

1,176,064.

Fig. 5.

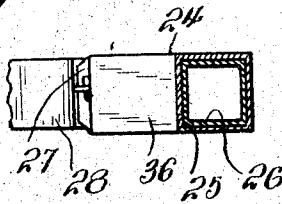


Fig. 1.

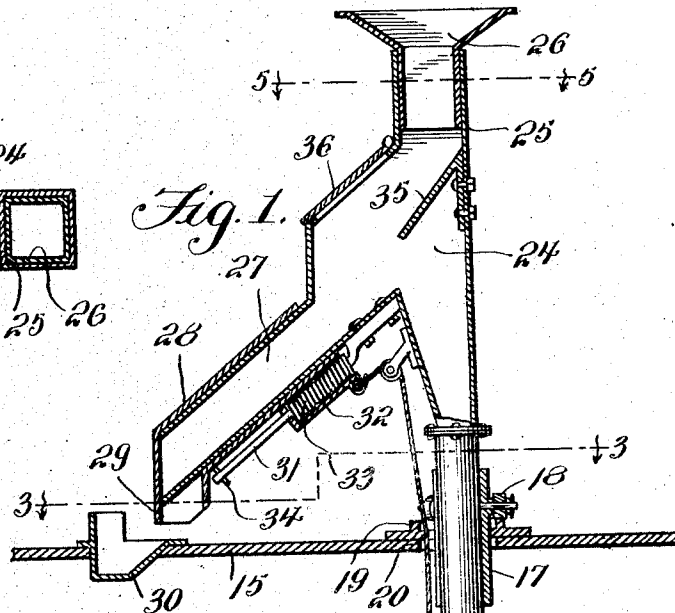
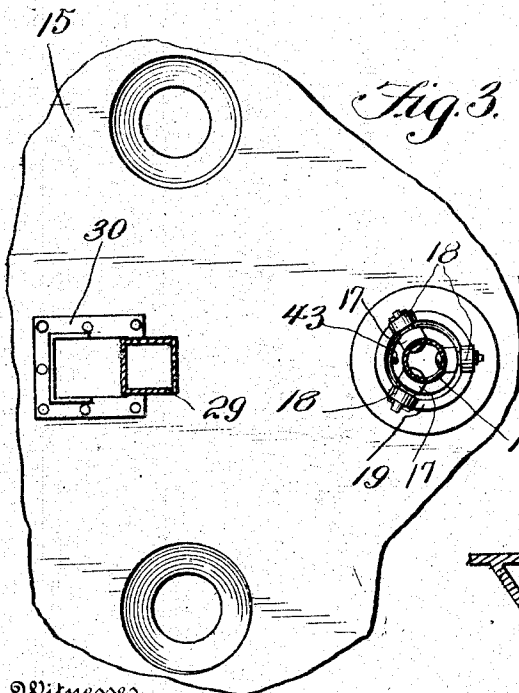


Fig. 3.



Witnesses

J. L. Wright
M. J. Bagge

By

T. H. Kavanagh

Victor J. Evans

Attorney

T. H. KAVANAGH.
DISTRIBUTING SPOUT.
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Patented Mar. 21, 1916.
2 SHEETS—SHEET 2.

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Fig. 4.

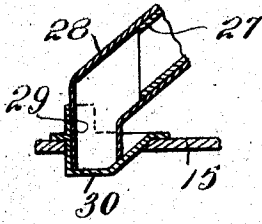


Fig. 2.

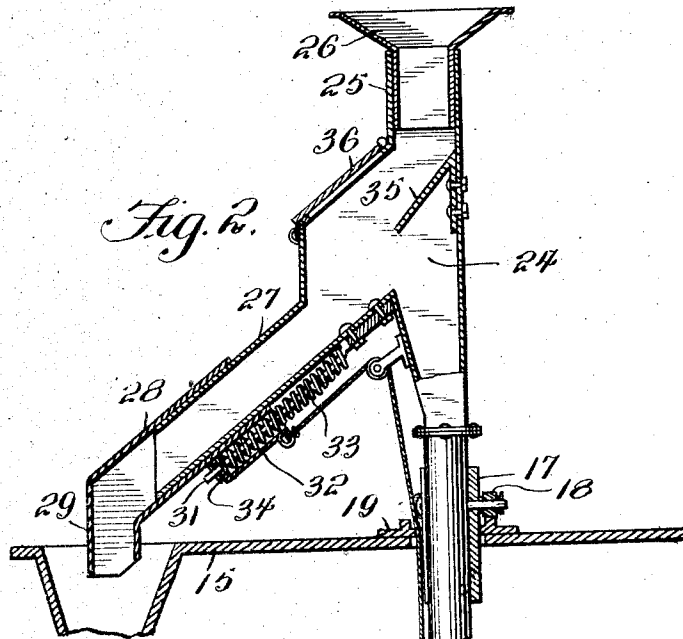
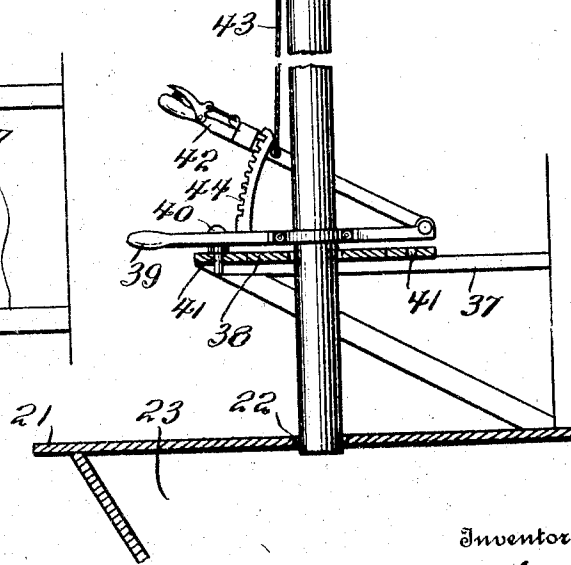
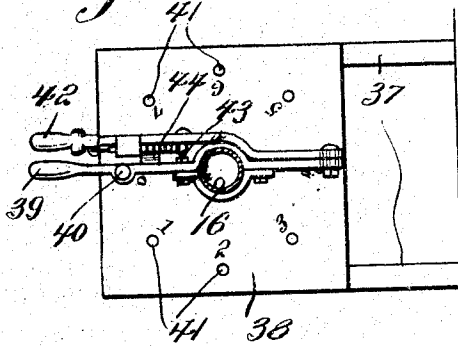


Fig. 6.



Witnesses

J. L. Wright
J. M. Bagger

By

Inventor
T. H. Kavanagh
Victor J. Evans
Attorney

UNITED STATES PATENT OFFICE.

THOMAS HENRY KAVANAGH, OF PONTEIX, SASKATCHEWAN, CANADA.

DISTRIBUTING-SPOUT.

1,176,064.

Specification of Letters Patent.

Patented mar. 21, 1916.

Application filed August 4, 1915. Serial No. 43,674.

To all whom it may concern:

Be it known that I, THOMAS H. KAVANAGH, a citizen of the United States, residing at Ponteix, in the Province of Saskatchewan and Dominion of Canada, have invented new and useful Improvements in Distributing-Spouts, of which the following is a specification.

This invention relates to distributing spouts for grain elevators.

One object of the invention is to produce a spout which may be readily adjusted and manipulated so as to discharge into variously located bins.

A further object of the invention is to produce a distributing spout whereby when the bin into which the flow is directed has been filled the overflow will be directed to the working floor of the elevator, thereby preventing choking.

A further object of the invention is to produce a construction of a distributing spout having a telescopic extension and means whereby the movement of the extension member may be limited.

A further object of the invention is to simplify and improve the general construction and arrangement of parts constituting the improved device.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modifications within the scope of the claims may be resorted to when desired.

In the drawings,—Figure 1 is a side elevation partly in section of the improved distributing spout illustrating the position of the parts when the spout is not in use. Fig. 2 is a similar view showing the spout arranged for operation. Fig. 3 is a sectional view taken on the line 3—3 in Fig. 1. Fig. 4 is a sectional detail view showing a portion of the discharge spout with its extension member in engagement with one of the pockets or recesses designed to prevent rotation of the main spout. Fig. 5 is a sec-

tional detail view taken on the line 5—5 in Fig. 1. Fig. 6 is a sectional detail view taken on the line 6—6 in Fig. 1.

Corresponding parts in the several figures are denoted by like characters of reference.

15 designates the cupola floor of a grain elevator through which the main body 16 of the distributing spout extends, said spout being mounted for rotation about its vertical longitudinal axis, the spout being provided with a sleeve 17 equipped with anti-friction members, such as rollers 18, traveling on a circular track 19 which surrounds the opening 20 in the cupola floor through which the spout extends. The lower end of the spout extends to the working floor 21 of the elevator and discharges through an opening 22 into the pit 23 located below.

Above the cupola floor the diameter of the spout increases, and it terminates in a chamber or housing 24 having an upwardly extending collar 25 which surrounds the feed funnel 26 on which said collar is capable of telescoping. The feed funnel receives the grain that is being elevated to the distributing spout, but the elevating means have not been shown as it forms no part of the present invention.

The chamber or housing 24 is provided with a divergent discharge branch 27 which extends radially with respect to the main body of the spout and which is downwardly inclined, as shown. The discharge branch or duct 27 is provided with a telescoping extension 28 having a downwardly directed discharge nozzle 29 which is so shaped or constructed that when the extension member 28 is retracted or drawn upward on the discharge branch 27, the wall of said nozzle will obstruct the lower end of the branch 27, preventing the discharge of material there-through. When the extension member 28 is projected, the nozzle 29 is capable of engaging or entering into a recess 30 in the cupola floor, thereby preventing the rotation of the main body of the spout about its axis, or in other words locking the device in inoperative position.

31 is a guide rod which is fixed to the underside of the housing 24 and which extends through a tubular sleeve 32 connected with the underside of the extension member 28, said sleeve serving to accommodate a spring 33 which is coiled about the guide rod and which serves to project the extension member. The guide rod is provided with a

key or pin 34 abutting on the end of the sleeve 32, thereby limiting the extent to which the member 28 may be projected by the action of the spring 33.

5 Arranged within the housing 24 below the feed funnel 26 is a deflector 35, whereby grain passing through the funnel is deflected in the direction of the branch 27 through which it is vertically discharged. 10 The interior of the housing is accessible through a door 36.

In the lower part of the grain elevator, above the working floor, is arranged a bracket 37 through which the main body of the feed spout is guided, said bracket supporting a dial or indicator 38 having numbers or other indicia to indicate the location of the various bins into which grain may be discharged. Clamped upon the body of the spout is an arm 39 having a lock pin 40 20 which may engage any one of a plurality of apertures 41 in the dial for the purpose of retaining the distributing spout securely in its desired adjusted position. Pivotally connected with the arm 39 is a hand lever 42, said lever being connected by a suitably guided flexible element, such as a cord or cable 43, with the extension member 28, which latter may thus be retracted against the tension of the spring 33, the lever 42 being capable of being retained in adjusted position by means of a ratchet bar 44 or some equivalent locking device. 30

In the operation of this invention grain that is elevated from the pit or from any source of supply, and delivered into the feed funnel 26 will be discharged over the deflector 35 into the branch 27 and thence through the extension member 28 and nozzle 29, the spout having previously been rotated about its axis by means of the arm 39 so as to dispose the nozzle to discharge into the desired bin of the elevator. When the bin is full to overflowing, the stream coming from the source of supply will pass beneath the lower edge of the deflector 35 and into the main body of the spout, being thereby conducted to the pit and thus preventing choking in the device. By manipulating the lever 39 the extension member 28 may be retracted 50 against the tension of the spring 33 until the wall of the nozzle 29 obstructs the discharge end of the branch 27. In this position the nozzle is raised above the cupola floor, thus enabling the spout to be rotated about its axis until the discharge nozzle is in alignment with another bin, when by manipulating the lever 39, the extension member 28 may again be lowered or projected, this operation being assisted by the spring 33, until the discharge end of the branch 27 is uncovered, when the grain will again flow through the discharge spout or branch. 60

As will be seen from the foregoing description, I have provided an extremely sim-

ple and convenient distributing spout which is capable of being readily installed in a grain elevator of conventional construction at small expense and which will greatly facilitate the handling of grain and avoid delays caused by choking of the device. If any obstructions should lodge in the upper part of the spout or in the housing 24, such obstructions will be readily accessible through the door 36. The collar 25 at the upper end of the main spout which telescopes on the feed funnel will serve to prevent the spout from being disconnected from the feed funnel in case of uneven settling of the elevator structure. 70 75 80

Having thus described the invention, what is claimed as new, is:—

1. In a distributing spout for elevators, a vertically disposed main body supported for rotation about its axis, said body being expanded to form a housing at its upper end, a feed funnel arranged to discharge into the housing, a discharge branch extending from the housing, a deflector arranged in the path of material fed into the housing and directed toward the discharge spout, and means for obstructing the delivery end of the discharge spout, said means consisting of an extension member telescoping on the discharge spout and having a discharge nozzle, and means for adjusting the extension member to place the wall of the discharge nozzle in obstructing position with respect to the discharge spout. 85 90 95

2. In a distributing spout for grain elevators, a vertically disposed main body supported for rotation about its axis and terminating at its upper end in a housing, a feed funnel discharging into said housing, a discharge branch extending from the housing, a deflector within the housing located in the path of incoming material and directed toward the discharge branch, an extension member telescoping on the latter and having a nozzle, the wall of which is adapted to obstruct passage of material therethrough, spring means for projecting said extension member, and means for retracting the extension member against the tension of the spring. 100 105 110 115

3. In a distributing spout for grain elevators, a main body supported for rotation and having at its upper end a housing provided with a discharge branch, a spring projected extension telescoping on the discharge branch and having a nozzle, the wall of which is adapted to obstruct the delivery end thereof, an arm clamped on the main body, a lever fulcrumed on said arm, and a suitably guided flexible element connecting said lever with the spring projected extension to retract the latter against the tension of the spring. 120 125

4. In a device of the class described, the combination with suitable supporting means 130

including a cupola floor having a recess, of
a vertically disposed main spout supported
for rotation about its axis and terminating
in a housing at its upper end, a discharge
5 branch extending from said housing, an ex-
tension member telescoping on the discharge
branch and having a discharge nozzle, the
wall of which is adapted to obstruct the out-
let of the discharge branch, and means for
10 retracting and projecting the extension

member, the nozzle of said extension mem-
ber being adapted to engage the recess in
the cupola floor, thereby obstructing rota-
tion of the main spout about its axis.

In testimony whereof I affix my signature 15
in presence of two witnesses.

THOMAS HENRY KAVANAGH.

Witnesses:

WILFRED T. MANWARING,
RENE KAVANAGH.