

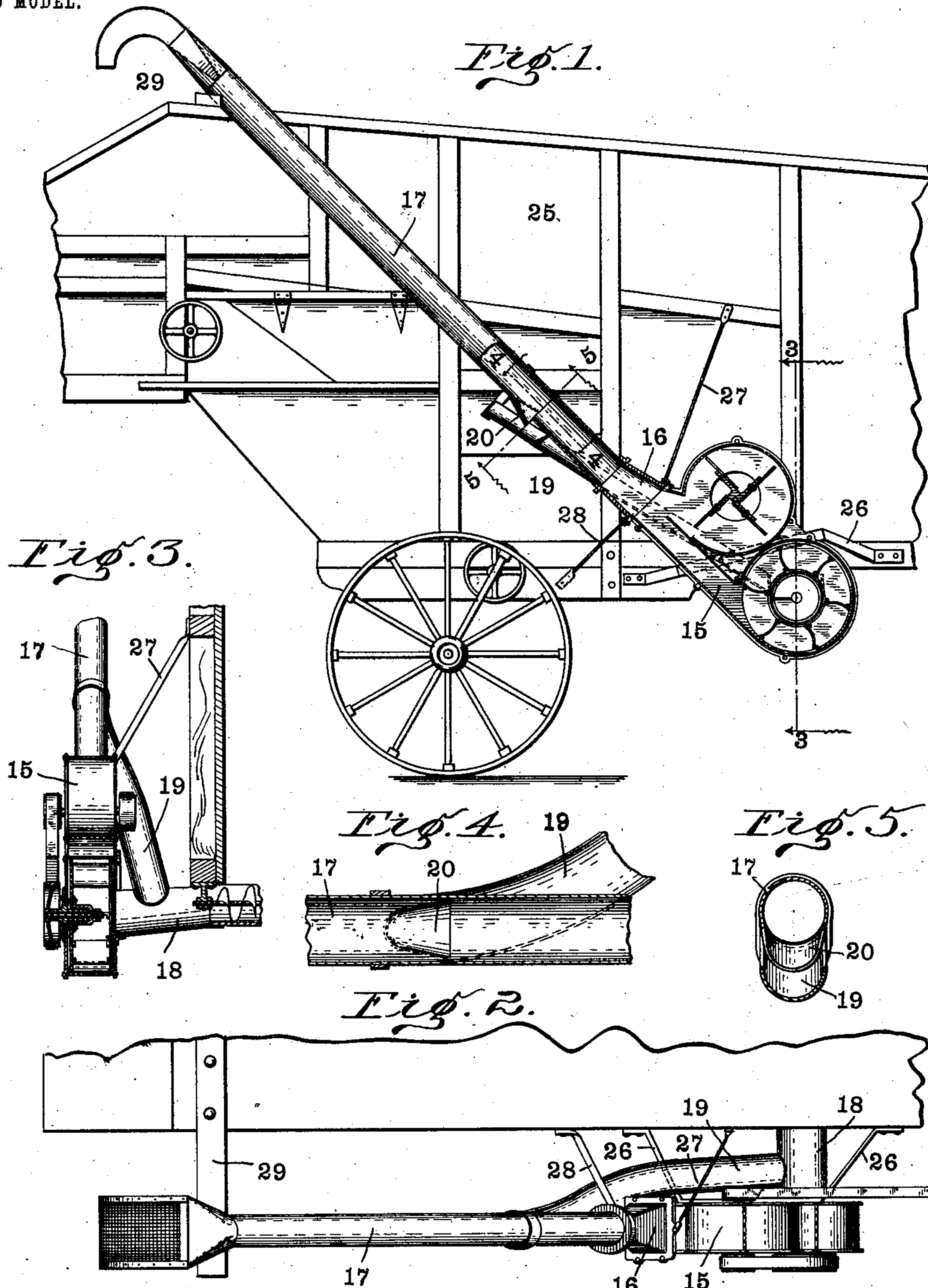
No. 756,207.

PATENTED APR. 5, 1904.

C. BRADFORD,
OVERFLOW VENT DEVICE FOR ELEVATORS.

APPLICATION FILED NOV. 14, 1902.

NO MODEL.



Witnesses
Frank A. Fahl
J. A. Walsh,

Inventor
By Chester Bradford,
Bradford & Hood,
Attorneys.

UNITED STATES PATENT OFFICE.

CHESTER BRADFORD, OF INDIANAPOLIS, INDIANA.

OVERFLOW-VENT DEVICE FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 756,207, dated April 5, 1904.

Application filed November 14, 1902. Serial No. 131,431. (No model.)

To all whom it may concern:

Be it known that I, CHESTER BRADFORD, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Overflow-Vent Devices for Elevators, of which the following is a specification.

My present invention relates to an apparatus whereby an accumulation of material in the boot of a pneumatic or centrifugal elevator may be avoided during the stopping and starting of the machine and any clogging of the throwing-wheel thus prevented, being an improvement upon such devices as are shown in the Patents No. 619,844, dated February 21, 1899, No. 620,270, dated February 28, 1899, and No. 620,854, dated March 7, 1899, issued upon said dates to the Pneumatic Elevator and Weigher Company. In the devices of the several patents in question the discharge or overflow of the material being elevated (under the circumstances and conditions most fully stated in said Patent No. 619,844) was onto the ground or into some outside and independent receptacle provided for the purpose. It is desirable to provide means for delivering this surplus or overflow back into the common mass, from whence it will be carried to the regular delivery-point without being spilled onto the ground or rehandled by independent means. In a case where the material being elevated is thrown upwardly at an angle instead of directly vertically, or, in other words, where the delivery-duct runs upwardly at an angle, I have devised means by which this can be accomplished, which means constitute my present invention.

Referring to the accompanying drawings, which are made a part hereof and on which similar reference characters indicate similar parts, Figure 1 is a view, partly in side elevation and partly in section, of a grain-elevator of the character in question mounted on a separator and provided with escape devices embodying my present invention; Fig. 2, a top or plan view thereof; Fig. 3, a transverse sectional view as seen when looking in the direction indicated by the arrows from the dotted line 3 3 in Fig. 1; Fig. 4, a detail sectional

view, on an enlarged scale, as seen when looking downwardly from the dotted line 4 4 in Fig. 1, showing the vent-opening and immediately adjacent part of the return-conductor in plan; and Fig. 5, a transverse sectional view of the main material-delivery pipe and return-conductor at the point indicated by the dotted line 5 5 in Fig. 1.

The boot or housing 15 may be of any appropriate or desired construction. I have shown one of similar form and construction to that shown and described in my Patent No. 703,983, dated July 8, 1902. It will be understood, however, that said boot or housing may be of any appropriate form and may have either both a throwing-wheel and a fan, as shown and as illustrated in said patent, or may have a throwing-wheel only or any other appropriate arrangement, my invention not being limited in this matter to any particular construction or arrangement. Said boot or housing, as above indicated, is set to deliver at an angle and the material-delivery pipe or duct 17 runs off from the neck 16 of said boot or housing at the predetermined angle to such delivery-point as is arranged for. The vent-opening heretofore provided in such boots or housing at a point just above the delivery-point of the throwing-wheel is in my present invention placed somewhat farther up in the neck or material-delivery duct, so that the discharge or overflow (when it takes place) shall be sufficiently above the material-inlet spout 18 to the housing to enable such discharged material to flow by means of a suitable conductor, as a spout 19, back into said material-inlet spout 18, ready to be elevated again when the machine attains its operative speed. For purposes of clearness of illustration I have shown the vent-opening somewhat farther up the main material-delivery pipe than it will generally be located in actual practice. Said vent is merely an opening cut in the under side of said main material-delivery pipe, and I have shown a spout-like lip 20 secured to the under side of said pipe over said vent-opening. In practice the material in being elevated will pass this vent-opening without interruption; but when the elevating force becomes insufficient such material as has been thrown into the

pipe will by its own gravity run out through said vent-opening into the return-conductor 19, and thus back to the regular material-inlet 18, as will be readily understood.

5 For purposes of illustration I have shown this elevator attached to the frame of a threshing-machine or separator 25, to which it is secured by means of suitable slings or braces 26, 27, and 28 and a rest bracket or bar 29.
10 These, however, as will be readily understood, are merely shown as indicating a convenient means of mounting the machine and are entirely immaterial so far as the invention is concerned.

15 Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in an elevator, of a boot or housing having appropriate material throw-

ing or elevating devices and a material-inlet, 20
a material-delivery tube leading upwardly therefrom at an angle, a vent-opening in said material-delivery tube at a point above the level of the material-inlet, and a conductor leading from the vent-opening back into the 25 material-inlet.

2. In an elevator, a main material-elevating pipe having a vent, and a return-conductor arranged to receive material from said vent and conduct it back to the main material-supply. 30

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 12th day of November, A. D. 1902.

CHESTER BRADFORD. [L. s.]

Witnesses:

JAMES A. WALSH,
FRANK A. FAHLE.