No. 629,873. Patented Aug. 1, 1899.

G. W. RUSSELL.

DUST CONVEYER FOR THRESHING MACHINES.

(Application filed Aug. 26, 1898.)

(No Model.)

Fig. 1.

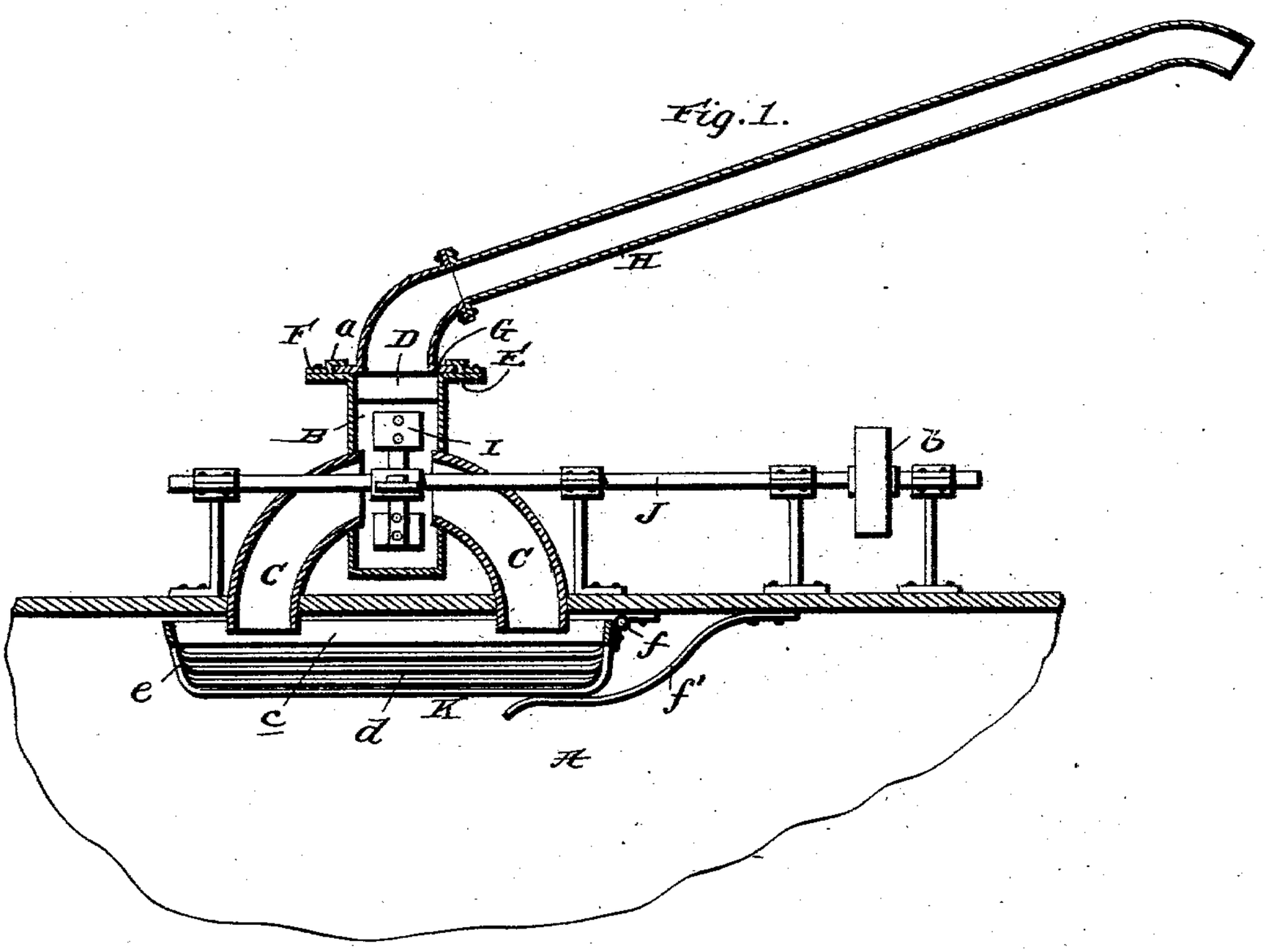


Fig. 2.

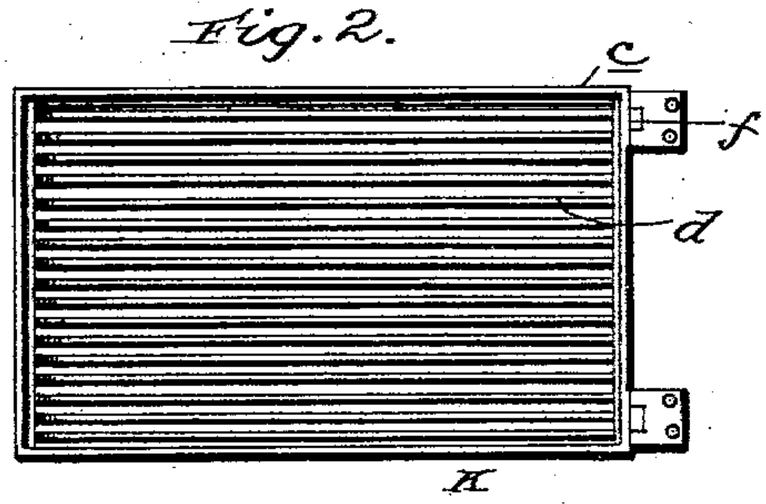
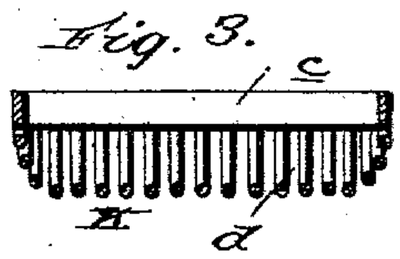


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE W. RUSSELL, OF GREENE, IOWA.

DUST-CONVEYER FOR THRESHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 629,873, dated August 1, 1899.

Application filed August 26, 1898. Serial No. 689,589. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. RUSSELL, a citizen of the United States, residing at Greene, in the county of Butler and State of Iowa, have invented new and useful Improvements in Dust-Conveyers for Threshing-Machines, of which the following is a specification.

My invention contemplates the provision of an improved conveyer for separating dust from straw incident to the passage of the straw through a threshing-machine and conducting such dust to a point sufficiently remote from the machine to prevent it from annoying the machine attendants.

The novelty and advantages of the invention will be fully understood from the following description and claims when taken in conjunction with the annexed drawings, in which—

Figure 1 is a sectional view of my improvements in their operative position on a threshing-machine casing. Fig. 2 is a plan view of the screen for excluding straw and chaff from the conveyer. Fig. 3 is a transverse section of the said screen.

In the said drawings similar letters designate corresponding parts in all of the several views, referring to which—

A is a portion of a threshing-machine casing, and B is the fan-chamber of my improved conveyer, which is arranged outside the casing A and preferably at a point above the shaking-screens (not shown) of the machine, although it may be arranged at any other point suitable to the purposes of the invention. The said chamber B is provided with two lateral induction-pipes C, which connect it with the interior of the casing A and are curved, as shown, so as to effectually prevent dust from lodging in and choking them up. It is also provided at its upper end with an eduction-opening D, surrounded by an outwardly-directed flange E. On this flange E is arranged and fixed an annulus F, having an inner raised portion *a*, and between the said inner raised portion of the annulus and the flange E of the fan-chamber is interposed the base-flange G of a dust-conducting pipe H. This pipe H is of such a length as to conduct the dust to a point remote from the machine, and by reason of it being connected with the fan-chamber after the manner of a swivel, as above described, it is adapted to be swung around upon the said chamber and caused to extend from the same in the direction that the wind is blowing.

I is the suction or exhaust fan, which is arranged in the chamber B and is fixed upon a shaft J, extending therethrough. The shaft is designed to be driven from any preferred shaft of the threshing-machine, and while I have shown it as provided with a pulley *b* to receive a connecting-belt it is obvious that it may be rotated through the medium of any other interposed gearing.

K is the screen of my improvements, which has for its purpose to prevent straw and chaff from passing into the conveyer. The said screen comprises a rectangular frame *c* and closely-arranged bars or slats *d*, the said bars having the inclined upwardly-extending end portions *e*, so as not to obstruct the passage of straw and being disposed in the direction in which the straw moves, so as to enable the passing straw to keep the spaces between them clear for the passage of air and dust. I also prefer to connect one end of the screen K to the top wall of the machine-casing in a hinged manner, as indicated by *f*, and permit its other end to hang in the casing, since this mode of connection permits of the screen being readily moved to afford access to the interior of the conveyer when it is necessary to clean or repair the same.

When desirable or necessary, a spring *f'* may be employed, the same having for its purpose to sustain the weight of the screen and prevent the same from retarding the passage of the straw or interfering with the separation of grain therefrom.

In the practice of the invention the suction-fan I is rotated at a high rate of speed while the threshing-machine is in operation and serves to draw all of the dust from the straw passing beneath the screen K and force the same through the pipe H to the point of discharge.

The screen K serves to effectually prevent the entry of straw and chaff into the conveyer and yet does not interfere with the passage

of air and dust, since the spaces between its bars or slats are kept clear at all times by the passing straw.

I have illustrated and described my improvements as attached to and forming a permanent part of a threshing-machine casing. I do not desire, however, to be limited to this, as, when desired, the improvements may be attached to a body designed to be placed in an opening of and connected to the machine-casing or may be connected to said casing in any other suitable manner. I also do not desire to be understood as confining myself to using the improvements in conjunction with a threshing-machine casing, as they may be used in other connections to carry off dust and also for ventilating purposes.

Having thus described my invention, what I claim is—

1. In a dust-conveyer for threshing-machines, the combination of a threshing-machine casing, a fan-chamber having an eduction or discharge pipe of suitable length and also having an induction-pipe communicating with the interior of the threshing-machine casing, a suction or exhaust fan arranged in said chamber, and a screen for preventing the entry of straw and chaff into the induction-pipe; said screen being arranged at the inner side of a wall of the casing so as to be kept clear by the passing straw and comprising parallel bars or slats extending in the direction of movement of the straw through the machine and having the upwardly-extending inclined end portions, substantially as and for the purpose set forth.

2. In a dust-conveyer for threshing-machines, the combination of a threshing-machine casing having an opening in one of its walls, a fan-chamber having an eduction or discharge pipe and also having an induction-pipe connected with the opening in the casing-wall, a suction or exhaust fan arranged in said chamber, a screen, for preventing the entry of straw and chaff into the induction-pipe, arranged at the inside of the casing-wall and over the opening therein and connected at one end in a hinged manner to said casing-wall; said screen comprising parallel bars or slats extending in the direction of movement of the straw through the machine and having the upwardly-inclined end portions, and a spring connected to the casing-wall and bearing against the free end of the screen, substantially as specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE W. RUSSELL.

Witnesses:
C. H. WILLIAMS,
M. HARTNESS.