

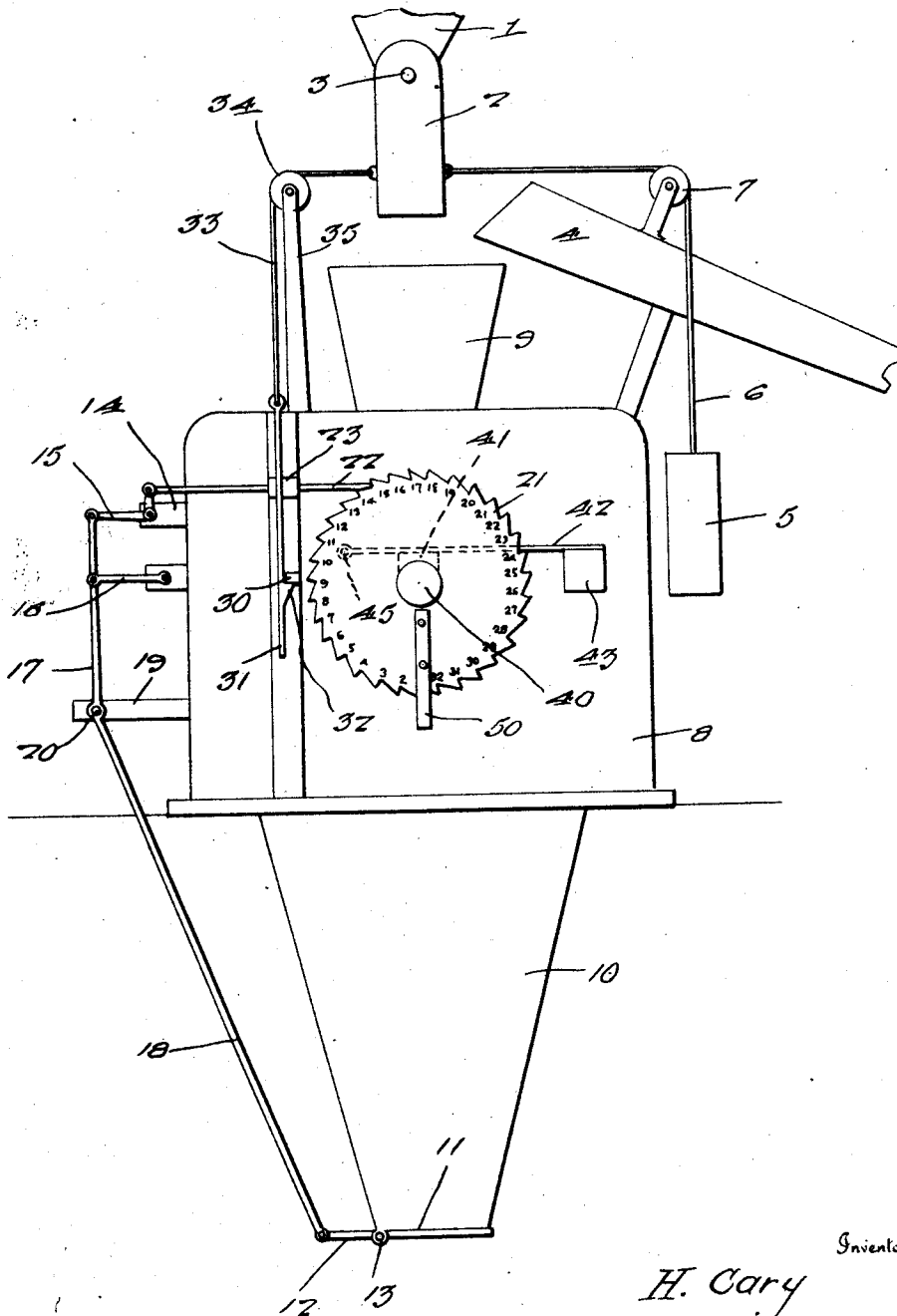
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AUTOMATIC SCALE STOP

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AUTOMATIC SCALE STOP.

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My present invention pertains to automatic grain scales, and contemplates the provision in conjunction with such a scale, of means whereby after a certain predetermined number of drafts of grain have been weighed the supply of grain will be automatically cut off from the scale, the grain subsequent to the action of the cut off means being conveyed back to the supply bin or to any other desired point.

In accordance with my invention the scale may be stopped after various predetermined runs of grain have been made, and by virtue of the stop mechanism the operator after setting the mechanism for the desired amount or run of grain may enter a railroad car and shift the grain therein until the stoppage of the supply of grain takes place.

Other objects and practical advantages of the invention will be fully understood from the following description and claims when the same are read in connection with the drawing, accompanying and forming part of this specification, in which:—

The figure is a view in side elevation illustrating the best practical embodiment of my invention that I have as yet devised.

I show in the drawing a conduit 1 adapted to lead grain from any appropriate source of supply, and I also show a shiftable spout 2, hingedly connected at 3 to the said conduit 1 and adapted to be moved from the position illustrated to an inclined position at the right for the discharge in the latter position of grain to a chute or conduit 4 which may lead the grain back to the bin from whence it was taken or may lead the grain to any other desired point. When the said spout 2 is rendered free and susceptible of movement toward the right for the purpose described, the movement is effected by the gravitation of a weight 5 connected to a cable 6 which is passed over a fixedly mounted sheave 7 and is connected as shown to one side of the spout 2.

At 8 is the casing of a well known type of automatic grain weighing means, and at the upper end of the said casing is a hopper 9 designed to receive grain from the spout 2 when the latter is in the position illustrated and supply the grain to the weighing mechanism which is not of my invention and is therefore not illustrated. After being weighed in the casing 8 the grain is discharged to a pendent hopper 10 at the lower end of which is a valve 11 in fixed relation

to an arm 12, the said valve 11 being pivotally connected to the hopper 10 at the points 13.

Located at one side of the casing 8 are the conventional tallies 14 of the scales or weighing mechanism, the said tallies being carried by the usual element, and the tallies being connected together through the medium of a bell crank lever 15, are complementary to one tally, a lever 16 complementary to the other tally, a link 17 pivotally connected to the levers 15 and 16 and an appropriate connection 18 between the link 17 and the before mentioned arm 12 of the valve 11. At this point I would have it understood that the connection 18 may be of the construction described or of any other construction compatible with the purpose of my invention, the province of the said connection which is attached to the scale beam 19 at the point 20 being to move a wheel 21 through a part of a revolution when the valve 11 gravitates or is moved downwardly, the said wheel 21 being moved as stated by the direct engagement with the wheel of a rectilinearly movable rod 22, guided at 23 and connected at its outer end to one arm of the bell crank 15. It will be understood in this connection that each dumping operation of the scale will move the wheel 21 the distance of one tooth or notch. It will also be understood in this connection that a portion of the connection 18 before referred to serves to transmit motion to and open the valve 11 incident to each dumping operation of the scale.

At 30 is a keeper or abutment on the frame of the apparatus, and at 31 is a latch having a beveled head 32 for cooperation with said keeper 30 and also having connection through a cable 33 with the opposite side of the spout 2 with reference to the connection of the cable 6, the said cable 33 being carried over a sheave 34 on a fixed standard 35.

Appropriately mounted on the casing 8 is the before mentioned wheel 21, the said wheel 21 being provided with an appropriate hub 40 of about the proportional diameter illustrated, and the said hub 40 being adapted to be engaged at a point back of the wheel 21 by a brake shoe 41, carried by a lever 42 on which is a weight 43, the province of the said weighted lever 42 being to prevent by frictional contact too free movement or rotation step by step of the wheel

21. The lever 42 is fulcrumed at 45 at a point back of the wheel 21 as illustrated. It will also be noticed that the wheel 21 is provided on its face and at points adjacent to its perimeter with numbers arranged in a circular series and in regular sequence, one number for its tooth. Carried by the wheel 21 and fixed thereto and extending radially therefrom is a tappet 50, designed to cooperate with the before mentioned member 31.

With the understanding that the tappet 50 is coincident with the number one tooth of the wheel 21, the operation of my improvement will be fully understood when it is stated that the wheel 21 is first set for the predetermined number of rafts to constitute a desired run. With this done the grain is permitted to move through the conduit 1 and into the scale, and the scale automatically weighs the grain and dumps it, and the scale movement is transmitted to the tally means and from the same to the wheel 21. Each dumping operation of the scale will be attended by movement of the wheel 21 the distance of one tooth or notch, and when the tappet 50 engages the latch or member 31 and presses the same laterally out of engagement with the keeper 30, the gravitation of the weight 5 will operate to swing the spout 2 from the position over the hopper 9 to a position for discharge into the chute or conduit 4 at which time the apparatus will be stopped and will be left in readiness for another operation in the discretion of the operator.

Notwithstanding the practical advantages ascribed to my improvement, it will be readily noted that the improvement is simple and inexpensive, and is adapted not only to be incorporated in automatic grain weighing apparatus when the same is manufactured, but is also adapted to be expeditiously and easily applied to automatic grain weighing apparatus extant.

The construction herein illustrated and described constitutes the best practical embodiment of my invention of which I am cognizant. I do not desire, however, to be understood as confining myself to the construction and relative arrangement of the parts as disclosed, my invention being defined by my appended claims within the scope of which structural changes and changes in arrangement may be made without departure from my invention.

Having described my invention, what I claim and desire to secure by Letters-Patent, is:—

1. The combination with automatic grain weighing means, of a movable spout adapted in one position to deliver grain to said weighing means, means for moving said spout from said position, means for detachably holding said spout against said movement, and means operable step by step by

dumping operations of the weighing means and arranged after a predetermined number of dumping operations to release said spout.

2. The combination with automatic grain weighing means, of a movable spout adapted in one position to deliver grain to said weighing means, means for moving said spout from said position, means for detachably holding said spout against said movement, and means operable step by step by dumping operations of the weighing means and arranged after a predetermined number of dumping operations to release said spout; the said spout holding means comprising a keeper and a latch adapted to be moved out of engagement with said keeper, and the means for releasing the spout comprising a toothed wheel bearing numbers, said wheel rotatable step by step by dumping operations, and a tappet carried by and movable with said wheel for engaging the latch and disengaging the same from its keeper.

3. The combination with automatic grain weighing means, of a movable spout adapted in one position to deliver grain to said weighing means, means for moving said spout from said position, means for detachably holding said spout against said movement, and means operable step by step by dumping operations of the weighing means and arranged after a predetermined number of dumping operations to release said spout; the said spout holding means comprising a keeper and a latch adapted to be moved out of engagement with said keeper, and the means for releasing the spout comprising a toothed wheel bearing members, said wheel rotatable step by step by dumping operations, and a tappet carried by and movable with said wheel for engaging the latch and disengaging the same from its keeper, the said toothed wheel having a hub, and a gravitational brake shoe engaging said hub to prevent too free rotation of the wheel.

4. The combination with automatic grain weighing means, of a movable spout adapted in one position to deliver grain to said weighing means, a sheave mounted at one side of said spout, a cable connected to the spout and carried over said sheave and provided with a weight, conducting means arranged to receive grain from the spout when the same is moved by the gravitation of said weight, an appropriately guided latch having a beveled head, a cable passed over a sheave and interposed between and connecting said latch and the said spout, and means for disengaging the said latch from its keeper and permitting movement of the said spout under the action of the weight, said means operable step by step by dumping operation of the weighing means.

5. The combination with automatic grain weighing means, of a movable spout, gravitational means for moving said spout in one direction, grain conducting means arranged to receive grain from the spout when the latter is so moved, a latch, a keeper therefor, a connection between the latch and the spout whereby when the latch is engaged with its keeper the spout will be held against movement, and means operable step by step by dumping operation of the weighing means, the said step by step means comprising a toothed wheel bearing numbers, a detent or rod for moving said wheel step by step, said rod in connection with the weighing means, and a tappet carried by the wheel and arranged after a predetermined number of dumping operations to disengage the latch from its keeper and release the spout. In testimony whereof I affix my signature.

HAROLD CARY.