

A. BRUNELLE.
ELEVATOR.
APPLICATION FILED MAY 28, 1912.

1,054,900.

Patented Mar. 4, 1913.

2 SHEETS—SHEET 1.

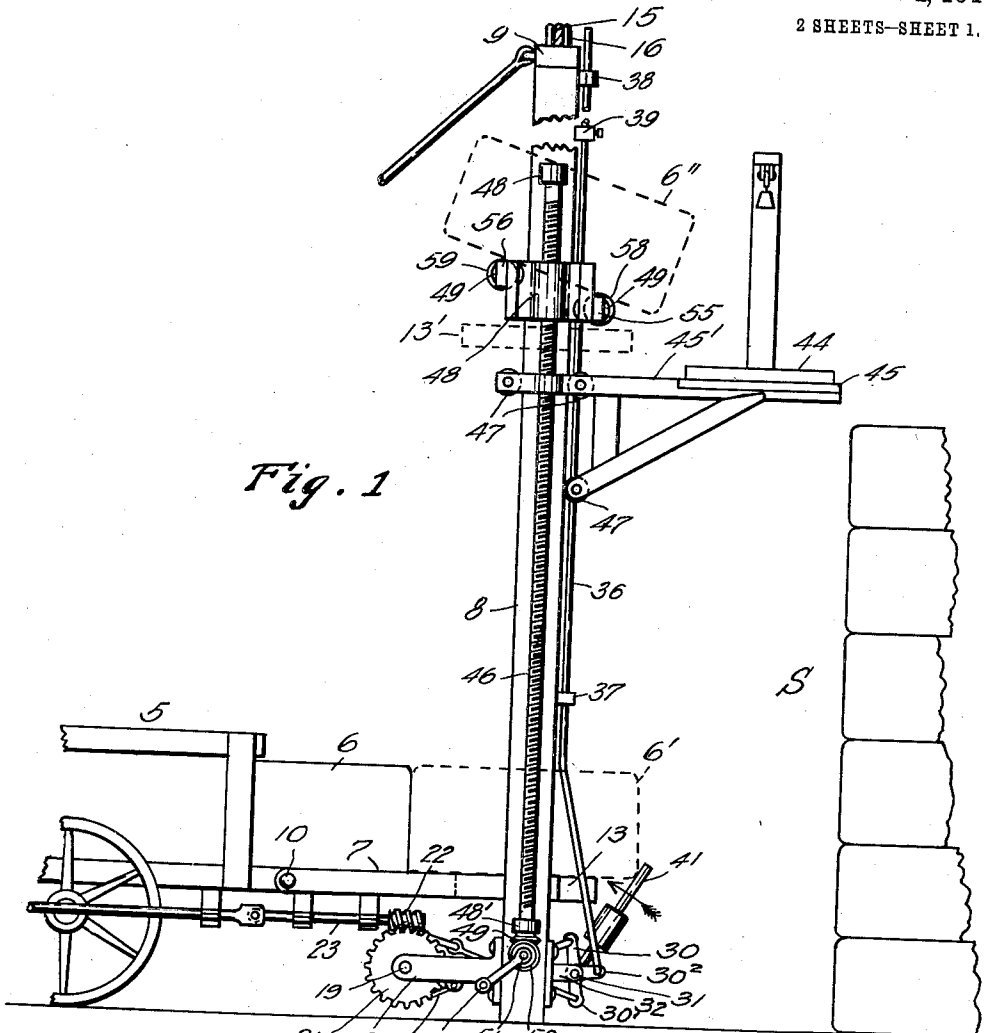


Fig. 1

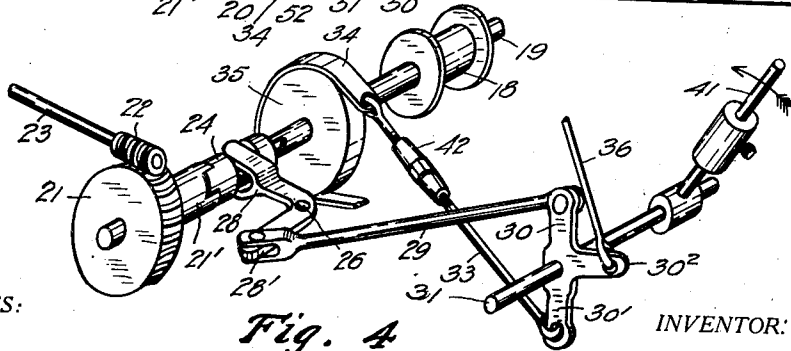


Fig. 4

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Virginia Woodward.

INVENTOR:

Arthur Brunelle

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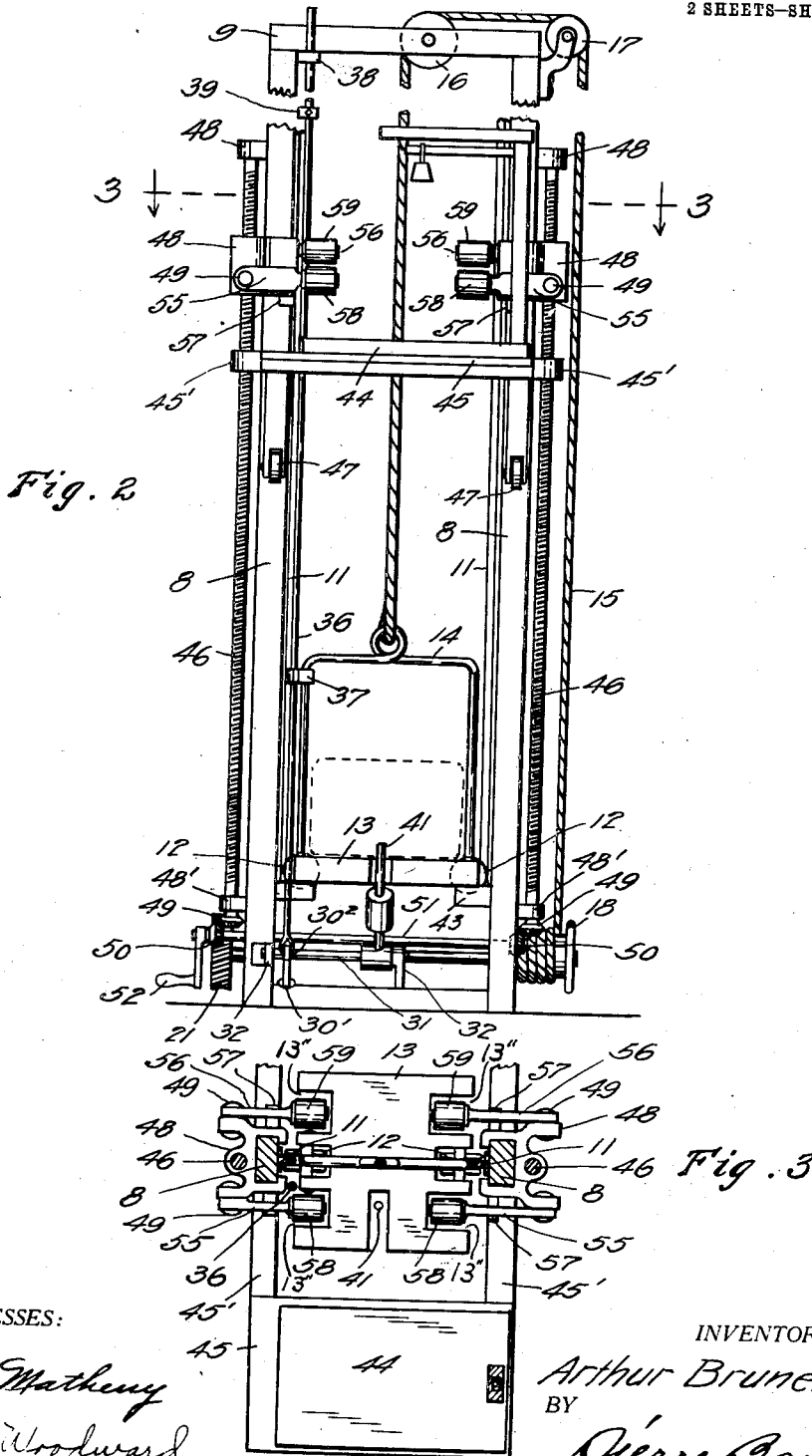
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J. C. Matheny
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UNITED STATES PATENT OFFICE.

ARTHUR BRUNELLE, OF NORTH YAKIMA, WASHINGTON, ASSIGNOR TO MATILDA BRUNELLE, OF NORTH YAKIMA, WASHINGTON.

ELEVATOR.

1,054,900.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed May 28, 1912. Serial No. 700,197.

To all whom it may concern:

Be it known that I, ARTHUR BRUNELLE, a citizen of the United States, residing at North Yakima, in the county of Yakima and State of Washington, have invented certain new and useful Improvements in Elevators, of which the following is a specification.

The object of my invention is the provision of an elevator which is especially designed for hoisting bales of hay to be conveniently piled in stacks. This object, I accomplish by means of the mechanism hereinafter described and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my apparatus applied to the rear end of a hay-baler. Fig. 2 is a rear end elevation of the apparatus. Fig. 3 is a sectional view taken substantially through line 3—3 of Fig. 2. Fig. 4 is a perspective view of portion of the elevator power transmission devices.

In the drawings, 5 represents a portion of a hay-baler, which may be of ordinary or suitable construction and discharges the hay in bal 3, such as 6, from its rear end. According to this invention there is connected to the rear end of said baler a platform 7 which is secured to upright posts 8. These posts are connected at their upper ends by a transversely arranged beam 9 and constitute, with the platform, a rigid framework which is hingedly connected, as by pins 10, to the rear end of the baler to enable the framework to be tilted over the baler so that the latter may be conveniently moved or for other purposes.

As illustrated, track rails 11 are provided upon the inner opposing faces of the posts to accommodate grooved guide wheels 12 which are carried by the elevator car 13.

14 represents a bail by which the car is suspended from the end of a cable 15 which passes about grooved sheaves 16 and 17 to a drum 18 which is mounted upon a transversely arranged shaft 19 disposed subjacent to the car when the same is in position to receive a bale from the platform 7. Said shaft is journaled in bracket bearings, such as 20 (Fig. 1), which are rigidly connected to said framework. Loosely mounted upon the shaft is a spur gear 21 which is in continuous mesh with a screw gear 22 provided upon a shaft 23 which may be driven from

any source of power, and preferably from the motor employed to operate the baler.

Splined to the shaft 19 is a clutch element 24 which is adapted to be shifted endwise into engagement with a clutch element provided by the hub 21' of said spur gear. Whence, it is apparent that the clutch element 24, when coupled with the gear 21 will cause the rotation of the shaft 19 to effect the raising of the elevator car through the instrumentality of the drum 18 and the hoisting cable 15.

To engage or disengage the clutch element 24 with respect to said spur wheel, I employ a bell-crank lever fulcrumed at 26 to a bracket attachment secured to the frame work, and having one of the lever arms, 28, forked and engaging in an annular groove provided in the clutch element 24. The other arm 28' of the bell crank lever is connected by a link 29 with an upwardly directed arm 30 of a T-lever which is keyed or otherwise fixedly secured to a transversely arranged shaft 31 which is journaled in boxes 32 provided at the rear of said framework. A downwardly directed arm 30' of the T-lever is connected by a link 33 with a brake-band 34 which embraces a wheel 35 fixedly mounted upon the shaft 19. A third arm 30² of the T-lever has connected thereto a pull-rod 36 which extends upwardly through an apertured lug 37 on the bail of the elevator car and through a guide 38 secured to the framework. Adjustably secured to said pull-rod is a collar 39 which is positioned to be engaged by the lug 37 when the car approaches the end of its upward travel. As the car ascends the collar 39 is encountered to push the pull-rod upwardly whereby the T-lever is influenced to give a partial rotation to the shaft 31 to swing a weighted arm 41 provided upon the shaft in the direction indicated by arrows in Figs. 1 and 4. When arm 41 has thus been swung across a vertical plane extending axially through the shaft, the power of the weight upon such arm asserts itself to further turn the shaft and the T-lever connected thereto for the purpose of disengaging the clutch and applying the brake band 34 to the wheel 35. When this occurs the driving mechanism becomes inoperative with respect to the car hoisting appliances and the car descends subject to the resistance afforded by the

referred to brake-band. The effective tension of the latter may be regulated by an adjusting sleeve nut 42 engaging the threaded ends of the parts of link 33.

5 When the car arrives at the bottom of its travel, it is arrested on a stop 43 in the position in which it is represented by full lines in Figs. 1 and 2, that is, in alinement with the platform 7 to receive a bale, as indicated by broken lines 6' in Fig. 1, when the same is urged rearwardly by a following bale, as 6. When the car is thus properly loaded with a bale, or rather during the ultimate movement of a bale when being pushed onto the car, the bale pushes the arm 41 into the position in which it is shown in Figs. 1 and 4. The shaft is accordingly turned and acts through the media of the T-lever and links 29 and 33 to cause the clutch to become coupled and the brake device disengaged, whereupon the car-hoisting appliances become operative to elevate the car. 44 represents a scale for weighing bales of hay as they are successively presented and, as shown in Figs. 1 and 2, the scale is supported upon a shelf 45 which is vertically adjusted by means of screws 46 extending through threaded apertures provided in side members 45' of the shelf framing. 47 are rollers tracking against said posts and are arranged to apply most of the weight of the shelf and the scale thereon upon the posts rather than upon the threads in bearings 48 and 48' secured to the posts near the top and bottom ends thereof. At the lower ends of the screws are bevel gear wheels 49 which engage with gear wheels 50 mounted upon a transverse shaft 51 having at one end a crank handle 52 (shown in Figs. 1 and 2) whereby the shaft may be turned to impart uniform rotary motion to the two screws for adjusting the height of shelf 45.

Included in the invention are devices for automatically unloading the bales from the car during the early portion of the descending movements of the latter. To which ends there is provided at each side of the frame a block 48 having a screw threaded hole and serving as nuts upon a screw 46. To each of these blocks are hingedly connected, as by pins 49, two arms 55 and 56 which normally extend inwardly, as shown in Fig. 2,

and have their free ends supported by lugs such as 57 provided on the blocks. These arms are of lengths to allow the passage of the car thereby with their extremities passing through the openings 13" in the side edges of the car and their inner extremities are formed to furnish axle bearings for rollers 58 and 59. The arms 55 and the rollers 58 adjacent to the scale are respectively located at a lower elevation than are the other arms 56 and the rollers 59.

In operation, a bale of hay in being raised by the car to occupy positions indicated respectively by broken lines 6' and 13' in Fig. 1 will tilt the arms 55 and 56 upwardly for the passage of the bale thereby, whereupon the arms will drop back into their normal positions in which they are illustrated and be seated upon the lugs 57. After the car has reached a selected height it will be caused, as before explained, to descend. The car then passes unobstructed through the space intermediate the arms 56 and 57 but as the latter protrude into the path of the bale, the bale is deposited upon the rollers 58 and 59. When this occurs, and by reason of the rollers 59 being at a higher elevation than the others, the weight of the bale will assert its power to cause the bale to slide down upon the scale where it is weighed by an attendant. After being weighed, the bale is manually transferred from the scale to the pile of bales S.

What I claim as my invention, is—

In an elevator, the combination with the 90 posts of the elevator frame work, a car guided by and operative between said posts, means for raising and lowering said car, and devices secured to said posts for vertical adjustment whereby loads carried upon the car may be unloaded during the downward travel of the same, said devices comprising two blocks, vertically swinging arms pivotally connected to said blocks and projecting into the path of movement of the car and its load, means for preventing a movement of said arms below a horizontal position, the car being provided with openings adapted for the passage of said arms therethrough.

Signed at Seattle, Washington, this 22nd day of May 1912.

ARTHUR BRUNELLE.

Witnesses:

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VIRGINIA WOODWARD.