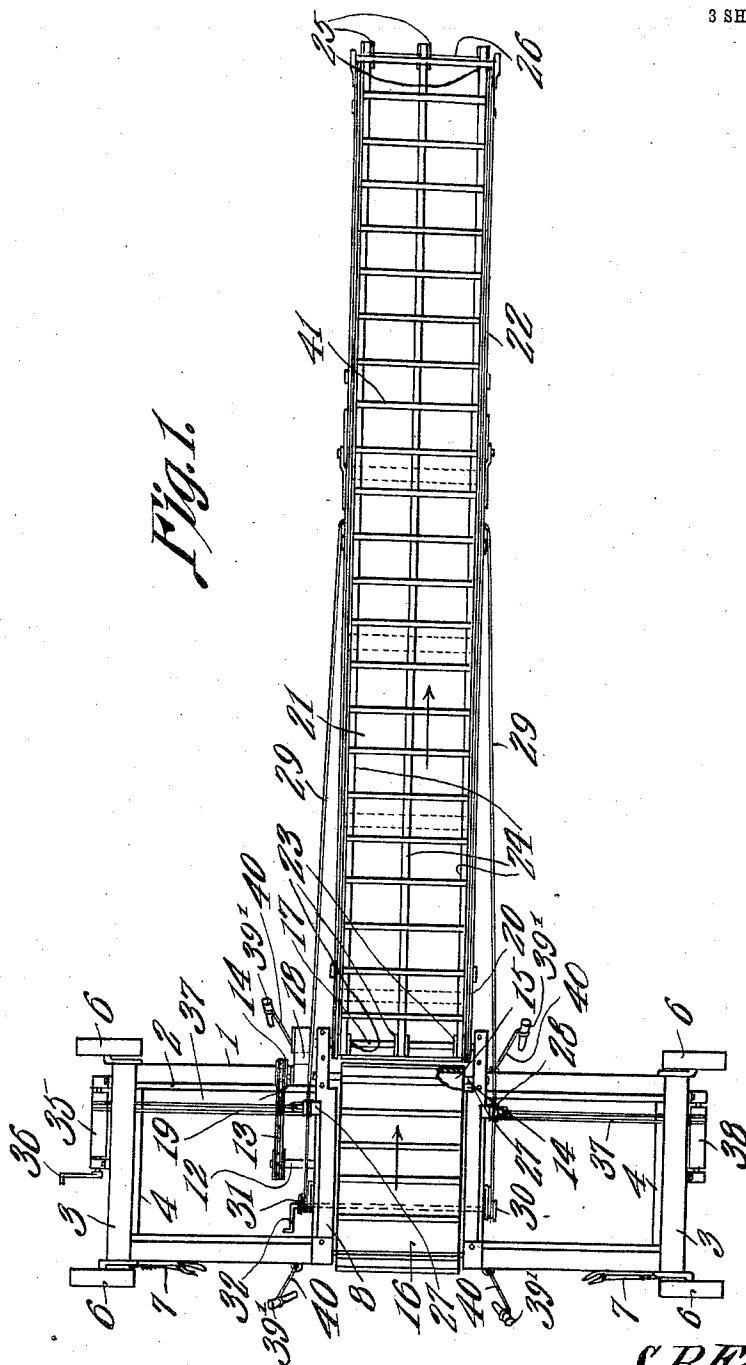


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3 SHEETS—SHEET 1.



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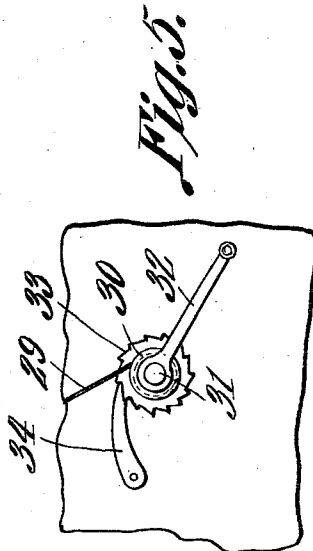
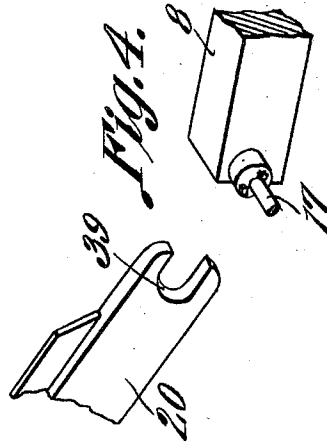
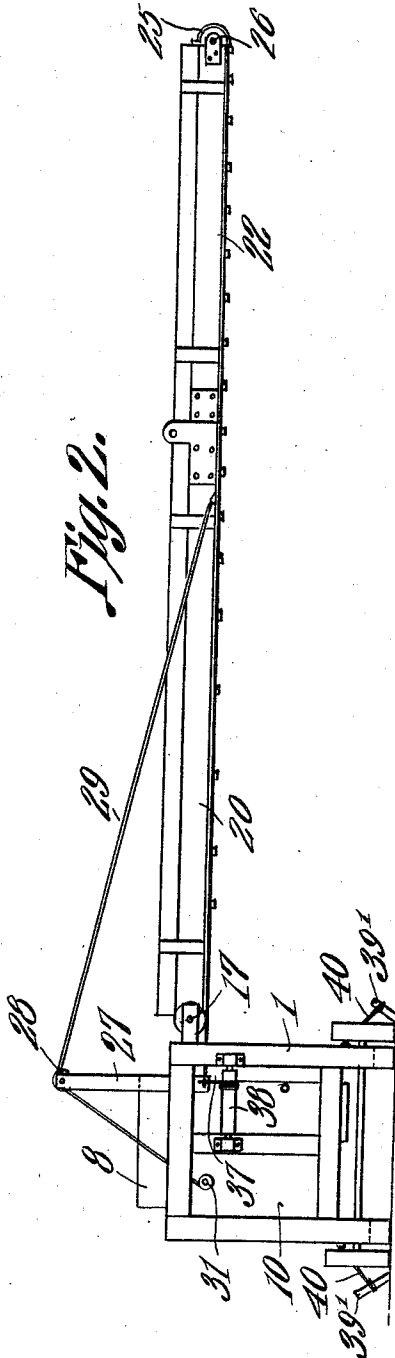
S. R. FERGUS.
STACKER.

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3 SHEETS—SHEET 2.



Witnesses

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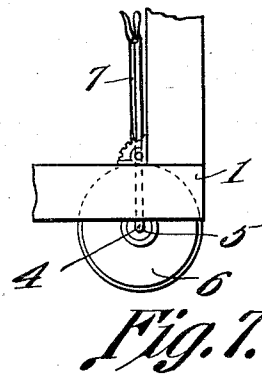
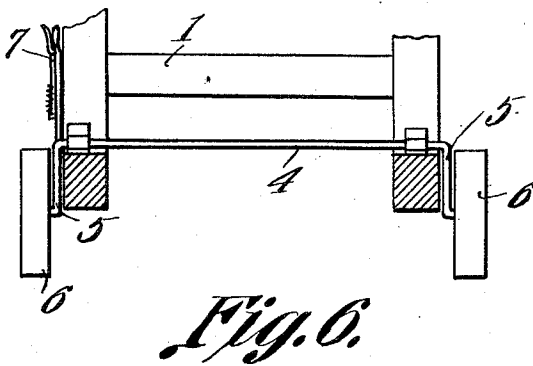
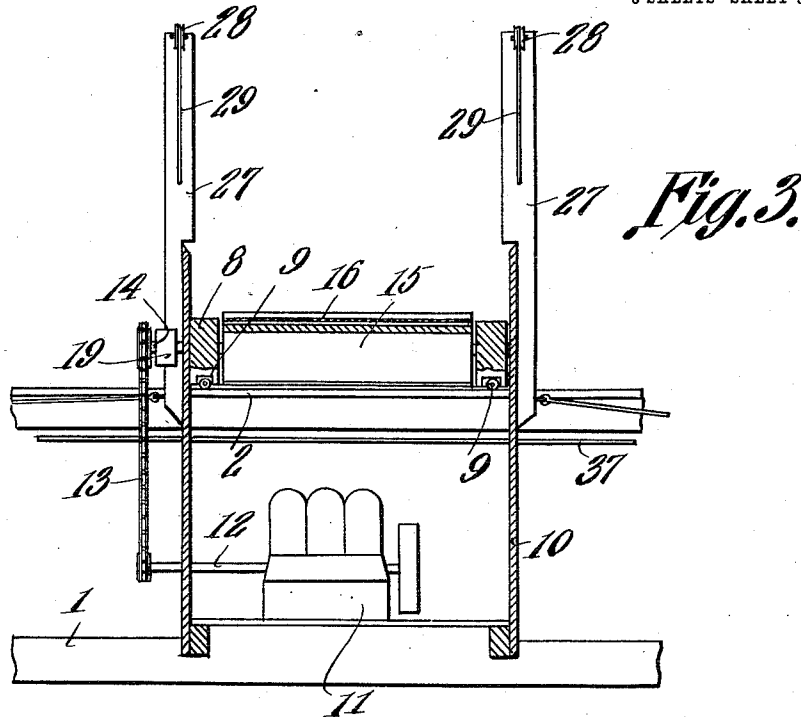
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UNITED STATES PATENT OFFICE.

SAMUEL R. FERGUS, OF ST. JOHN, KANSAS.

STACKER.

1,019,311.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed April 10, 1911. Serial No. 620,043.

To all whom it may concern:

Be it known that I, SAMUEL R. FERGUS, a citizen of the United States, residing at St. John, in the county of Stafford and State of Kansas, have invented a new and useful Stack-
er, of which the following is a specification.

This invention relates to machines for stacking hay, grain and the like and one of its objects is to provide a machine of this type which can be readily drawn from place to place and which includes a track on which a carriage is mounted to travel, this carriage supporting a movable table and an elevator, the table serving to direct the hay or the like on to the elevator by which it is carried to a desired height and dropped.

A further object is to provide a movable carriage shiftable by hand but which supports a motor designed to operate the table and elevator.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a plan view of the stacker. Fig. 2 is an end elevation thereof. Fig. 3 is an enlarged vertical longitudinal section through the carriage. Fig. 4 is a detail view showing one of the connections between the elevator and the carriage. Fig. 5 is an enlarged elevation of one end portion of the elevator adjusting drum. Fig. 6 is an enlarged transverse section through a portion of the supporting structure and showing one of the axles and the supporting wheels connected thereto. Fig. 7 is a side view showing one of the axles and the supporting wheel connected thereto.

Referring to the figures by characters of reference 1 designates a supporting frame having parallel longitudinally extending rails 2 upon the upper portion thereof, there being stop beams 3 supported above the end portions of the rails and for the purpose hereinafter set forth. Arched axles 4 are connected to the end portions of the support-

ing structure adjacent the bottom thereof, the downwardly extended terminal portions 5 of these axles being supported by wheels 6. A lever 7 may be extended from each axle and by means thereof said axle may be rotated so as to elevate the frame relative to the wheels and thus permit the structure to be easily drawn from place to place.

A carriage 8 is mounted above the supporting frame or structure 1 and has wheels 9 bearing on the rails 2 so that the said carriage can be readily moved longitudinally of the rails. A housing 10 extends downwardly from and moves with the carriage and supports a motor 11 the shaft 12 of which is designed to drive a chain 13 or the like whereby motion is transmitted to a shaft 14 journaled on the carriage and extending longitudinally thereof at one side of the machine. A roller 15 is secured to this shaft and is parallel with additional rollers arranged within the carriage and all of which support an endless belt 16 constituting a movable table.

A portion of the carriage projects laterally beyond the frame or supporting structure 1 and has a shaft 17 journaled therein, this shaft receiving motion, through a belt 18 or the like from a pulley 19 secured to the shaft 14. Said shaft also constitutes a pivot on which are mounted the side strips 20 of the lower section of an elevator frame, these strips being connected by a board 21. An upper elevator section 22 is hingedly connected to the side strips 20 and is adapted to fold downwardly onto the upper edges of said strips but, as shown in Fig. 2, this upper section can be swung into alinement with the lower section and, when thus disposed, will abut against and be supported by said lower section. Shaft 17 carries sprockets 23 engaging endless chains 24 and these chains extend longitudinally around the board 21 and engage sprockets 25 secured to a shaft 26 which is journaled in the upper or outer end portion of the section 22.

Standards 27 extend upwardly from the ends of the carriage 8 and have guide sheaves 28 thereon supporting cables 29. Each cable is secured at one end to the outer end portion of the lower section of the elevator and at its other end to a drum 30 journaled within the carriage. The two drums of the cables 29 are mounted on the same shaft 31 and a crank 32 may be provided for rotating this shaft so as to simultane-

ously wind the cables on the drums. As shown in Fig. 5, a ratchet wheel 33 may be secured to the shaft at one end, this wheel being normally engaged by a pawl 34 whereby the drums are prevented from rotating in one direction and thus unwinding the cables.

A windlass 35 is carried by one end of the frame 1 and has a crank 36 or the like whereby it can be readily rotated. A cable 37 is wound upon this windlass and one end of the cable is secured to the front of the carriage 8 while the other end of the cable is secured to the other end of the carriage, there being a drum 38 or the like secured to that end of the frame 1 remote from the windlass 35 and this drum serving as a guide for the cable 37.

As heretofore stated, the section 22 may be folded onto the lower section of the conveyer and, if desired, said lower section can be disconnected from the shaft 17. In Fig. 4 the side strips 20 have been shown formed with recesses 39 designed to straddle the shaft 17 and it will be apparent that by utilizing a structure such as shown in Fig. 4, the elevator can be readily detached from the shaft 17 and, by separating the ends of each chain 24, the entire elevator can be removed and placed on the carriage 8 for convenience in transporting the machine. When the axles 4 are rotated in one direction, the heels 6 are brought into contact with the ground and the frame 1 is lifted off of the ground, thus permitting the machine to be readily drawn to any point desired. After it has reached the place where it is to be used for stacking, the machine can be lowered by releasing the wheels 6 and axles 4. Stakes can then be driven into the ground, as indicated at 39 and the sides of the frame 1 can be tied thereto, as by means of cables 40. The elevator is then set up at one side of the carriage, the forked ends of the side strips 20 engaging the shaft 17 and the upper section 22 being extended beyond and in alinement with the lower section. The cables 29 are arranged on the guide sheaves 28 and by winding them on the drums 30 the elevator can be raised to any angle desired. Chains 24 are then coupled together so as to extend continuously around the board 21. It will be noted that these chains are all connected by slats 41 or the like, the slats and chains thus producing an endless conveyer belt. After the parts have been set up as described, the motor 11 can be started and will drive the shaft 14 so as to cause the table 16 to move in the direction of the arrow in Fig. 1. Motion will be transmitted from shaft 14 through belt 18 to shaft 17 and the conveyer apron will therefore be operated in the direction thereon in Fig. 1. It will be obvious, therefore, that when material is pitched onto the table

16, it will be conveyed to and deposited on the endless conveyer belt and this belt, will in turn, carry the material upwardly and discharge it from the upper end of the board 21. Whenever it is desired to shift the conveyer to a new position without changing the position of the frame 1, windlass 35 is rotated and causes the cable 37 to pull the carriage 8 along the rails 2. It is to be understood that the rails may be of any length desired and therefore any size stack may be made without shifting the main supporting structure 1, the size of the stack being dependent upon the length of the rails and the length of the elevator.

The entire structure is very compact in construction, can be readily set up, and is advantageous because the elevator and the feed table for supplying material thereto, can be quickly shifted to any desired position upon the supporting structure.

What is claimed is:—

1. A stacker including a supporting structure, parallel rails thereon, a carriage mounted to travel upon the rails, an endless apron mounted on the carriage and movable transversely thereof, said apron constituting a feed table, an elevator adjustably connected to one side of the carriage and supported thereby, a housing extending downwardly from the carriage and between the rails, said housing constituting means for preventing displacement of the carriage from the rails, a motor mounted within the housing and constituting means for preventing the carriage from tilting under the weight of the elevator, and mechanism operated by the motor for simultaneously actuating the feed table and the elevator.

2. A stacker including a supporting structure, parallel rails thereon, a carriage mounted to travel upon the rails, an endless apron mounted on the carriage and movable transversely thereof, said apron constituting a feed table, an elevator adjustably connected to one side of the carriage and supported thereby, a housing extending downwardly from the carriage and between the rails, said housing constituting means for preventing displacement of the carriage from the rails, a motor mounted within the housing and constituting means for preventing the carriage from tilting under the weight of the elevator, mechanism operated by the motor for simultaneously actuating the feed table and the elevator, winding means, and a flexible connection between the winding means and the carriage for shifting said carriage in either direction along the rails.

3. A stacker including a structure normally resting on the ground, wheels movably connected thereto, means for shifting the structure relative to the wheels to elevate said structure above the lower portions of the wheels, parallel rails upon the structure,

a carriage mounted to travel thereon, a winding element upon one end portion of the structure, flexible means actuated thereby for moving the carriage in either direction along the rails, an elevator connected to and extending beyond one side of the carriage, a housing depending from the carriage and into the structure, said housing constituting means for preventing lateral displacement of the carriage relative to the rails, a motor supported within the housing for preventing the carriage from tilting under the weight of the elevator, and means operated by the motor for driving the elevator.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

SAMUEL R. FERGUS.

Witnesses:

F. S. VEDDER,
P. O. SEEVERS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."