

No. 621,630.

Patented Mar. 21, 1899.

R. C. COBLE.
STACKING MACHINE.

(Application filed Sept. 14, 1898.)

(No Model.)

2 Sheets—Sheet 1.

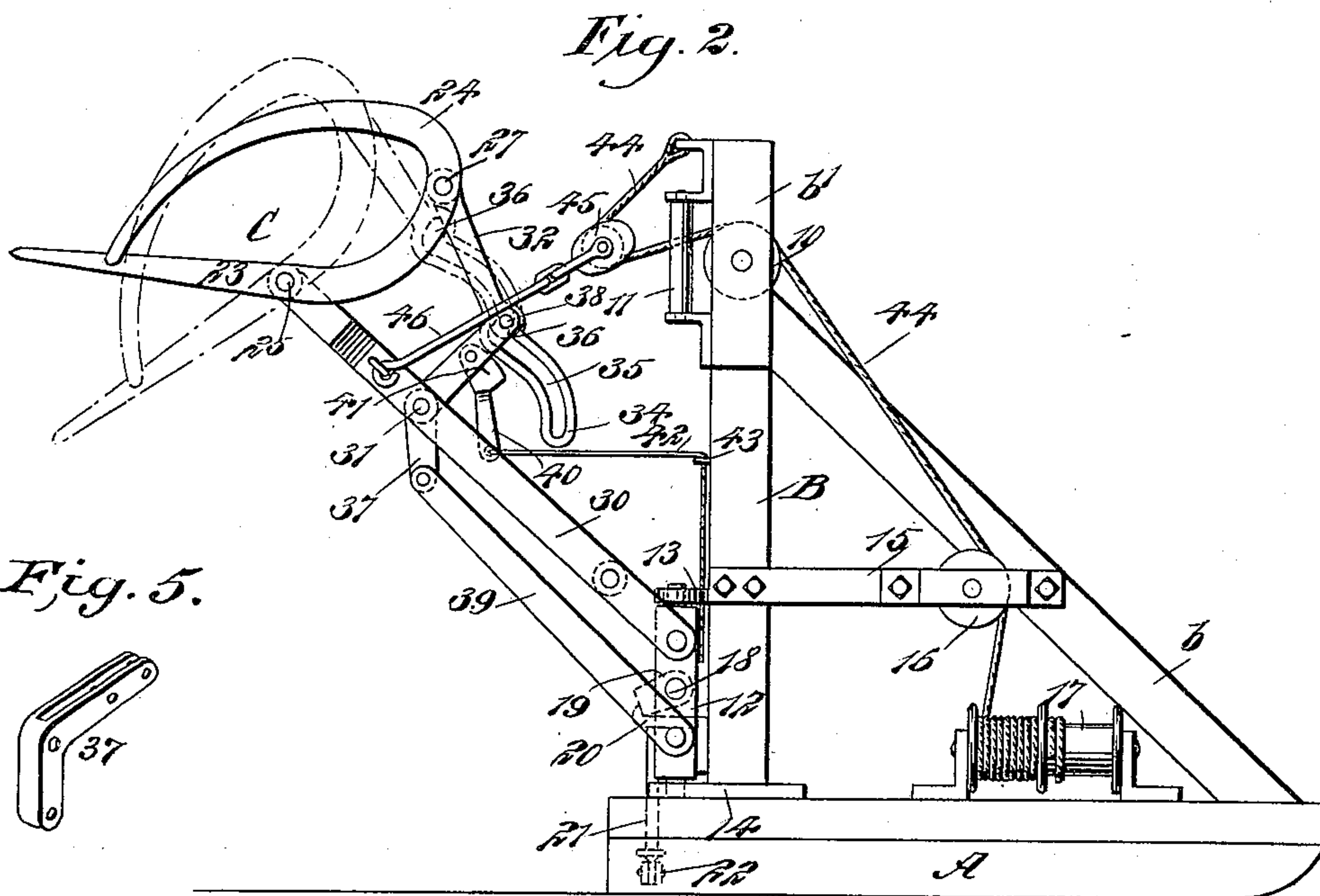
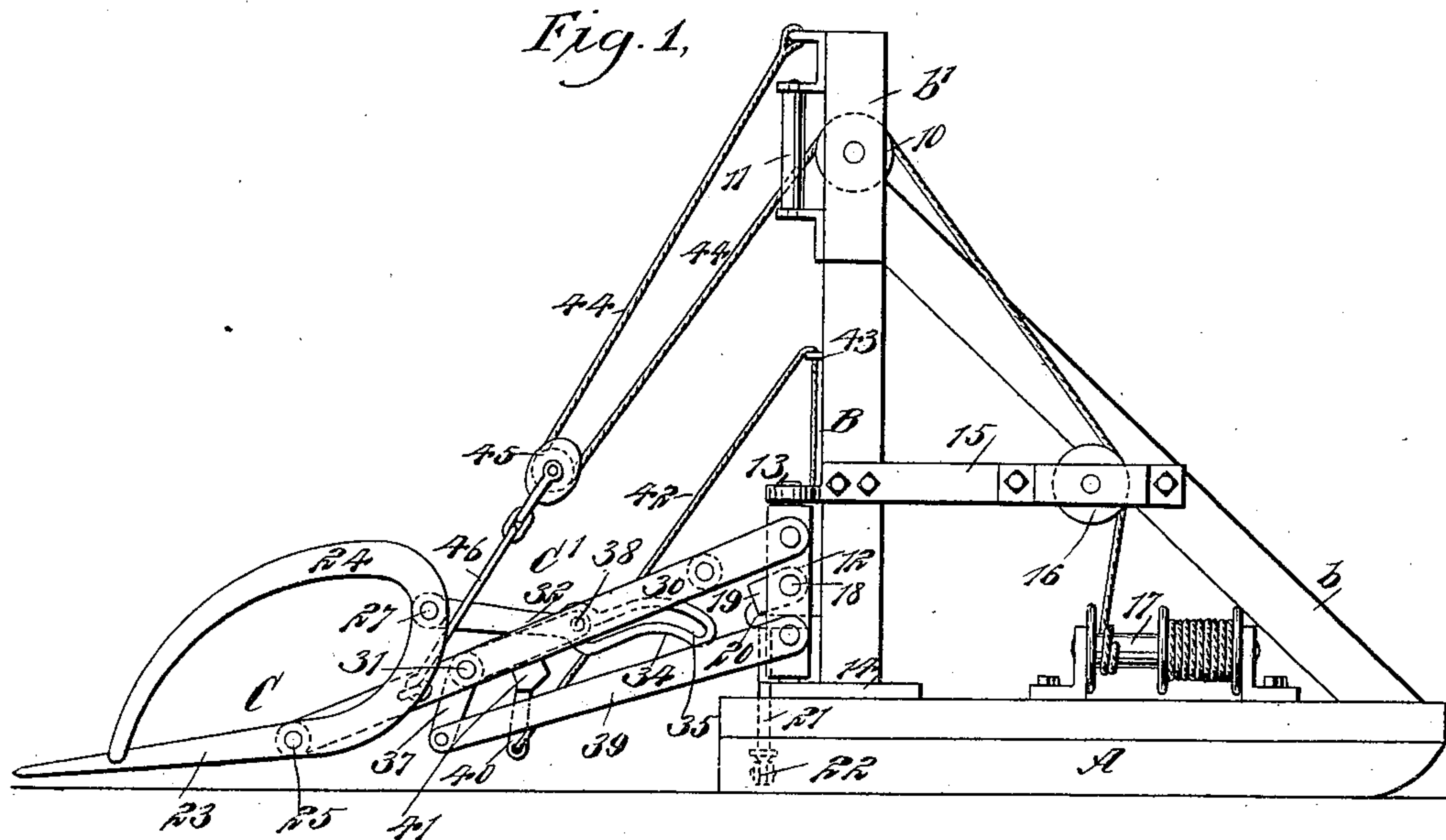
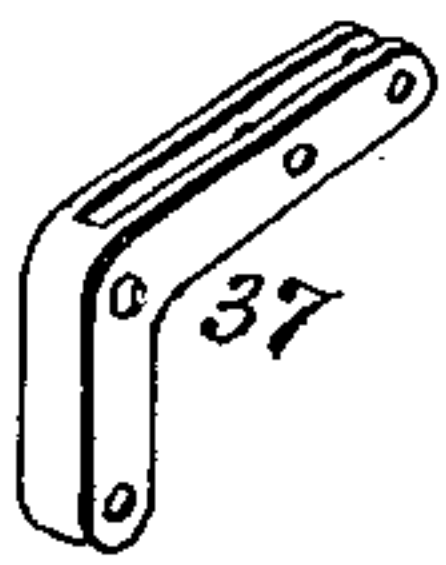


Fig. 5.



WITNESSES:

Edward Thorpe.
J. Red. Acker.

INVENTOR
Roddy C. Coble
BY *Munn & Co*
ATTORNEYS.

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Fig. 3.

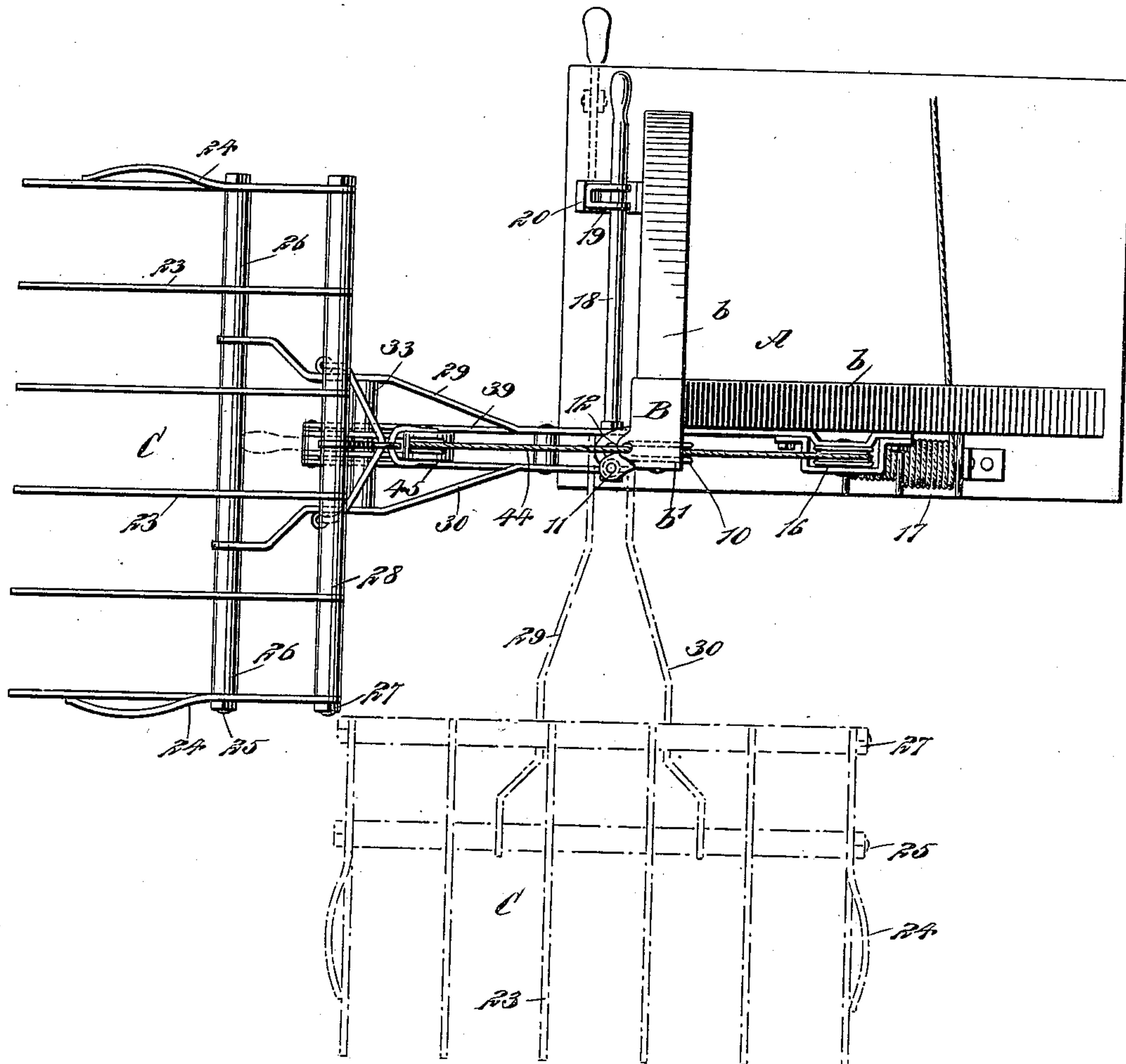
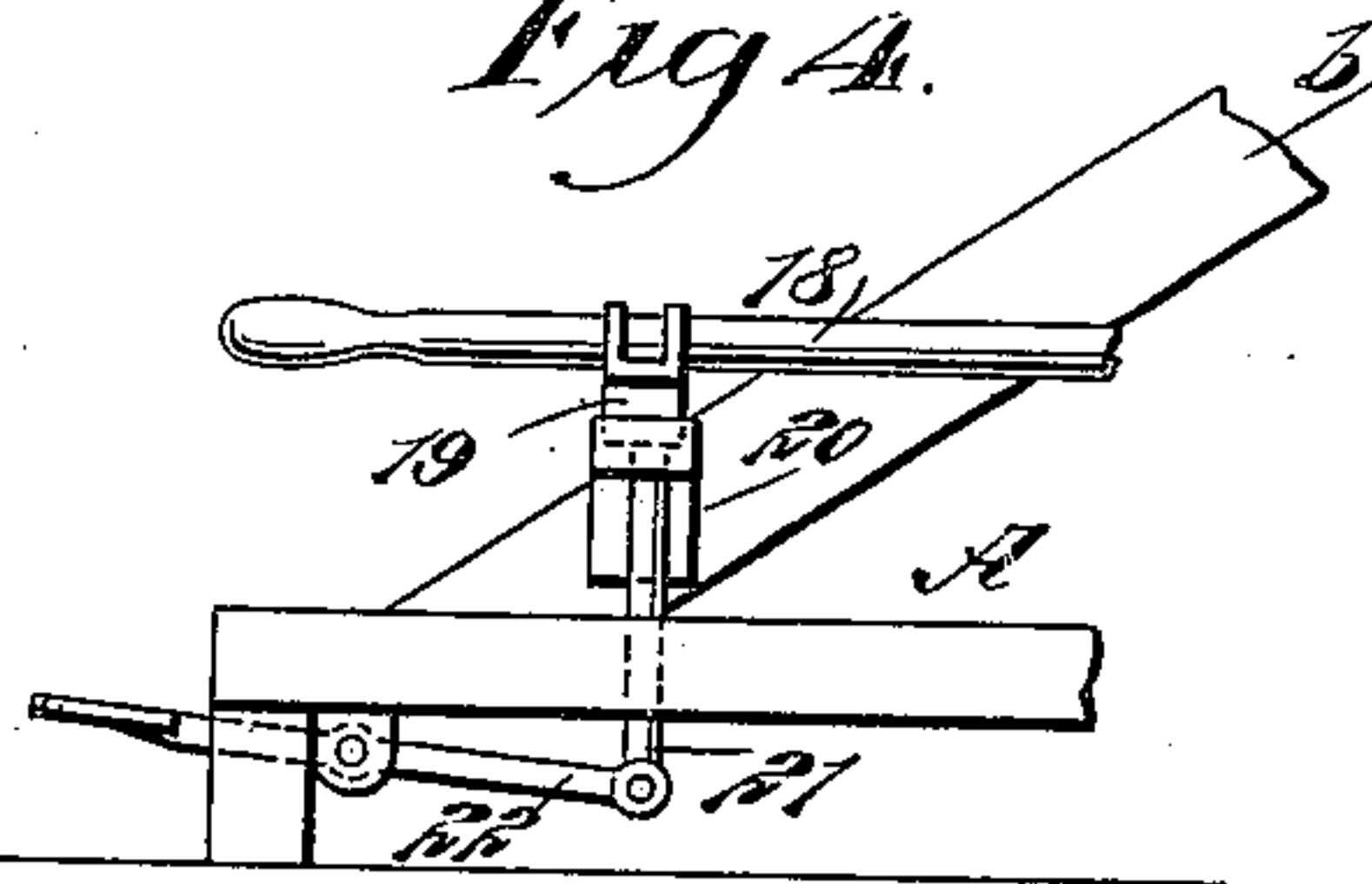


Fig. 4.



WITNESSES:

Edward Thorpe.
Fred Aker.

INVENTOR

Roddy C. Coble.

BY *Munn & Co.*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

RODDY C. COBLE, OF MARION, KANSAS, ASSIGNOR TO CLAUDIUS D. COBLE,
OF SAME PLACE.

STACKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 621,630, dated March 21, 1899.

Application filed September 14, 1898. Serial No. 690,964. (No model.)

To all whom it may concern:

Be it known that I, RODDY C. COBLE, of Marion, in the county of Marion and State of Kansas, have invented a new and Improved
5 Stacking-Machine, of which the following is a full, clear, and exact description.

The object of my invention is to construct a hay-stacker in a simple, durable, and economic manner and so that it may be swung
10 from side to side of a support or raised or lowered with ease and despatch.

Another object of the invention is to construct a hay-fork that will maintain a horizontal position while being raised and lowered and provide the fork with a lock or latch
15 that will act to hold the fork horizontal.

A further object of the invention is to provide a trip for the fork-lock and operated from the ground, which lock when operated
20 upon by the trip will permit the fork to incline sufficiently to properly dump its load.

Another object of the invention is to provide a locking device for the swing-support of the fork, whereby the fork can be held in
25 loading position, and, furthermore, to provide a releasing device for said lock that may be operated from the ground.

The invention consists in the novel construction and combination of the several
30 parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.
35

Figure 1 is a side elevation of the improved machine, the fork being in position to receive its load. Fig. 2 is a similar view to Fig. 1, except that the fork is shown elevated from
40 the ground, and in this position also the dumping position of the fork is illustrated. Fig. 3 is a plan view of the device, showing the fork in positive lines at the side of the base where it is adapted to receive its load and in
45 dotted lines at the side of the base where the load is to be discharged. Fig. 4 is a detail view of the releasing device for the locking mechanism of the swing-support for the fork, and Fig. 5 is a detail perspective view showing a part to be fully described hereinafter.
50

A base A is provided, which base is mount-

ed upon wheels or upon runners, so that it may be readily moved from place to place. An upright B is mounted upon the said base, preferably near one corner, and the said upright
55 is shown as strengthened by braces *b*. At the upper side surface of the upright B an extension *b'* is constructed, and within this extension a guide-pulley 10 is mounted to revolve, and at the front of the extension, near
60 the outer side, a vertical friction-roller 11 is mounted in suitable bearings, the vertical roller being nearer the outer side face of the extension *b'* than the guide-pulley 10. A
65 post 12, adapted as a support for the hay-fork C, is mounted in suitable bearings 13 and 14 at the front lower portion of the upright, as shown best in Figs. 1 and 2.

A cross-bar 15 is carried from the upright B to the side brace *b*, and in a pocket in said
70 brace a guide-roller 16 is mounted to revolve, and beneath the said cross-bar a double drum 17 is mounted to turn on the base. A rod or a bar 18 is secured to the pivoted post 12 at its inner face, and the said rod or bar is
75 carried inward, terminating in a handle, and near the handle end of the rod or bar a gravity-latch 19 is mounted, adapted for engagement with a keeper 20, as shown in Figs. 3 and 4. The latch 19 is released from the
80 keeper through the medium of a pin 21, which is made to extend upward through the base, as shown in Fig. 4, and through the keeper, the pin being pivotally attached at its lower
85 end to a foot-lever 22.

The fork C consists of a series of teeth 23, upwardly curved at their rear ends, the end teeth being provided with extensions 24, carried from the back portion in direction of the front to form guards, as shown best in Fig. 90
1. The teeth or tines of the fork are connected near their centers by a rod or a bolt 25, which extends from one side of the fork to the other, the tines being held properly spaced by sleeves 26, located on the said bolt. 95
A second bolt 27 is passed through the upper portions of all of the tines, and this upper bolt is likewise provided with spacing-sleeves 28, as shown in Fig. 3. Supporting-arms 29 and 30 are pivoted upon the bolt 25, one at
100 each side of the center, being held in suitable position by spacing-sleeves, and the said

arms 29 and 30 are preferably made to converge at their inner ends, and said inner ends are pivotally attached to the upper portion of the pivot-post 12.

5 A lock C' is pivoted upon the upper rear bolt 27 of the fork at its center, and the said lock consists of a shank 32, which is connected directly with the fork, and a body portion 34, the said body portion being curved and provided with a longitudinal slot 35, and at the
10 forward portion of the slot 35 a vertical extension 36 of the said slot is formed, as shown in Fig. 2. An angle-lever 37 is fulcrumed at the junction of its members upon a pin 31,
15 which is passed through the supporting-arms 29 and 30 for the fork, the lever being held in suitable position on the said pin by sleeves 33, as shown in Fig. 3. The upper member of this lever is preferably provided with a slot
20 which extends through to the upper end, while the lower portion of the lever or that portion below the pivot-pin 31 is usually solid. The body portion 34 of the lock C' is passed through a slot in the upper portion of
25 the lever 37, and a pin 38 is likewise passed through the upper end of the upper portion of the lever 37 and through the slot 35 in the body of the lock C', as is best shown in Fig. 2. The lower end of the lever 37 is pivotally
30 attached to two links 39, one being located at each side of the lever, and the links 39 are pivotally attached at their inner ends to opposite sides of the pivot-post 12, near the bottom portion of said post.

35 A releasing-lever, comprising a shank 40 and a head 41, is adapted to throw the lock C' upward, carrying the pin 38 from the extension-slot 36 when it is desired to dump the load from the fork. The head portion of
40 the releasing-lever is pivoted in the slotted portion of the angle-lever 37 just below the lock C', and the head is of such shape that when the shank 40 of the lever is drawn inward the head of the releasing-lever will force
45 the body portion of the lock C' upwardly. The releasing-lever is operated through the medium of a cord or chain 42, attached to its shank portion and led rearward, through an eye 43 on the upright, preferably to a point
50 near the handle of the rod connected with the pivot-post 12.

A cable or chain 44 is attached to the upper portion of the upright B, the said cable or chain being passed over the pulley of a
55 block 45, which block is pivotally connected by a bail 46 with the supporting-arms 29 and 30 of the fork. The cable or chain 44 is carried from the block 45 at the rear of the roller 11 and over the guide-pulley 10, thence
60 downward over the guide-pulley 16 to the drum 17, the drum being attached in any approved manner to any suitable source of power.

In the operation of the machine when the
65 fork is to receive a load the said fork is car-

ried to the lower position (shown in Fig. 1) at the front of the machine, and when the fork is in this position the pin 38, carried by the angle-lever 37, will have entered the extension-slot 36, so that the fork is held from turning, yet
70 as the fork is carried upward after receiving its load the tines of the fork will maintain a horizontal position throughout the movement. This is due to the pivotal connection between the lock C' and the fork and like-
75 wise the pivotal connection between the angle-lever 37 and the lock and the angle-lever and the links. When the fork has received its load, it is raised to the desired height through the medium of the chain or cable
80 44, and when the proper elevation has been reached the operator presses downward on the foot-lever 22, which forces up the latch 19, connected with the post 12, releasing said latch from its keeper, whereupon the fork is
85 swung over, usually by hand, to the side of the machine, as shown in dotted lines in Fig. 3, the elevating rope or cable 44 working against the roller 11.

When it is desired to dump the load from
90 the fork, the cable 42 is drawn upon, which will cause the head 41 of the releasing-lever to rise, and said head coming in engagement with the lower portion of the outer end of the slotted body of the lock C' will raise the
95 said body portion of the lock and cause the pin 38 in the lever 37 to be carried out from the extension-slot 36 and brought in position to enter the main slot 35. At this time the fork automatically dumps itself, being car-
100 ried to the inclined position (shown in dotted lines in Fig. 2) by the weight of the material on the fork.

It will be observed that the dumping movement is limited and that the fork cannot dump
105 farther than will be permitted by the length of the slot 35. After the load has been dumped from the fork said fork is carried to the front of the machine through the medium of the bar 18, and when the bar is carried
110 over the keeper 20 the latch 19, which is a gravity-latch, will automatically engage with said keeper. The fork is then lowered to the ground, and upon reaching its lower position the body of the lock C' will have been car-
115 ried so far inward as to cause the pin 38 to automatically enter the extension-slot 36, thus locking the fork against dumping.

The machine is exceedingly simple and easily operated. It is economic and through
120 its use a stack may be evenly, expeditiously, and conveniently formed.

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

1. In a hay-stacker, the combination, with a swinging post, a fork, arms pivoted to the fork and to the swing-post, and an angle latch-lever pivoted between the said arms, of a lock pivoted to the rear portion of the fork,
130

said lock having guided movement upon the latch-lever, and arranged for locking engagement therewith, links connected with the latch-lever and with the swing-post, and a releasing device for the lock, substantially as shown and described.

2. In a hay-stacker, the combination, with a swinging post, a fork, arms pivotally connected with the fork at a point near its center between the front and the rear, said arms being pivoted to the swing-post, and a hoisting device connected with the said arms, of a lock pivoted to the rear portion of the fork, said lock being provided with a curved and slotted body, the slot being longitudinal and provided with a transverse extension near one end, a latch-lever of angular construction pivoted between the said arms, the latch-lever being provided with a pin which passes through the slot in the lock, links pivotally connecting the lower end of the latch-lever with the swing-post, and a releasing-lever carried by the latch-lever and adapted to carry the lock from locking engagement with the latch-lever, for the purpose set forth.

3. In a hay-stacker, the combination, with a swinging post, a handle connected with the said post, a latch carried by the handle, a keeper for the latch, and a trip for the latch, of a fork having its rear portion upwardly curved and provided with guards at its sides, a pivotal connection between the fork and the swing-post, means for raising and lowering the fork, a gravity-lock carried by the fork, a latch-lever engaging with the gravity-lock and connected with the swing-post, and means for releasing the lock from locking engagement with the latch-lever, as described.

4. In a stacking-machine, the combination of a base, an upright mounted thereon, a post mounted on the base alongside of the upright, an arm pivotally attached to the post, a fork pivoted on the arm, winding mechanism hung on the upright and attached to the arm, to raise and lower the same, a lock pivotally connected with the fork, a bell-crank lever fulcrumed on the arm and coacting with the lock, a link pivotally connected with the bell-crank lever and with the post, and a releasing-lever mounted on the bell-crank lever and coacting with the lock.

5. The combination of a post, a swinging arm sustained thereon, a fork pivotally connected with the arm, a lock mounted on the fork, a lever mounted on the arm and coacting with the lock to hold the fork in position,

a link pivotally connected with the lever and with the base, and a releasing-lever coacting with the lock, to control the same.

6. The combination of a base, a swinging arm sustained thereon, a fork pivotally connected with the arm, a lock, the latch of which is pivotally connected to the fork and the body portion of which is provided with a slot having an offset at one end thereof, a lever mounted on the arm and having a portion working in the slot of the lock, a releasing-lever carried by the first-named lever and coacting with the lock, to control the same, and a link pivotally sustained on the base and having connection with the first-named lever.

7. The combination of supporting means, a swinging arm carried thereby, a fork pivotally mounted on the arm, a bell-crank lever fulcrumed on the arm, a lock pivoted to the fork and having a slot therein with an offset at one end, the slot of the lock receiving a portion of the bell-crank lever, a releasing-lever fulcrumed on the bell-crank lever and engaging the lock, to control the same, and a link mounted to swing on said support and pivotally connected with the bell-crank lever.

8. The combination with a base, of a post mounted to turn thereon, an arm pivotally mounted on the post, a fork pivotally mounted on the arm, a lock connected with the fork, a lever mounted on the arm and coacting with the lock, a link pivoted to the post and to the lever, a releasing-lever mounted on the first-named lever and controlling the lock, a bar attached to the post and swinging therewith, a latch connected with the bar, a keeper rigid with the base and engaged by the latch, and means for releasing the latch from the keeper.

9. The combination with a base, of elevating devices mounted thereon to rise and fall and to turn, a bar attached to said devices so as to swing with the same, a latch mounted on the bar, a keeper carried by the base and engaged by the latch, and means for raising the latch from engagement with the keeper, to permit the swinging of the bar.

10. The combination of a base, a post mounted to turn thereon, elevating devices mounted on the post and adapted to swing therewith, a bar attached to the post, to swing the same, and means for locking and releasing the bar.

RODDY C. COBLE.

Witnesses:

HOMER HOCH,
R. M. WILLIAMS.