No. 716,087. Patented Dec. 16, 1902.

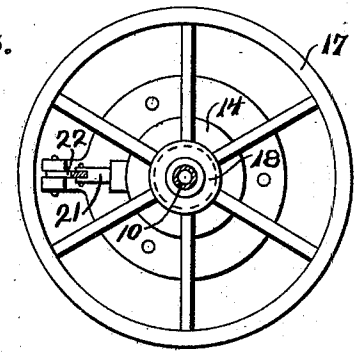
P. NICOLAY.

MEANS FOR SUPPORTING AND OPERATING DISTRIBUTING SPOUTS.

(Application filed July 20, 1901.)

(No Model.)

Fig. 3.



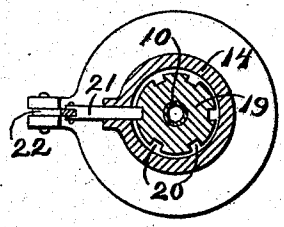
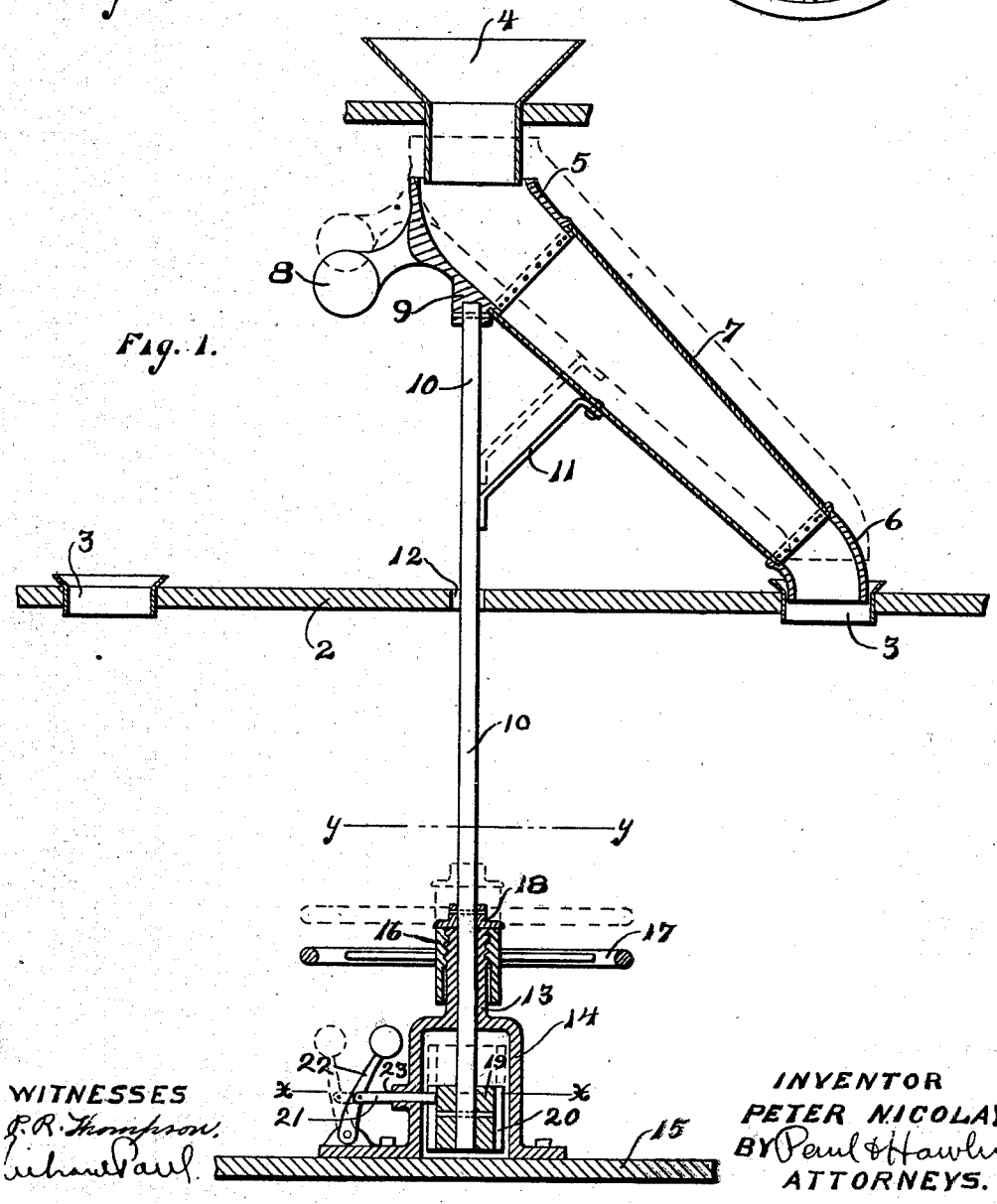


Fig. 2.

Fig. 1.



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UNITED STATES PATENT OFFICE.

PETER NICOLAY, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF TO PETER W. CORNELIUS, OF MINNEAPOLIS, MINNESOTA.

MEANS FOR SUPPORTING AND OPERATING DISTRIBUTING-SPOUTS.

SPECIFICATION forming part of Letters Patent No. 716,087, dated December 16, 1902.

Application filed July 20, 1901. Serial No. 69,022. (No model.)

To all whom it may concern:

Be it known that I, PETER NICOLAY, of Minneapolis, county of Hennepin, and State of Minnesota, have invented certain new and useful Improvements in Means for Supporting and Operating Distributing-Spouts, of which the following is a specification.

The invention relates to distributing-spouts, and particularly those employed for distributing grain from a scale-hopper or elevator-leg to any one of a series of bins.

The object of the invention is to provide means whereby an attendant on the machinery or working floor of an elevator can easily and quickly raise the spout out of a bin-opening, swing it around, and drop it into any other bin-opening through which it is desired to discharge the grain, all without ascending to the floor where the spout is located.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in a swiveled distributing-spout adapted to conduct the grain from the scale to any one of a series of bin-openings, and means for raising the spout and its support and swinging them from one bin-opening to another.

Further, the invention consists in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical section of a grain-spout and the mechanism for operating the same. Fig. 2 is a sectional view on the line x x of Fig. 1. Fig. 3 is a similar view on the line y y of Fig. 1.

In the drawings, 2 represents the distributing-floor of an elevator, and 3 the openings provided in said floor, leading to the different grain-bins.

4 is a hopper whose depending lower end telescopes with an elbow 5, preferably a casting, which forms the upper portion of the spout.

6 is an elbow, also of casting, whose lower end is adapted to fit within any one of the bin-openings and whose opposite end is connected with the lower end of the elbow 5 by a sheet-metal spout 7. The ends of this spout are preferably riveted to the castings, and when the bottom of the spout becomes worn through the action of the flowing grain the rivets may be removed and the spout rotated to present a new surface to the action of the grain. The casting 5 is preferably provided with a counterweight 8 and with a boss 9, having a socket to receive the upper end of a rotating standard 10. A brace 11 is preferably provided between said standard and the middle portion of the spout. By means of the counterweight the spout is substantially balanced on said standard, permitting a comparatively small standard to be used and causing considerably less friction in its operation. The standard extends down through a hole 12 in the distributing-floor and through a hollow stud 13, provided on a housing 14, that is secured by bolts or other suitable means to the working floor 15. The upper end of the stud 13 is threaded to engage the interiorly-threaded portion of a hub 16 of a wheel 17. This hub is adapted to travel up and down on said stud and its upper end engages a collar 18, secured on the standard 10. By revolving the wheel in one direction the hub will move upward and, engaging said collar, will elevate the standard and the spout supported thereon until the lower end of the spout has been lifted out of the bin-opening within which it may be inserted. The interior surface of the lower portion of the hub is smooth, so that when it has been raised clear of the threads the wheel and standard may be revolved until the spout has been swung over another bin-opening. To prevent the spout from swinging horizontally while it is being raised or lowered, I provide a block 19 within a housing 14 and secured on the lower end of said standard. This block is provided with a series of vertical grooves 20, corresponding in number to the bin-openings. I also provide a pin 21, that is pivotally connected with a lever 22, that is pivoted at its lower end on the base of the housing. The pin 21 projects through a hole 23 in the wall of the housing and is slidable lengthwise therein. When it is desired to raise the spout, the operator by the movement of the lever 22 projects the pin into one of the grooves 20. Then by revolving the wheel

the spout and standard may be raised to the position indicated by dotted lines in Fig. 1. During this movement of the spout and standard the pin 21, in connection with the groove, acts as a guide to prevent horizontal movement of the spout until it has been raised to the desired height. As soon as the spout is clear of the bin-opening the operator, kicking or pushing the lever 22, may withdraw the pin from engagement with its groove, when the standard and spout may be swung from one bin-opening to another. By means of a suitable indicator and dial (not shown) the operator can easily determine the location of each bin-opening and be able to swing the spout the proper distance each time it is desired to shift it from one bin to another. The spout being balanced on the standard, there will be no lateral strain on the standard, and the pressure of the standard and spout on the upper end of the hub will cause sufficient friction to enable the operator to swing the spout from one bin to another without the necessity of fastening the wheel on the standard each time the hub is raised clear of the threads.

Obviously there may be various modifications made in the details of this device, such as in the manner of locking the standard against rotation while being raised and determining the location of the bin-opening into which it is desired to drop the spout, the essential feature of the invention being the means for raising the entire spout vertically a certain predetermined distance sufficient to clear the bin-opening with which it may be in engagement and also swinging the spout to the next or the desired opening.

I claim as my invention—

1. The combination, with a swiveled distributing-spout, of a standard whereon the same is supported, and a screw mechanism for raising said spout and standard.

2. The combination, with a swiveled distributing-spout, of a standard whereon the same is supported, a stationary exteriorly-threaded stud wherein said standard is vertically slidable, an interiorly-threaded hub provided on said stud, a stop provided on said standard to be engaged by said hub, and means for guiding said spout, substantially as described.

3. The combination, with a swiveled distributing-spout, and a standard whereon said spout is supported, of a threaded stud wherein said standard has a vertical and rotating movement, a wheel having an interiorly-threaded hub engaging the threads of said stud, and a stop provided on said standard above said stud and hub, substantially as described.

4. The combination, of a distributing-spout and a rotating and vertically-movable standard whereon said spout is supported, a threaded stud forming a bearing for said standard, a stop provided on said standard above said stud, and a wheel having a portion of its hub interiorly threaded to engage the threads of said stud, the interior surface of the lower portion of said hub being smooth, for the purpose specified.

5. The combination, with a distributing-spout and a standard whereon the same is supported, of means for raising said spout and rotating the same, a housing, a block provided therein on said standard and having a series of vertical grooves, and a combined guide and stop adapted to enter said grooves, substantially as described.

6. The combination, of a swiveled distributing-spout and a standard whereon the same is supported, a distributing-floor having a series of bin-openings adapted to receive said spout, means for raising said spout and standard to lift the former out of the bin-opening, and to swing the same over another bin, a block provided on said standard having a series of vertical grooves corresponding in number to said bin-openings, and a pin adapted to enter said grooves and act as a guide for said spout and standard during their vertical movement, substantially as described.

7. The combination, with a swiveled distributing-spout, of a vertically-movable standard supporting said spout and provided with a suitable stop, a fixed exteriorly-threaded stud wherein said standard is vertically movable, and an interiorly-threaded hub provided on said stud and adapted to engage said stop.

8. The combination, with a swiveled distributing-spout, of a vertically-movable standard supporting said spout, an exteriorly-threaded stud wherein said standard is vertically movable, and an interiorly-threaded hub mounted on said stud and adapted to engage said standard to elevate the same.

9. The combination, with a swiveled distributing-spout, of a vertically-movable standard whereon said spout is supported, an exteriorly-threaded stud wherein said standard is vertically movable, an interiorly-threaded hub provided on said stud and adapted to engage and elevate said standard, and means for guiding said standard in its vertical movement.

10. The combination, with a swiveled distributing-spout, of a revolving vertically-movable standard supporting the same, a fixed threaded member whereon said standard is movable, and a movable threaded member adapted to engage the threads of said fixed member and also to engage said standard to elevate the same.

In witness whereof I have hereunto set my hand this 15th day of July, 1901.

PETER NICOLAY.

In presence of—

RICHARD PAUL,

M. C. NOONAN.