

No. 682,224.

Patented Sept. 10, 1901.

W. L. NICHOLSON.
PORTABLE ELEVATOR.

(Application filed Mar. 2, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

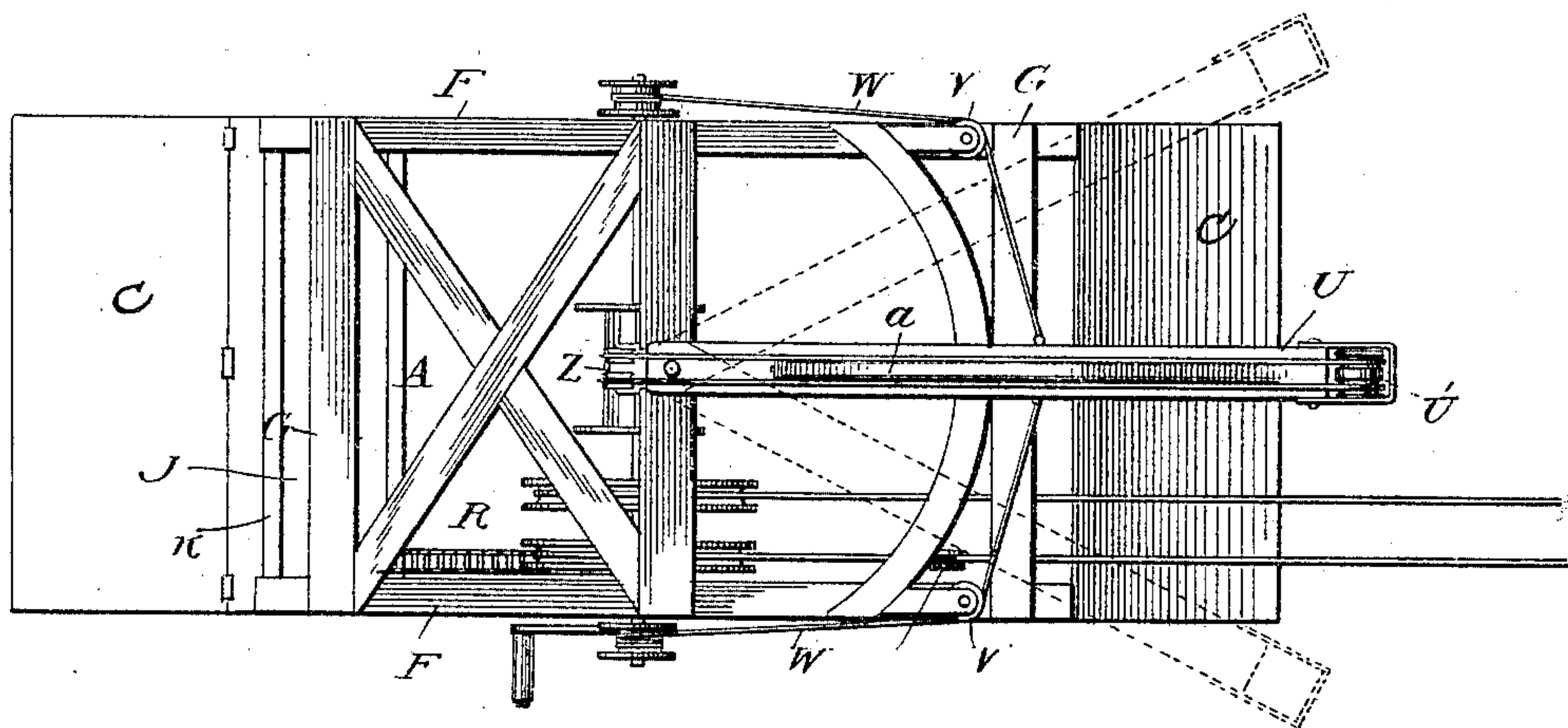
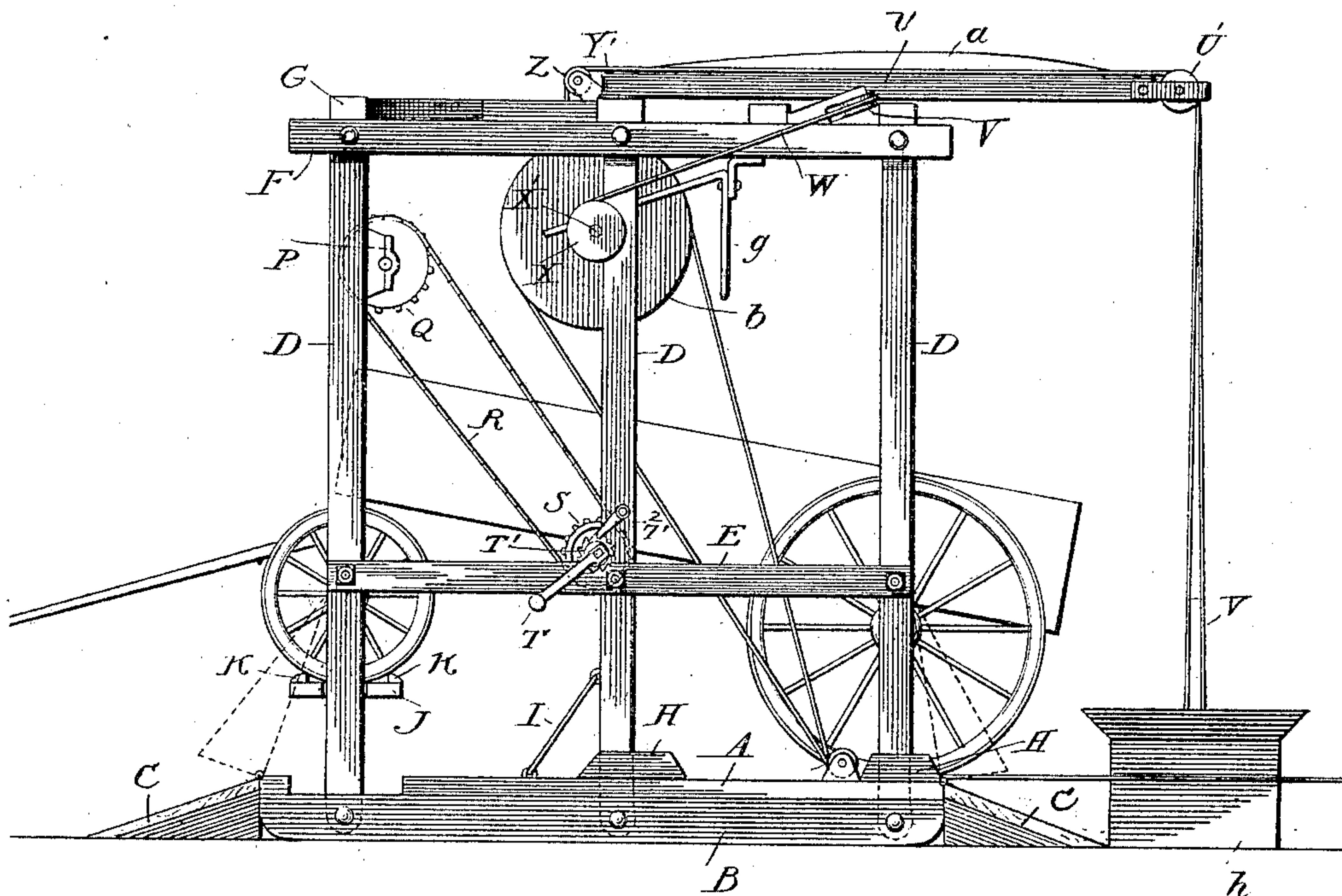


Fig. 2.

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2 Sheets—Sheet 2.

Fig. 3.

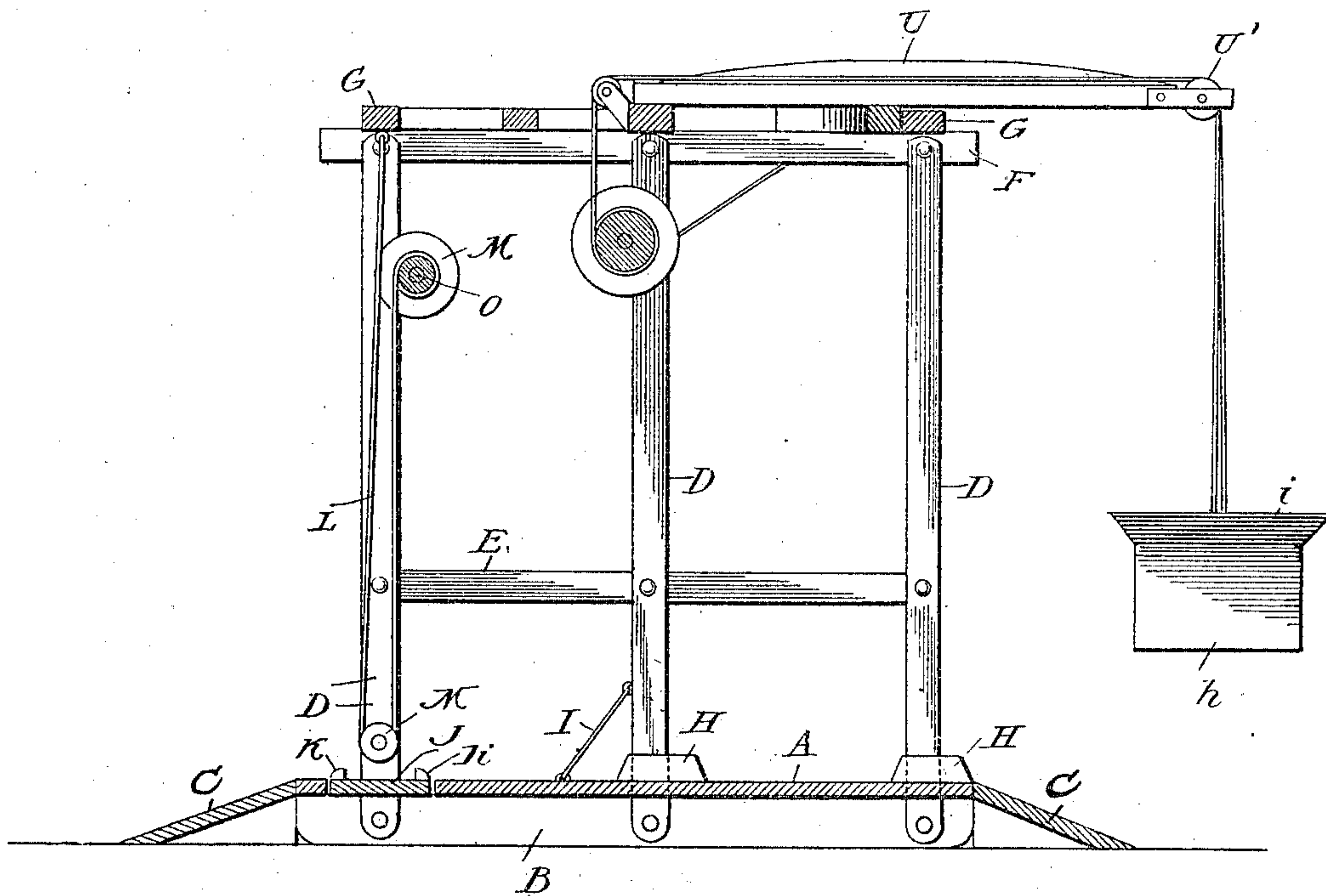


Fig. 4.

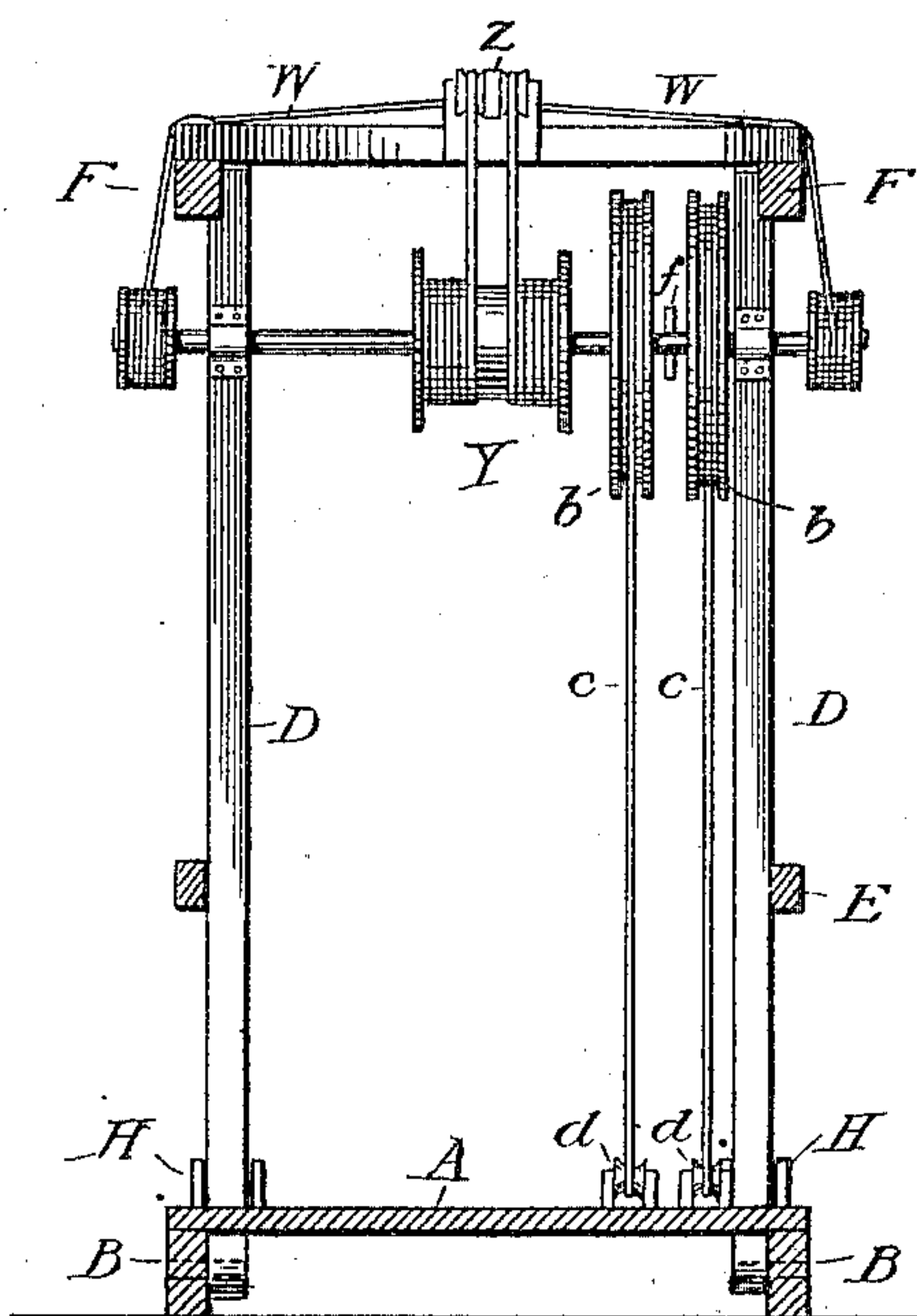


Fig. 5.

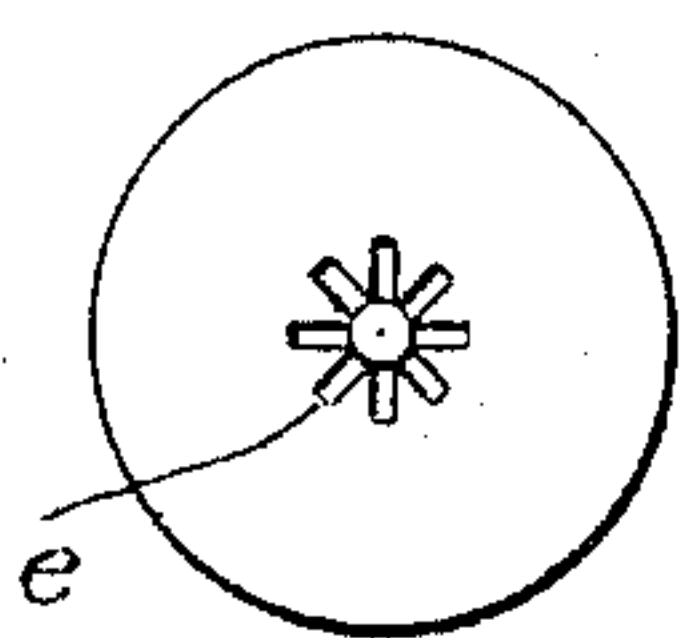
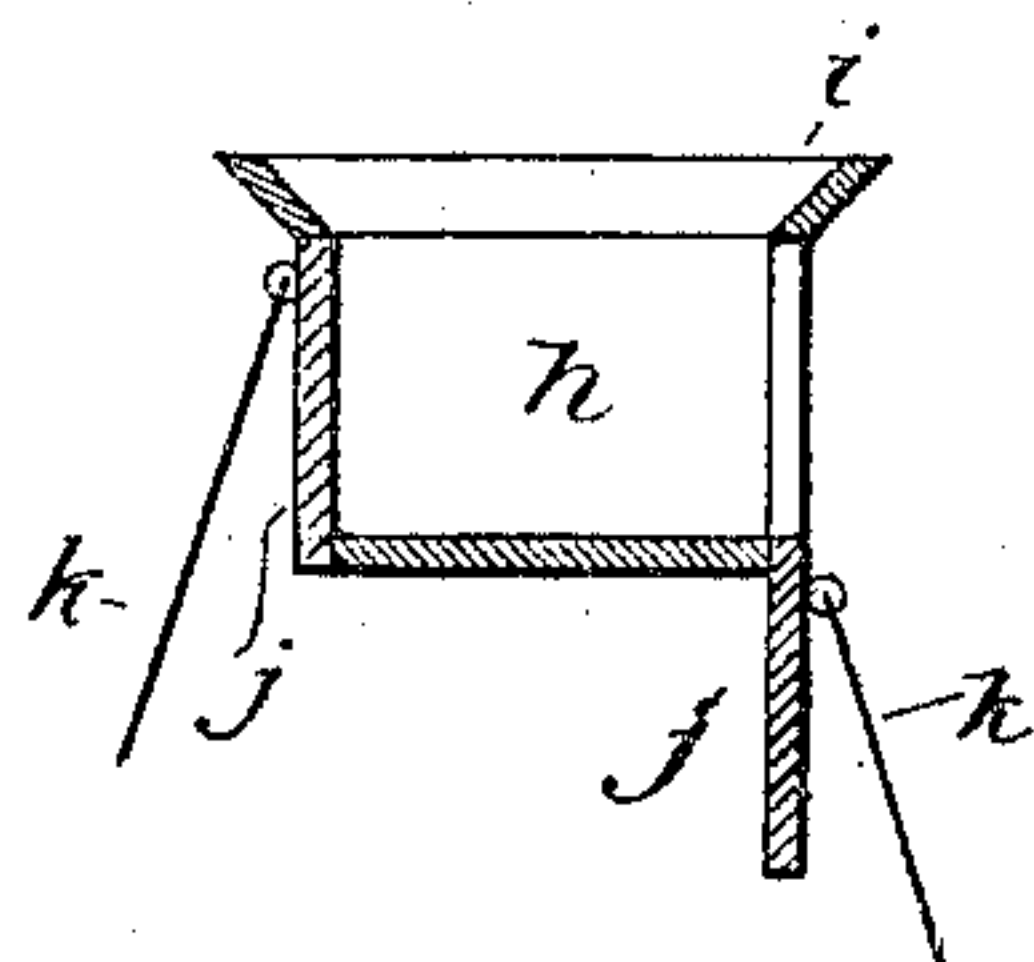


Fig. 6.



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UNITED STATES PATENT OFFICE.

WALTER L. NICHOLSON, OF EDHOLM, NEBRASKA.

PORTABLE ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 682,224, dated September 10, 1901.

Application filed March 2, 1901. Serial No. 49,639. (No model.)

To all whom it may concern:

Be it known that I, WALTER L. NICHOLSON, a citizen of the United States, residing at Edholm, in the county of Butler and State of Nebraska, have invented a new and useful Portable Elevator, of which the following is a specification.

This invention relates to improvements in portable elevators; and one object is to provide a simple construction of elevator which may be conveniently transported from place to place and by means of which grain or other matter may be elevated to the granary or other place where it is desired to store the same.

Another object is to provide the elevator with means for elevating one end of a wagon for the purpose of dumping the grain therefrom.

A further object is to provide an improved construction for reversing the movement of the swinging boom, whereby it may deliver the bucket or box to either the right or left of the elevator.

With these objects in view the invention consists in the novel features of construction hereinafter fully described, particularly pointed out in the claims, and clearly illustrated by the accompanying drawings, in which—

Figure 1 is a side elevation of an elevator constructed in accordance with my invention, a wagon being shown in position upon the platform thereof and elevated at one end; Fig. 2, a top plan view with the wagon removed; Fig. 3, a vertical sectional view; Fig. 4, a similar view at right angles to Fig. 3; Fig. 5, a detail of the wheels for operating the winding-shaft, showing the clutch mechanism for locking the same thereto and releasing them therefrom; and Fig. 6, a detail of the grain-elevating box or receptacle.

Referring now more particularly to the accompanying drawings, A designates a platform supported upon suitable runners B, extending longitudinally thereof and at its side edges and provided at its ends with hinged inclines C, which may be swung upwardly when the elevator is transported from place to place.

D designates uprights which are pivoted at their lower ends to the inner sides of the run-

ners B, the same extending upwardly through suitable openings in the platform. These uprights are arranged in pairs, and pivotally attached to the standards of the several pairs are longitudinally-extending bars E, which are disposed intermediately the ends of the standards, as illustrated. The standards of the several pairs are connected at their upper ends by longitudinally-extending bars F, which are pivotally attached thereto, and connecting said longitudinal bars F are cross-pieces G. Thus a framework is provided at each side of the platform, which frames are connected at their upper ends by cross-pieces. The pair of standards at one end of the platform and the pair intermediate the ends thereof have blocks or guides H secured on their opposite sides and between which they move when swung upon their pivots. For holding the standards or uprights in a vertical position swinging braces I are provided, which are pivoted at their lower ends to the platform and at their upper ends formed with hooks to engage eyes carried by the central pair of uprights. By disengaging said braces the framework may be swung longitudinally of the platform to lower the height of the elevator, so that the same may pass through low doorways of barns or other outbuildings where it is desired to store the same.

The platform near the standards at the other end of the elevator is cut out to form a space, receiving a movable section J for elevating one end of the wagon. This movable section when in its lowered position rests in said opening and is flush with the platform. Said movable section has its ends recessed to receive the standards, upon which it moves vertically, and is provided with cleats K, which engage the front wheels of the wagon and prevent the latter from moving from the platform when the forward end thereof is elevated. Elevating-ropes L are secured to said movable section at its respective ends and pass upwardly around pulleys M, mounted upon the inner sides of the standards, and are attached at their upper ends to drums N upon a shaft O, extending transversely of the platform and mounted at its ends in suitable bearings P, carried by the standards. Upon said shaft O is a chain or sprocket wheel Q, around which a chain R

passes, said chain passing around a sprocket-wheel S upon a short shaft mounted on one of the standards of the central pair and provided with a crank-handle T. This shaft is
 5 also provided with a ratchet-wheel T', engaged by a dog T², pivoted to the standard.

By means of the construction above set forth the shaft O may be rotated to wind the ropes upon the drums and elevate the movable section J, which elevates the forward
 10 end of the wagon after the same has been drawn upon the platform and the horses released therefrom.

Centrally pivoted at its inner end upon the
 15 central cross-piece at the top of the frame is a boom U, having at its outer end a vertically-disposed pulley U'. Mounted upon the longitudinally-extending bars F at the upper ends of the standards are pulleys V, which
 20 are positioned upon the respective sides of the boom and are disposed at an angle. Secured to the under side of the boom immediately of its ends are ropes W, which pass over pulleys V, and at their opposite ends are
 25 adapted to be oppositely wound upon pulleys X, mounted upon a shaft X', extending transversely of the platform and supported in suitable bearings carried by the central pair of uprights or standards. Upon this shaft is a
 30 drum Y, upon which the elevating-ropes Y' are wound, said ropes passing over a pulley Z, supported upon the central cross-piece and in rear of the swinging boom, and over the pulley U' at the end of said boom. These
 35 ropes are held separated upon the boom by the raised portion a, which is disposed centrally of the boom and extends longitudinally thereof, the ropes being positioned upon its opposite sides. For rotating the shaft in order
 40 to wind the elevating-ropes upon the drum I provide two wheels or drums b, which are loose thereon, but either of which may be locked thereto by mechanism presently to be described. Secured to each of said drums b
 45 is a rope c, said ropes extending in opposite directions upon the drums and extended downwardly to the platform, where they pass around a pulley d. The horse is attached to either of these ropes, according to the direction
 50 in which it is desired to swing the boom. By drawing upon one of the ropes the shaft is revolved in one direction, winding the elevating-ropes thereon and at the same time winding one of the ropes W and unwinding
 55 the other, so as to swing the boom at the same time that the grain is elevated. By drawing upon the other rope the opposite rope W is wound upon its pulley X and the boom swung to the opposite side of the elevator. Each of
 60 the drums is formed on its inner side and at its center with a plurality of radially-extending depressions e, and extending transversely of the shaft is a pin or projection f, which is disposed between the two drums or wheels.
 65 An operating-lever g is provided, which when moved in one direction moves one of said drums with one of its radial notches or re-

cesses into engagement with the pin carried by the winding-shaft, so that said drum is
 70 locked thereto, while a reverse movement of said lever releases said drum from the shaft and locks the other drum thereto.

Ropes V' are secured at their lower ends to an elevating box or receptacle h, having a
 75 flaring top i and slides j, controlling outlets in its side walls. These slides are moved to open the outlets by suitable cords or ropes k.

In operation the wagon is drawn upon the platform with its front wheels resting upon the movable section. The horse is then released and attached to one of the operating-ropes c. The grain box or receptacle is placed
 80 in close proximity to the rear end of the wagon receiving the grain therefrom when the front end of the wagon is elevated by the elevating mechanism provided therefor. When the box
 85 or receptacle has been filled with grain, the same is elevated by the horse, the receptacle being at the same time swung laterally of the elevator, so that the grain may be delivered
 90 to the granary. When in proper position, the rope operating the slide is drawn upon, opening the outlet and permitting the grain to discharge into the granary.

While I have described my invention with
 95 particular reference to its use as an elevator for grain and for use about the farm, where it is particularly convenient, yet I do not limit it to employment in that connection, as it
 100 will be found useful wherever a simple and effective construction of portable elevator is desired.

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

1. An elevator comprising a support provided with a vertically-movable section, means to elevate the latter, a framing carried
 110 by the support, a boom mounted upon the framework for swinging movement, a receptacle suspended from the boom, and mechanism for simultaneously swinging the boom and elevating the receptacle, substantially as described.

2. An elevator comprising a support having a movable section, a plurality of uprights pivoted to said support, means detachably
 115 connected with the uprights for normally holding them vertical, and a pair of the uprights constituting guiding means for said movable section, a framing supported by said
 120 uprights, a swinging boom on said framing, a receptacle suspended from said boom, and mechanism for simultaneously swinging the boom and raising said receptacle, substantially as described.

3. An elevator comprising a platform or framework, including a plurality of uprights pivoted to the platform, braces connected
 130 with the platform and detachably connected to the uprights, a boom pivoted at its inner end to the framework, a shaft on the framework carrying pulleys, ropes secured to said boom and oppositely wound upon said pul-

leys, a drum upon said shaft, elevating-ropes carried by said boom and adapted to be wound upon said drum, and means for rotating said shaft, substantially as described.

5 4. An elevator comprising a platform, inclines hinged thereto at its respective ends, standards arranged longitudinally of the platform and hinged thereto at their lower ends, elevating mechanism supported by said standards, and braces pivoted to the platform and
10 detachably secured to the standards for holding the same in an upright position, substantially as described.

15 5. An elevator comprising a support, a boom pivoted at its inner end thereto and adapted to swing laterally thereof, a shaft mounted in said support having pulleys, ropes secured to said boom and oppositely wound upon said pulleys, guides disposed on
20 opposite sides of the boom over which said ropes pass, a drum upon said shaft, elevating-ropes carried by said boom and adapted to

be wound upon said drum, operating-drums loose upon said shaft, operating-ropes attached to said drums and extending in opposite directions, and means for locking either
25 of said drums to the shaft, substantially as described.

6. An elevator comprising a support, a swinging boom carried thereby, a shaft
30 mounted upon said support having pulleys, ropes connected with the boom and oppositely wound upon said pulleys, an elevating-rope carried by the boom and adapted to be wound upon said shaft, and means for rotating
35 said shaft in either direction to wind said elevating-rope thereon and to swing the boom to either side of the elevator, substantially as described.

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Witnesses:

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