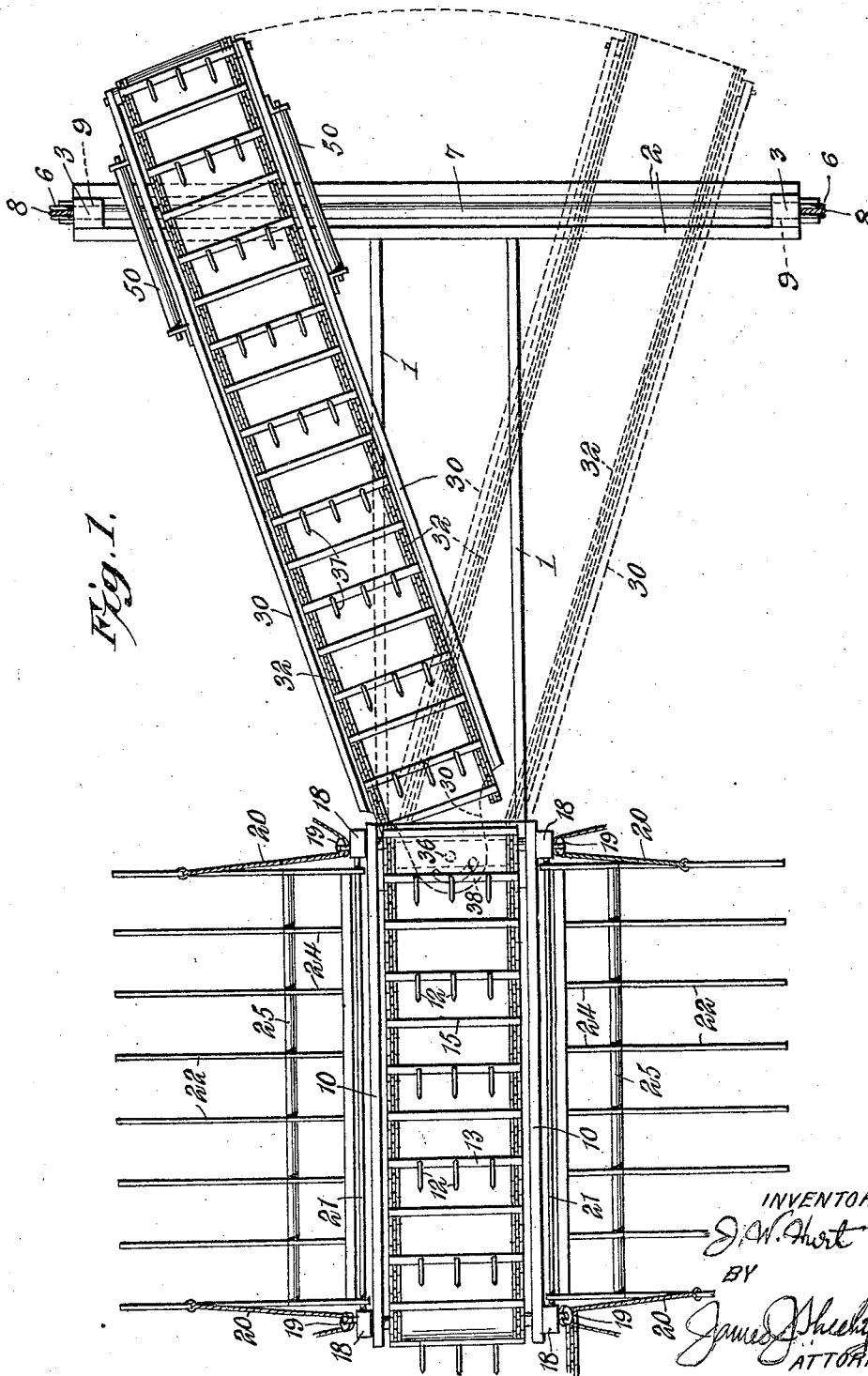


J. W. HURT.
GRAIN ELEVATOR.
APPLICATION FILED JUNE 21, 1919.

1,401,909.

Patented Dec. 27, 1921.

3 SHEETS—SHEET 1.



1,401,909.

Fig. 2.

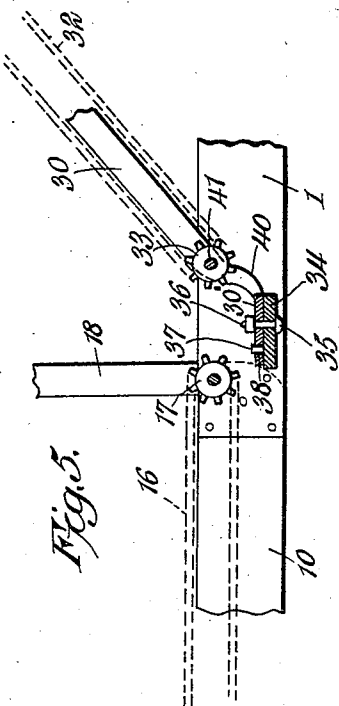
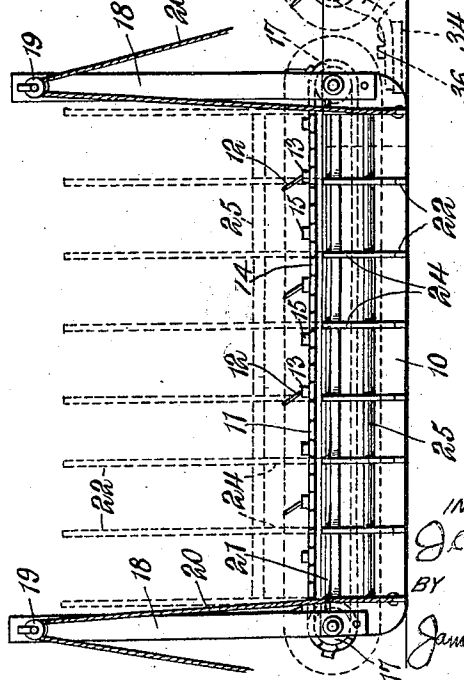


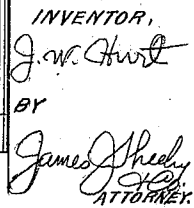
Fig. 5.



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3 SHEETS--SHEET 3.



UNITED STATES PATENT OFFICE.

JAMES W. HURT, OF YORK, NEBRASKA.

GRAIN-ELEVATOR.

1,401,909.

Specification of Letters Patent. Patented Dec. 27, 1921.

Application filed June 21, 1919. Serial No. 305,727.

To all whom it may concern:

Be it known that I, JAMES W. HURT, a citizen of the United States, residing at York, R. F. D. #7, in the county of Seward and State of Nebraska, have invented new and useful Improvements in Grain-Elevators, of which the following is a specification.

My present invention pertains to elevators, for hay, grain and the like, and it contemplates the provision in a device of the character set forth of means whereby hay, grain, etc., may be elevated into a barn and stacked in a neat pile, and this with but a small amount of effort and labor.

The invention will be fully understood from the following description and claims when the same are read in connection, with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a top plan view of my device showing the rakes in their open position and further showing one of the conveyers in raised position.

Fig. 2 is a side elevation of the device.

Fig. 3 is a front elevation showing the main frame and elevator resting on the cross-piece that is raised and lowered on the upstanding posts of the main frame.

Fig. 4 is a view showing the working of the rakes and the horizontally-movable conveyer resting between the rakes to receive the grain or hay from said rakes.

Fig. 5 is a detail view of the main elevator and horizontally-movable conveyer.

Fig. 6 is a detail view of the means I employ to secure the movable elevator so that the same may be placed at various positions with respect to the cross-arms of the main frame.

Similar numerals of reference designate corresponding parts in all of the views of the drawings.

My novel device comprises a frame of ladder construction having the forwardly reaching stiles 1 and at the forward end thereof said stiles are secured to a cross piece 2 (Fig. 3) said cross piece 2 being provided at each end thereof with an upstanding post or member 3.

Near the upper end of each post 3 I provide pulleys 6 and around these pulleys I pass a cable 8 that is provided at one end with a weight that is secured to the cross-piece 4 that extends from one to the other

of the posts 3 at the point 7 and is movable in the slots 9 of said posts. Thus the weight will assist in the lowering of the member 4.

At its base, the device is supported on a frame 10 to which is secured a traveling endless conveyer 11; and said conveyer has teeth 12, that by preference are pitched backwardly and said teeth are further provided on alternate cross brace members 13 that go to make up the conveyer. For the purpose of imparting motion to this conveyer, I provide the cross-pieces other than those just alluded to and designated by 14 with teeth of the sprocket form that engage the chains 16 that derive motion from sprocket wheels 17 that are provided at each end of the conveyer. The teeth of the cross braces 13, it will be seen are for the purpose of retaining and catching hay, grain or other feed that is thrown on the conveyer. At this point, I would distinctly have it understood that the sprocket wheel 17 may be operated manually or by power of an internal combustion engine or other agency, in order to drive the conveyer 11.

As clearly shown in Fig. 2, the said sprockets may be secured to upstanding posts 18 that I provide at each end of the main frame or support 10, and said posts have pulleys 19 secured to the upper end of the said posts and cables 20 that are passed through the pulleys and hang downwardly for a purpose that will be apparent as I detail the description of the device.

As clearly appears in Fig. 1, rods 21 are secured at their ends to posts 18 and extend from one to the other of said posts, and it will also be seen by reference to the said figure of the drawings, that the novel rakes 22 of my device are pivoted to said rods. These rakes normally rest on the ground, but in order to elevate the rakes when occasion demands, the cables 20 are attached to the lower-most part of the rakes. The opposite end of the cables 20 are free as shown. The said rakes 22 as before stated are secured in hinged manner on the rods 21 and comprise a member or short arm 24 that is secured by a pin 25 to the rakes 22.

It will be gathered from the foregoing that when the rakes are in their open or normal positions, as shown in Fig. 4, by full lines, they are ready for reception of hay, grain and the like. After the rakes have been filled with grain, the cable 20 is pulled

downwardly, and through this medium, the rakes will be elevated and the grain will consequently be forced onto the conveyer 11.

At a point at the inner traverse of the conveyer 11 and arranged to receive grain from said conveyer 11, is my novel table elevator 30, and similar to the conveyer 11, the said elevator 30 comprises the teeth 31 that extend straight up from their cross brace members; the chain 32 and the sprockets 33, all of which elements operate similar to the corresponding elements of the conveyer 11 in order to cause the endless belt of the elevator to travel upwardly to elevate the hay or grain.

This elevator 30 is provided at its lowermost end and adjacent the support 10, with a plate 30' that is secured to a cross piece 34 that rests and is also fastened to the stiles 1 of the main frame. The preferred manner I desire to secure this plate 30' and member 34 is through a bolt 35 and nut 36, respectively, the bolt being capable of rotation on the member 34 so as to permit the plate 30' to rotate thereon. At a point in the rear of the plate 30' there is a semi-circular opening and on the cross member 34 I provide a tooth or projection 37 that rests in said semi-circular opening of the plate 30' and permits the plate to swing the distance of said opening on the member 34.

In order to permit movement of the elevator 30, the arm 40 is provided at its end with a portion having an axle 41 and to which the sprocket wheel 33 is secured.

The arm 40 is secured to axle 41 at its upper end, and said arm extends downwardly and rests on the member or plate 34. The bolt 35 having a nut 36 acts as an axis for the arm 40 and this arm is limited in its movement by the lug 37 that rests in the slot 38 of plate 34. Naturally the limiting of movement of arm 40 will limit movement from right to left of the elevator.

By reference to Fig. 2, it will be seen that the elevator 30 is provided near its upper end and on each side thereof with a roller 50 that permits of the chain, and teeth 31 being held slightly above the cross member 4, when it is desired to swing the table elevator horizontally on said cross-member 4.

In the practical use of the device, the elevator 30 which under normal conditions rests on the stiles 1, may be elevated by an operator pulling on the cable 8. This will raise the elevator 30 and cross member 4. When the elevator is in its uppermost raised position, the rakes 22 are filled with grain and then said rakes are caused to pitch the hay into the conveyer 11. When this has been done, the hay, because of the fact that both belts of the conveyer are always travel-

ing in a direction away from the main frame, will be carried from the conveyer 11 to the elevator 30 and by said elevator carried upwardly into a barn or other building. Because of the movement of the elevator on the cross member 4, the grain will be stacked in a neat pile. It is to be understood that the cross-members are retained in a certain position above the main frame or stiles 1 by tying the cables 8 to a stake or other element on the ground.

It will be gathered from the foregoing that the device is simple in construction and capable of being cheaply manufactured and because of its construction comprises no delicate parts such as are likely to become worn out after a short period of use, and furthermore because of its construction the device may be operated by a single person.

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

1. In means for the purpose set forth, the combination of a frame, an endless conveyer mounted at one end of the frame, upstanding posts secured on the frame adjacent the ends of the conveyer, grain rakes hinged to the frame alongside the conveyer, and means connected to the rakes and posts for swinging the rakes, an endless elevator mounted on the frame at one end of the conveyer, said elevator being pivoted to swing in both vertical and horizontal planes, posts secured to the end of the frame away from the conveyer, and a cross arm in slidable engagement with the posts upon which the free end of the elevator bears; means for raising and lowering the cross arm.

2. In means for the purpose set forth, the combination of a frame, upstanding posts arranged at one end of the frame, an endless conveyer arranged on the frame at one end thereof, hinged rakes secured on the frame alongside the conveyer, a plate secured to the frame beneath one end of the conveyer, an arm pivoted to said plate to swing horizontally, an endless elevator pivoted to said arm to swing vertically, a cross arm slidable vertically in the upstanding posts and adapted to support one end of the elevator and means for raising and lowering the cross arm whereby the elevator may be swung upwardly and downwardly with respect to the frame.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES W. HURT.

Witnesses:

H. R. COLMAN,
R. F. NORVAL.