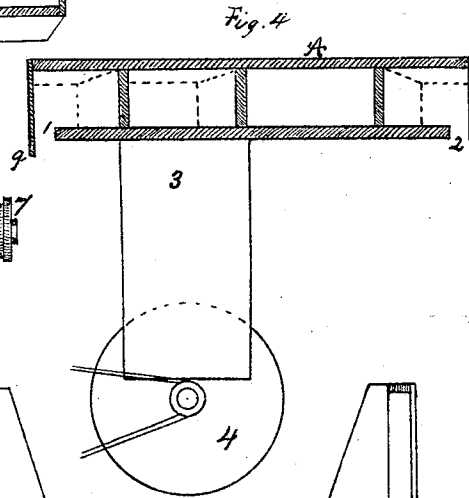
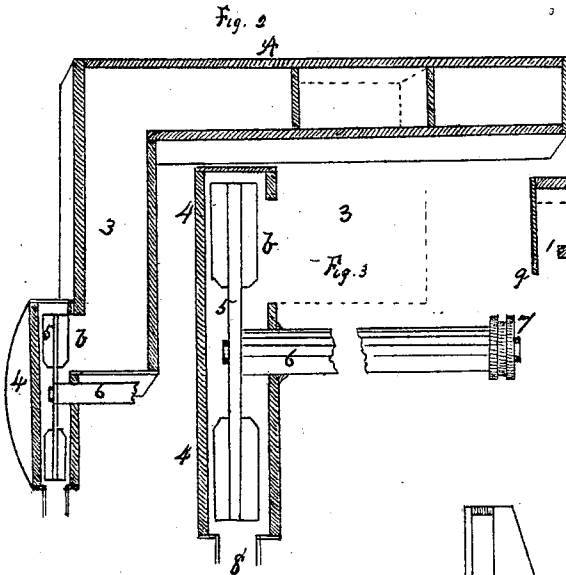
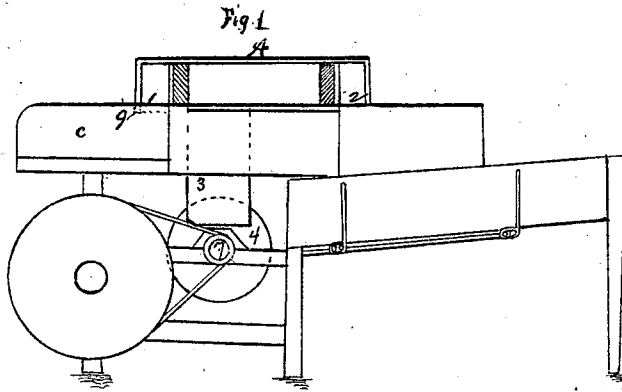


J. & P. W. BROWNBACK.

Improvement in Dust-Conveyers for Thrashing-Machines.

No. 132,894.

Patented Nov. 12, 1872.



WITNESSES

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UNITED STATES PATENT OFFICE.

JESSE BROWNBACK AND PENROSE W. BROWNBACK, OF EAST COVENTRY,
PENNSYLVANIA.

IMPROVEMENT IN DUST-CONVEYERS FOR THRASHING-MACHINES.

Specification forming part of Letters Patent No. 132,894, dated November 12, 1872.

To all whom it may concern:

Be it known that we, JESSE BROWNBACK and PENROSE W. BROWNBACK, both of East Coventry, in the county of Chester and State of Pennsylvania, have invented an Improved Dust-Conveyer for Thrashing-Machines and similar machines; and we do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of our invention sufficient to enable those skilled in the art to practice it.

Our invention relates to the means and method of efficiently conveying from the machine, by the aid of a suction-fan, the dust, sand, and other foreign or heavy matter; the construction being such that the suction is aided by the gravity of the particles, instead of being obliged to overcome it, and the discharge being at a point below the body of the machine. Our apparatus is adapted for ready application to existing machines, and as ready removal therefrom.

In the drawing, Figure 1 represents, on a small scale, our improved apparatus applied to an ordinary thrashing-machine; and Fig. 2 is a central vertical section of the said improvement on a larger scale. Fig. 3 shows the fan-case, fan, its shaft, and pulley, double the size of Fig. 2; Fig. 4 is a vertical section in the line *x x* of Fig. 5; and Fig. 5 is a plan of the under side.

The ordinary parts of a thrashing-machine need not be described, except so far as may be found expedient to illustrate our invention, in which *A* is a horizontal box, formed of any appropriate material, closed at all sides, excepting at the two dust-receiving mouths or openings *1 2* on its under side, and having, projecting downward from its under side, also, the flue *3*, which serves to convey the dust downward from the box when the fan is in operation. This flue is closed at its bottom, but has at its outer side an opening, *b*, communicating with the fan-box *4*. The fan *5*, incased within this box, is mounted on a shaft, *6*, hung in appropriate bearings underneath the machine, the opposite end of the shaft being provided with a pulley, *7*, which, by means of a belt from the driving or other shaft, gives the required velocity to the fan. The bottom of

the fan-box is left open, or may be provided with a spout, *8*, to convey the dust wherever desired. Any appropriate degree of velocity may of course be given to the fan, dependent upon the relative sizes of the pulleys over which its band passes.

We prefer to place the flue or spout *3* much nearer to the feeding-table *c*, as seen, than to the shaker, for the reason that the current of air at that point, caused by the rapid revolution of the cylinder, is powerful, and therefore the downward suction or exhaust produced by the fan should be near enough to the cylinder to overcome the tendency of the material to be driven back into the feed trough or table by the current created by the cylinder. We project the front and sides of the box, which are over the feeding-table and near the cylinder, a little downward beyond the bottom line of the box, as seen at *9* in Figs. 1 and 4, so as to form a sort of flange; the object of which is to protect the person feeding the machine and prevent the grain, &c., flying in his eyes, and also to aid in taking the dust, &c., more effectively from the thrasher into the conveyer.

Another important advantage in our construction and downward discharge is that the attendant has nothing to intercept his view of the rear of the machine and prevent his observing at all times just how the shaker and other parts are working, whereas if the flues were above the machine they would at all times intercept such proper view and inspection.

From the above description it will now be seen that much less driving power and much less blast are required than if the spout or conveyer carried the dust to an elevated point; that none of the heavy particles, or sand, or grit are liable to fall again into the machine to the damage of the grain; that all that once enters the conveyer or its spout never returns, and the work is therefore very cleanly done. There being no partitions in the flue, no obstructions are therefore made to the course of the current, and the blades of the fan, in striking the heavier particles, tend to hasten the downward course; whereas if the fan were at the top of a spout that conveyed the dust upward, its tendency and action would be for the blades not only to check their upward course,

but positively in a great degree to beat them backward. It is well known in practice that the power needed to drive a thrasher is very considerable, and that every appendage to it should require as little additional power as possible.

It will be seen by the drawing, and readily understood, that the openings 1 2 are to be so located in our apparatus as to occupy the relative positions on the machine substantially as shown in the drawing, so as to receive the dust, &c., from the machine, which would otherwise fill the air, annoy the attendants, and be liable to return again into the machine.

We claim—

The herein-described dust-conveying attach-

ment for thrashing-machines, consisting of a horizontal box, A, having the receiving-mouths 1 and 2, the downward flue-passage 3, and an exhaust or suction fan arranged to work within a chamber at the lower end of such passage, substantially as and for the purposes set forth.

JESSE BROWNBACK.

PENROSE W. BROWNBACK.

Witnesses to signature of JESSE BROWNBACK:

GEORGE JACKSON,

ENOS SHANTZ.

Witnesses to signature of PENROSE W. BROWNBACK:

S. W. KEEN,

JARVIS MOULDEN.