

(No Model.)

2 Sheets—Sheet 1.

J. B. SCHUMAN.
GRAIN RECLEANER AND SEPARATOR.

No. 569,389.

Patented Oct. 13, 1896.

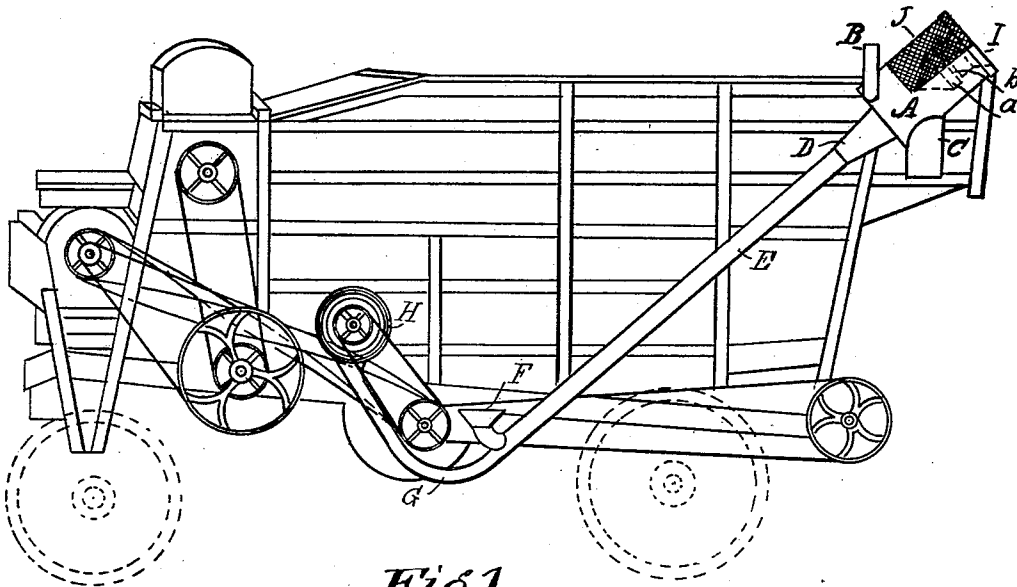


Fig 1.

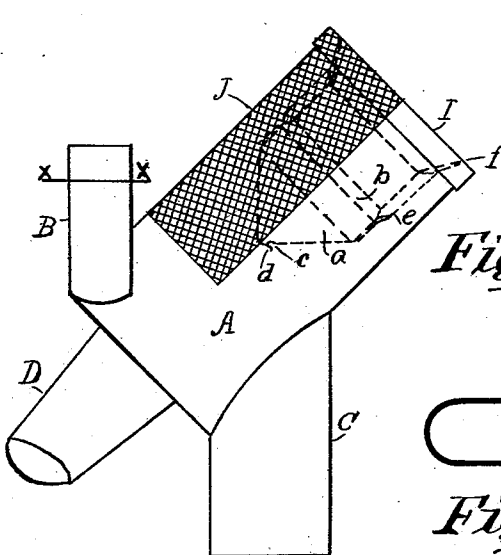


Fig 2.

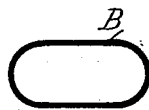


Fig 4.

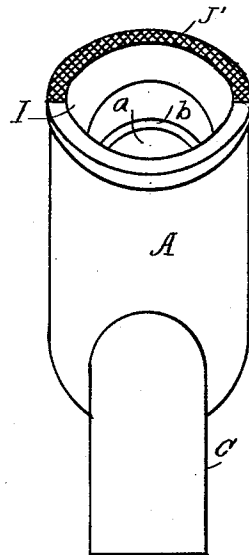


Fig 3.

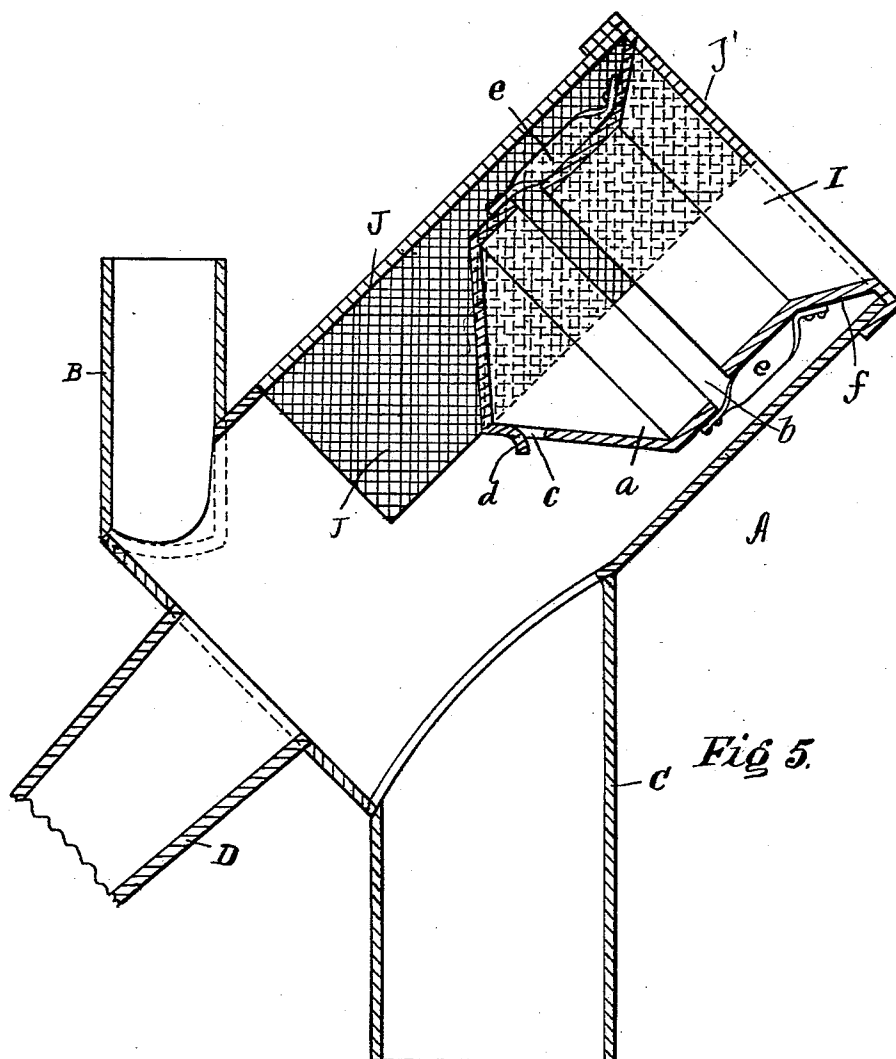
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

JAMES B. SCHUMAN, OF COLUMBIA, INDIANA.

GRAIN RECLEANER AND SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 569,389, dated October 13, 1896.

Application filed January 27, 1896. Serial No. 576,973. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. SCHUMAN, a citizen of the United States, residing at Columbia City, in the county of Whitley and State of Indiana, have invented certain new and useful Improvements in Grain Recleaners and Separators; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of recleaners and separators which are designed to perform their functions automatically and continuously with the act of elevating and conveying grain from a thresher and separator to a point where it is delivered to a bagger or weigher; and it consists of a new and novel arrangement and combination of certain devices in connection with the delivery end of a pneumatic conveyer-pipe, as will be more fully described hereinafter.

My object is to provide a device for this purpose which shall be applicable to all conveyers in which air is used to force grain through a conveyer-pipe, providing means for simultaneously recleaning the grain, separating it from the minute particles and from the air-blast, and delivering it to any receptacle or a weigher or bagger; and with these objects in view my invention is simple of design, easily and cheaply constructed, and is durable, efficient, and economical in use.

Referring to the drawings, Figure 1 represents my invention connected to an elevating-conveyer which is attached to a separator in connection with a fan-blower. Fig. 2 is a side view, on an enlarged scale, showing the internal arrangements dotted in. Fig. 3 is a perspective view of the end and under side, and Fig. 4 is a cross-section on the line X X of Fig. 2. Fig. 5 is a central sectional view of the device.

In the drawings, H is a fan delivering air through the pipe G, discharging into the conveyer E, into which grain flows through the funnel F, the air approaching from behind the grain as it enters the conveyer, forcing it out through the conveyer and into the re-

cleaner and separator A, which in some cases has a tapering inlet D, while in others the connection is direct with the straight portion of the conveyer-pipe.

a is a cone having the apex central with the center of the chamber of the recleaner and inlet-pipe to same. For a short distance above the base of the cone the sides are perpendicular to the base. The cone is suspended and secured near the outer end of the recleaner to collar f by means of brackets e. Both ends of the recleaner are otherwise inclosed, except at the inlet and outlet. At the upper end a circular opening is provided, into which is inserted and secured a tapering collar f, terminating at the lower end in a sleeve or collar having parallel sides, which extends inward to near the base of the cone, but is somewhat smaller than the cone in diameter, so that a passage for the outlet of the chaff is provided between the cone and the sleeve at b, the refuse, together with some of the blast, passing around the cone across its base and outward through the interior of the sleeve, discharging from the opening I, the inclosed end around the sleeve preventing the grain from passing out with the dust.

To prevent any lodgment of small grain or dust in the interior of the cone, a small opening c, having a protecting-lip d, is provided at the lower side of the cone near the apex.

B is a tube connecting with the body of the device, providing free discharge of the air.

C is a discharge-pipe through which the grain falls by gravity to a weigher or bagger, or elsewhere, as may be desired. The upper portion of the body is provided with a screen J of fine mesh, and likewise at J' at the upper side of the end face. This allows a portion of the air to pass through the screen and assists in carrying the grain upward, and more effectually tumbles it around the interior to thoroughly reclean it.

Having described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A recleaner and separator, in combination with a pneumatic grain-conveyer, comprising a main body and chamber having an inlet-opening at one end and attached to conveyer-pipe; at its upper side near the inlet end an air-outlet situated at one side and out

of the line of the air-blast from the conveyer-pipe; a grain-discharge opening at the lower side of the main chamber at or near the said inlet; a sleeve depending from the upper end of the main chamber so attached to the dust-outlet end that all portions around the said sleeve are inclosed at the lower side of body and end, while the upper portion of the body side and end is provided with a screen of close mesh; a cone secured and depending from the inner side of said main chamber, said cone being slightly larger at its base than the diameter of said sleeve and overlapping the same but slightly separating it to provide a passage between lower end of said sleeve and base of said cone, said cone having at the lower side of its apex a perforation partially covered by a lip so that a blast from the inlet will strike the point of the cone and be deflected from said lip and from entering said perforation, substantially as and for the purposes shown and described.

2. The combination, with a grain-conveyer of the kind described, of a recleaner and separator attached to the discharging end of said conveyer, comprising the main body portion having the central inlet; the air-outlet at the upper side; the grain-outlet at the lower side; and the cone supported within said body portion, the apex of said cone being central with said inlet and situated in line therewith; the

sleeve having the annular flange, which incloses the outer portion of the end of said body portion opposite the said inlet thereto, said sleeve being somewhat smaller at its inner end than the base of said cone, the said cone and said sleeve providing, as situated, a deflector and an outlet-passage for dust or chaff, substantially as shown and described.

3. In a pneumatic grain-conveyer of the kind described, the combination of the recleaner A composed of the cylindrical body portion having the inlet D; the air-outlet B; the grain-outlet C; the cone *a*, having the opening *c* and lip *d*; the sleeve *f* having the annular flange covering the end of said body portion around said sleeve, said cone being supported in front of said sleeve so as to provide a passage *b* between, said sleeve being open to the atmosphere at I; the screen J at upper portion of said body portion; and the screen J' around upper portion of the discharging end of said body portion, substantially as and for the purposes shown and described.

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

JAMES B. SCHUMAN.

Witnesses:

JNO. S. THURMAN,

E. T. SILVINS.