

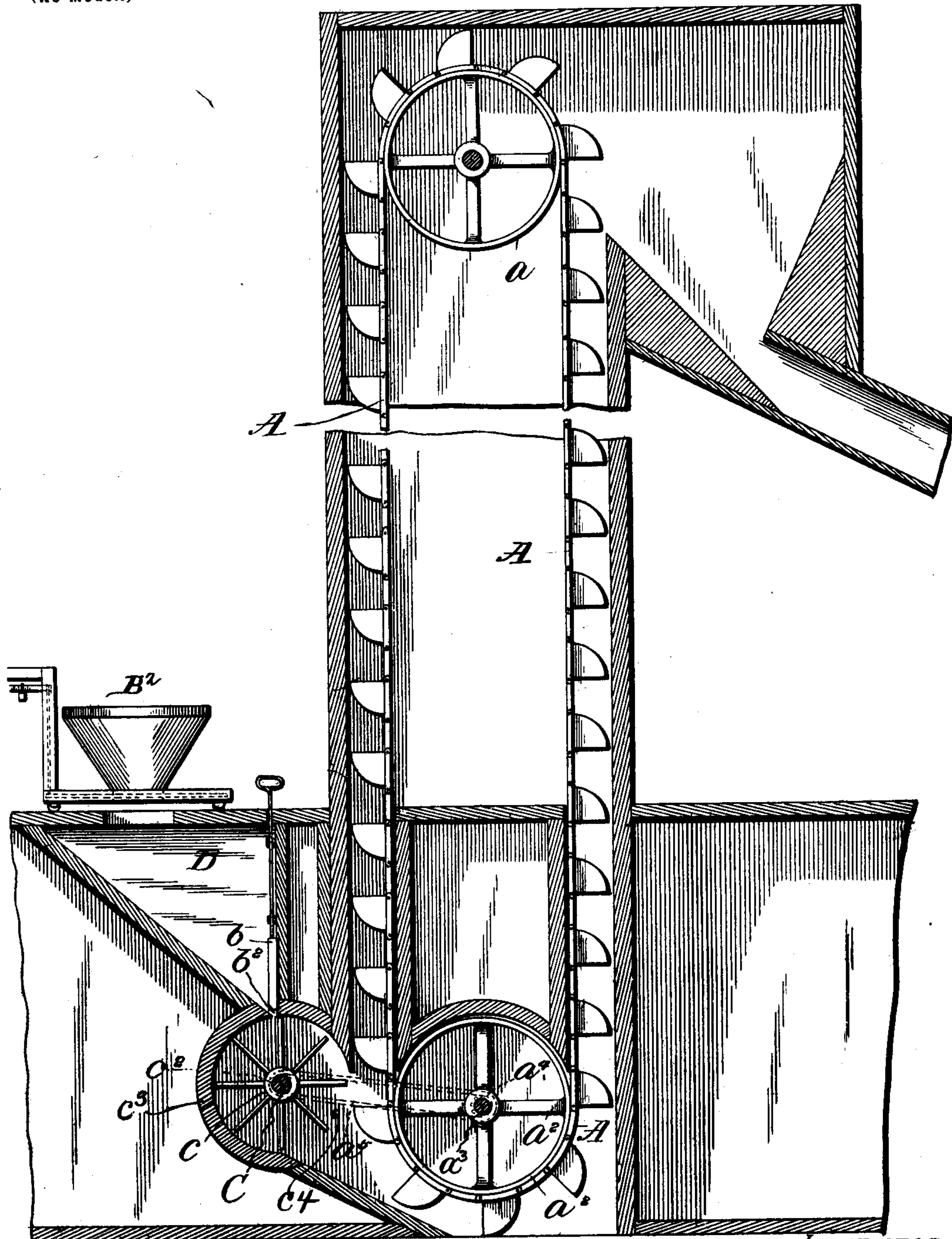
No. 675,815.

Patented June 4, 1901.

J. CLARKE.
GRAIN CONVEYER.

(Application filed Sept. 14, 1900.)

(No Model.)



INVENTOR:

WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN CLARKE, OF ORANGEVILLE, CANADA.

GRAIN-CONVEYER.

SPECIFICATION forming part of Letters Patent No. 675,815, dated June 4, 1901.

Application filed September 14, 1900. Serial No. 30,082. (No model.)

To all whom it may concern:

Be it known that I, JOHN CLARKE, a subject of the Queen of Great Britain, residing at Orangeville, in the county of Dufferin, Province of Ontario, Canada, have invented certain new and useful Improvements in Grain-Conveyers; 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.

The object is in a simple, thoroughly practical, and efficient manner to obviate any liability of clogging or jamming of grain in the boot or foot of a grain-elevator.

In grain-elevators as commonly constructed the presence of an attendant is necessary at all times when the machine is running, for the reason that should the elevator stop, as from the breakage of the driving-belt or of such belt running off the pulley, the grain will continue to feed to the boot, thereby causing it to become clogged and requiring the operator to remove such accumulation of grain before the conveyer can again start.

In the device presented in this invention the above objection is in a simple and sure manner obviated without the addition to the conveyer of expensive, cumbersome, or intricate mechanism.

Generally stated, the invention consists in combining with the lower or drive wheel of a conveyer a feed-controlling device, consisting of a bladed or compartment wheel driven directly from the drive-wheel, as by a sprocket-chain or by a belt. The feed-wheel will receive the supply of grain from the scale or the hopper and discharge the same to the buckets of the conveyer in quantities or charges corresponding to the capacity of the said buckets. The feed-wheel being driven directly from the drive-wheel of the conveyer, it follows that should the driving mechanism break or become deranged from any cause the feed-controlling wheel will instantly stop operating, thereby cutting off the supply of grain to the conveyer until the damage has been repaired. The blades of the feed-wheel are of such length as to bring their outer edges into as close proximity to the upper edges of the conveyer-buckets as possible without touching when the said buckets are

in their closest approach to the feed-wheel. By this arrangement no space is left between the feed-wheel and conveyer-buckets through which grain may escape to a point below the conveyer. Furthermore, the shaft of the feed-wheel is arranged above the horizontal plane of that of the lower conveyer-drum, and in consequence when a compartment of the feed-wheel is rotated into position to discharge its contents into a conveyer-bucket the blade of the said feed-wheel, constituting the lower side of the compartment, will be inclined toward the receiving-bucket, thereby facilitating the transfer of grain into the bucket. A shut-off or gate may be combined with the feed-hopper to regulate the feed of grain to the feed-wheel or to cut off the feed entirely.

Further and more specific details of construction will hereinafter be fully set forth.

In the accompanying drawing, forming a part of this specification, and in which like letters of reference indicate corresponding parts, I have illustrated a form of embodiment of my invention, it being understood that other forms of embodiment thereof may be employed without departing from the spirit of the invention, and in the drawing the figure is a view in elevation, partly in section, exhibiting so much of a grain-elevator as is necessary for a clear understanding of my invention.

Referring to the drawing, A designates an ordinary endless bucketed conveyer, and a and a^2 the drums around which the conveyer passes, as usual. Located adjacent to the conveyer is the chute or hopper B, the platform of which may or may not be provided with weighing mechanism B^2 , a cut-off b being provided for the purpose of closing the discharge-mouth b^2 of the chute. Mounted on a shaft C, arranged parallel with the discharge-mouth b^2 , is a wheel c , provided with blades forming compartments or pockets, the wheel receiving motion from the shaft a^3 of the drum a^2 , in this instance through the medium of sprocket-wheels a^4 and c^2 and a sprocket-chain a^5 , the said wheels and chain to be by preference on the outside of the chute, thus to be free from dust and grain. It will be obvious that instead of employing sprocket-wheels and a sprocket-chain for the purpose

the wheel *c* may be driven by a belt and pulleys, and as this arrangement is obvious illustration is deemed unnecessary. The compartments or pockets of the wheel *c* are by
 5 preference of a size to hold a charge of grain equal to the capacity of the buckets of the conveyer, so that in operation there will be practically no waste of grain or any danger of clogging the boot of the conveyer. In order,
 10 further, to prevent the escape of grain to the boot, the wheel *c* is housed in an approximately semicylindrical casing *c*³, joining with and opening into the hopper *B* at the discharge-mouth *b*². From the discharge-mouth
 15 *b*² forward to a point approximately in horizontal line with the shaft *C* the wall of the casing closely covers the said wheel, and from the said mouth rearward to a point in approximately vertical line with the shaft *C* the
 20 wall of the casing also closely covers the said wheel, the space between the two terminals of the walls of the casing presenting an escape-mouth *c*⁴, through which the grain from the compartments of the wheel is discharged
 25 into the buckets of the conveyer.

The operation of the apparatus will be obvious. It will be seen that the feed of grain to the conveyer is controlled by the wheel *c* and that the operation of the wheel is dependent upon the conveyer, so that so long
 30 as all of the parts of the device are in proper working order there will be a steady feed of grain to the conveyer; but should the conveyer be rendered inoperative, as by the
 35 driving-belt (not shown) breaking or slipping from the driving-pulley, the feed-wheel *c* will instantly stop, and thereby cut off the feed

of grain to the conveyer and at the same time prevent escape of grain to the boot.

It is to be understood that I do not intend
 40 to limit the invention to the precise arrangement of and proportion of parts of the apparatus herein shown, as the same may be varied without departing from the spirit of the invention.
 45

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

The combination with a conveyer and its upper and lower supporting-drums and a
 50 chute, of a bladed feed-wheel arranged below the chute adjacent to the conveyer, the shaft of the feed-wheel being above the horizontal plane of the shaft of the lower conveyer-drum, the feed-wheel being housed in a casing
 55 having a mouth, through which the grain from the wheel is discharged to the conveyer, the feed-wheel being driven by the conveyer and the blades of the said wheel being of such length as to bring their edges into close proximity
 60 to the conveyer-buckets, when the latter are in their closest approach to the feed-wheel, thereby forming practically a closed space between the compartment of the feed-wheel being emptied and a conveyer-bucket
 65 during the transferring operation, substantially as described.

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

JOHN CLARKE.

Witnesses:

THOS. STEVENSON,
 ELGIN MYERS.