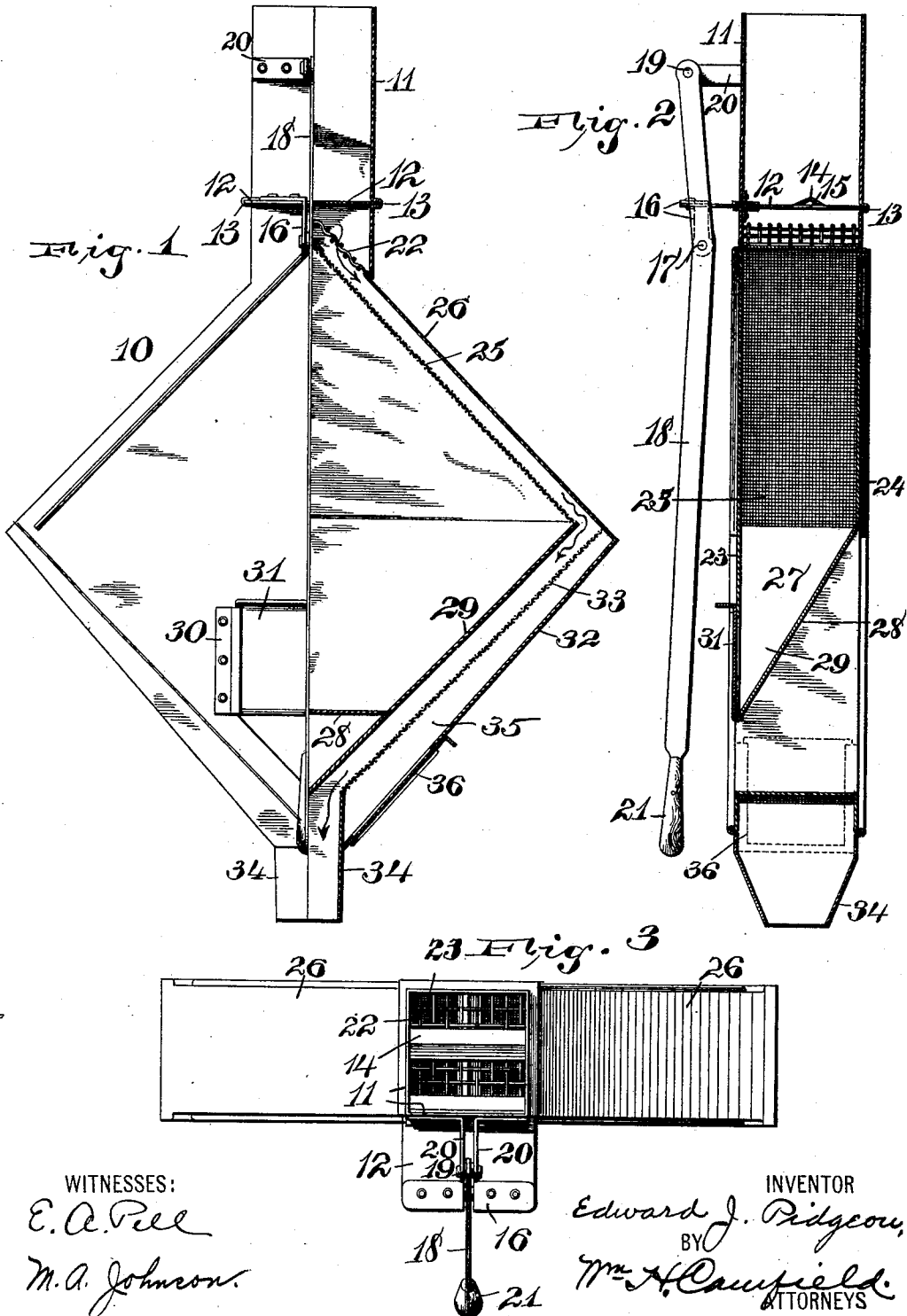


E. J. PIDGEON.
GRAIN SEPARATOR.
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WITNESSES:
E. A. Peel
M. A. Johnson.

INVENTOR
Edward J. Pidgeon,
BY
Wm. H. Campfield,
ATTORNEYS

UNITED STATES PATENT OFFICE.

EDWARD J. PIDGEON, OF NEWARK, NEW JERSEY.

GRAIN-SEPARATOR.

977,677.

Specification of Letters Patent.

Patented Dec. 6, 1910.

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To all whom it may concern:

Be it known that I, EDWARD J. PIDGEON, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Grain-Separators; 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, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to a separator and can be used for a number of purposes to separate material from dirt and chaff, and is primarily designed for sifting oats, and is also adapted to be fed from a bin and the oats passed by gravity through the separator and emerged clean from the separator, leaving the dirt in suitable receptacles which are provided adjacent to the screens and are provided with closures which, when open, permit the removal of the dirt.

The device primarily consists of a substantially vertical feed pipe with a regulating slide therein which feeds the oats to a casing having a pair of diverging screens through which the dirt falls, and on the top surface of which the oats descend, the oats being fed from the diverging screens onto a pair of converging screens which bring the oats to an outlet pipe in the bottom, the converging screens also being provided with the spaces underneath them for retaining the dirt that falls through the screen when the oats pass over.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a view of the front of the separator, half of the separator being shown in section. Fig. 2 is a vertical central section at right angles to the plane of Fig. 1 of the separator, and Fig. 3 is a top view of the separator.

The invention consists of a casing 10 which is preferably diamond-shaped and is provided on its top with a substantially vertical supply pipe 11. The supply pipe 11 has a gate or slide 12 arranged to slide transversely through it, the slide being fixed in the guide-ways 13 formed in the pipe 11, the pipe having a baffle plate 14 fixed at right angles to the movement of the slide, the baffle plate being pointed so as to shed

oats or material fed thereon, and the slide 12 has an opening 15 therein which rests under the baffle plate 14, when the slide is shut, and which slides to one side thereof to allow the material to pass down on one side of the baffle plate, the end of the gate uncovering the space on the other side of the baffle plate, the slide being shown in its closed position in Fig. 2, and shown in its open position in Fig. 3. The gate, on its outer end, is provided with brackets 16 to which is pivoted, as at 17, the lever 18, the upper end of the lever being pivoted at 19 to the standards 20, and having, on its lower end, the operating handle 21 by means of which the slide is opened and closed. Underneath the gate 12, and at the top of the casing 10, is a screen 22, preferably arched, which is of coarse mesh and serves to spread the oats or other material when they emerge from the feed pipe 11 into the casing 10.

Between the front wall 23 and the back wall 24 of the casing 10 are arranged a pair of screens 25 which are of finer mesh than the screen 22 and are arranged so that they diverge, and the oats pass down onto this screen and between the screen and the upper plate 26 on each side of the casing, the dirt dropping through the diverging screens 25 and being deposited into the chamber 27 formed by the inclined back plate 28 and the inner side plates 29. The front plate 23 has ways 30 thereon into which slides the door 31 which forms a closure for the chamber 27, and when the door 31 is opened the dirt can be removed. The door 31 can be arranged to open and shut in any other convenient manner besides the one illustrated. Between the inner side plates 29 and the outer side plates 32 are the converging screens 33 onto which the oats or other material are deposited from the screens 25, the screens extending from the top plates 26 down to the top edge of the outlet pipe 34 which projects from the casing 10 and partly inside, the screens 33, the outer side plates 32 and the outlet pipe 34 forming a pair of chambers 35 for the reception of dirt that falls through the screens 33. Suitable doors 36 form means for permitting or preventing access to the chambers 35 so that the dirt can be removed therefrom.

Having thus described my invention, what I claim is:—

1. A separator comprising a casing formed of a back plate and a front plate of ap-

proximately diamond-shape, top plates and
 outer side plates, downwardly diverging
 screens placed between the front and back
 plates and beneath the top plates, an out-
 5 let pipe passing through the bottom of the
 outer side plates, downwardly converging
 screens extending from the top plates to the
 top edge of the outlet pipe, inner side plates
 extending from the bottom of the diverging
 10 screens to the center of the casing above the
 outlet pipe, an inclined back plate forming,
 with the inner side plates and the front
 plate a chamber for the reception of the dirt
 from the diverging screens, and closures in
 15 the outer side plates to provide access to the
 chambers formed between the outer side
 plates and the converging screens.

2. A separator comprising a casing formed
 of a back plate and a front plate of ap-
 20 proximately diamond-shape, top plates and
 outer side plates, downwardly diverging
 screens placed between the front and back
 plates and beneath the top plates, an out-

let pipe passing through the bottom of the
 outer side plates, downwardly converging 25
 screens extending from the top plates to the
 top edge of the outlet pipe, inner side plates
 extending from the bottom of the diverging
 screens to the center of the casing above the
 outlet pipe, an inclined back plate forming, 30
 with the inner side plates and the front
 plate a chamber for the reception of the dirt
 from the diverging screens, closures in the
 outer side plates to provide access to the
 chambers formed between the outer side 35
 plates and the converging screens, a gate in
 the supply pipe, and means for operating
 the gate.

In testimony, that I claim the foregoing,
 I have hereunto set my hand this 29th day 40
 of January 1910.

EDWARD J. PIDGEON.

Witnesses:

WM. H. CAMFIELD,
 E. A. PELL.