(No Model.)

J. ANDERSON.

HAY FORK.

No. 459,263 Patented Sept. 8, 1891.

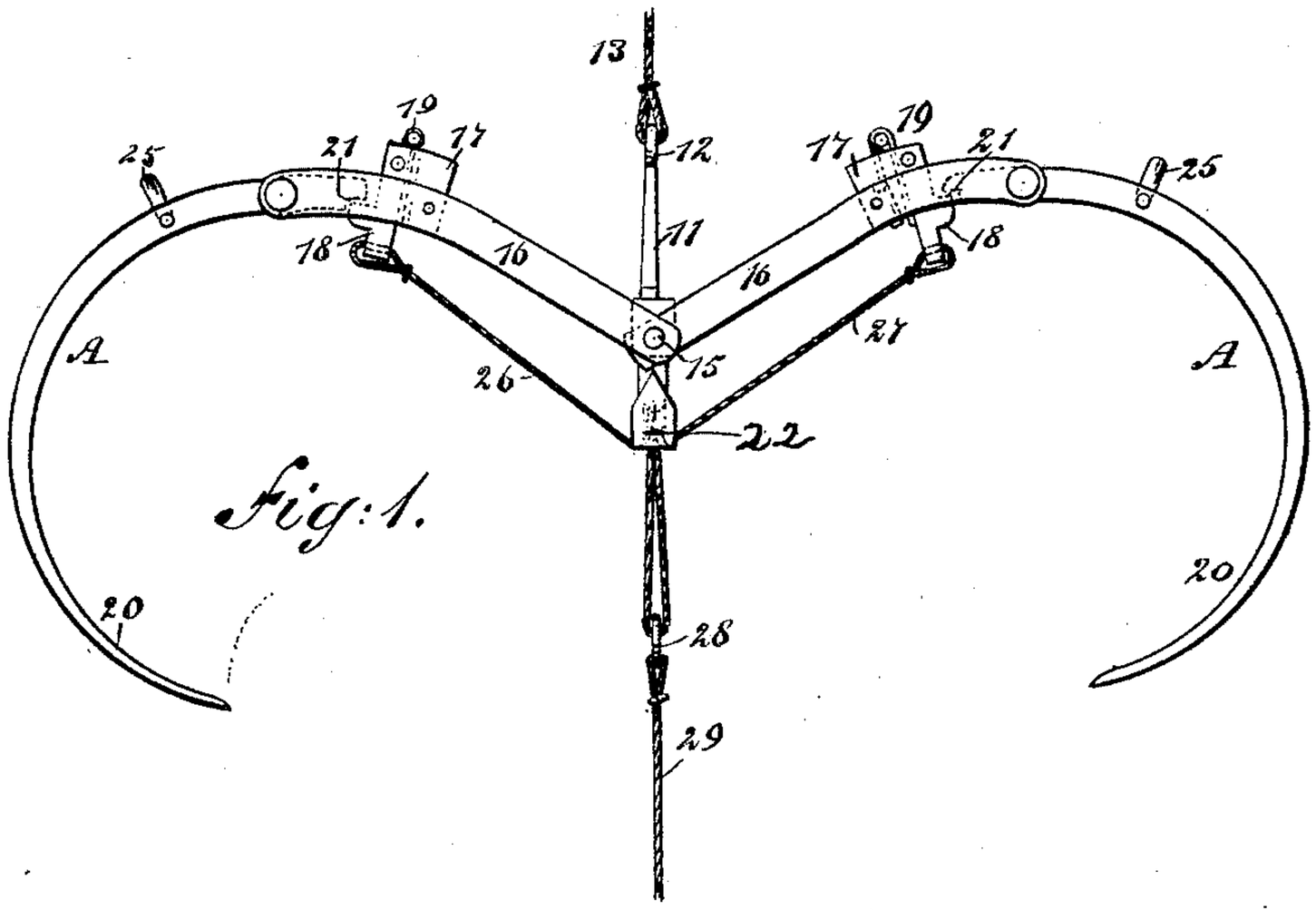

Fig: 1.

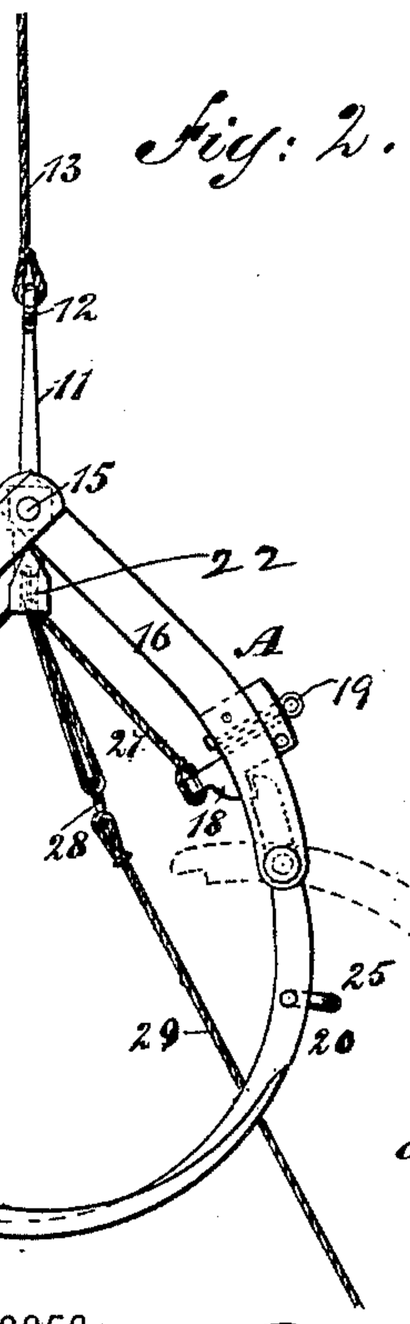

Fig: 2.

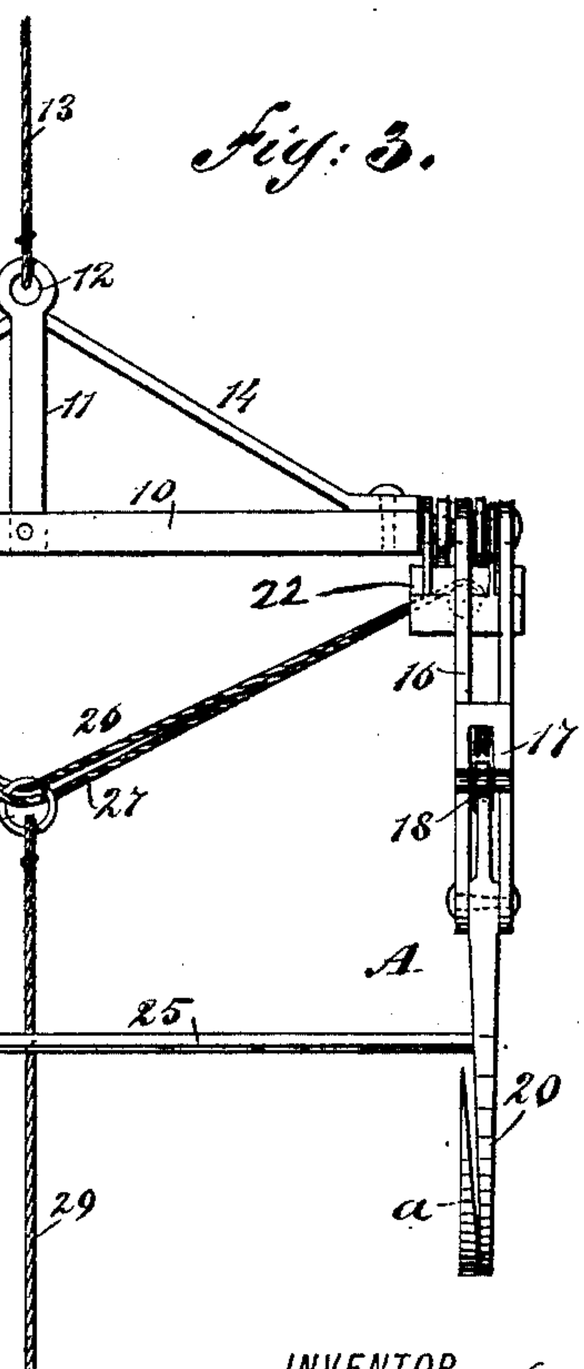

Fig: 3.

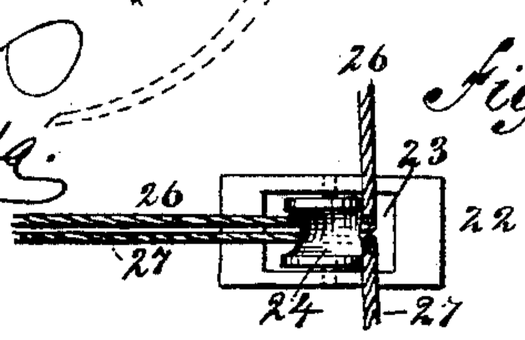

Fig: 4.

WITNESSES:

Chas. Nida.

C. Sedgwick

INVENTOR

J. Anderson

BY Munn & Co.

ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN ANDERSON, OF HICKSON, NORTH DAKOTA.

HAY-FORK.

SPECIFICATION forming part of Letters Patent No. 459,263, dated September 8, 1891.

Application filed May 12, 1891. Serial No. 392,512. (No model.)

To all whom it may concern:

Be it known that I, JOHN ANDERSON, of Hickson, in the county of Cass and State of North Dakota, have invented a new and useful Improvement in Hay-Forks, of which the following is a full, clear, and exact description.

My invention relates to an improvement in hay-forks, and has for its object to provide a device of simple, durable, and economic construction capable of lifting either long or short hay and of being readily manipulated to dump the hay cleanly from the carrying arms or members.

The invention consists in the novel construction and combination of the several 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 figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is an end view of the hay-fork, illustrating it in position to receive a load. Fig. 2 is an end view of the fork in a closed position, a portion of one member being in section. Fig. 3 is a side elevation of the fork in a closed position, and Fig. 4 is a detail view of one of the guide-pulleys over which the trip-ropes pass.

In the construction of the fork a central cross beam or bar 10 is employed, usually provided at its center with an upwardly-extending shank 11, terminating at its upper end in an eye 12, in which eye the lower end of the hoist-rope 13 is secured. The upright shank 11 is usually strengthened by suitable braces 14. A trunnion 15 is formed at each outer end of the central bar 10, adapted to constitute fulcrums for the lifting-arms A. The lifting-arms are four in number, two being oppositely pivoted upon each trunnion of the central bar. The arms are alike in construction, each consisting of a slightly-curved upper member 16, and each member consists, preferably, of two concentric plates arranged side by side, as illustrated in Fig. 3, the said plates being united some distance from their lower ends by a post 17, which post is essentially L-shaped, the vertical member thereof being riveted or otherwise attached to the plates, as shown in Fig. 2, and the horizontal member is curved to the upper contour of the plates and extends above the same in the direction of their lower ends.

In the horizontal member of the post 17 a slot is produced, extending through from top to bottom, and in said slot an essentially L-shaped latch 18 is pivoted at the upper portion of its vertical member, the horizontal member being contained between the bars of the arm member 16, as is likewise best shown in Fig. 2. The latch 18 is pressed at all times by a spring 19, located between it and the upper end of the post-slot.

The lower member 20 of each arm is curved decidedly downward and inward, and the inner and outer faces of the said lower members at their lower extremities are so shaped that these portions of the arms pivoted upon one fulcrum will overlap when the arms are closed, as illustrated in Figs. 2 and 3, and to that end the contacting faces of the lower members of each pair of arms are beveled in opposite directions, as illustrated at *a* in Fig. 3. The upper end of the lower member of the arm is pivoted between the plates of the upper member at or near the lower end thereof. The lower member extends upward beyond its pivot-point, and is provided with a recess 21 in its inner edge at its upper extremity, adapted to engage normally with the horizontal member of the latch 18. The upper ends of the arms are pivoted upon the trunnions 15 of the central or lift bar 10 in any suitable or approved manner, and upon each trunnion a downwardly-extending block 22 is pivoted, the said blocks, as illustrated in Fig. 4, being provided in their lower faces with recesses 23, and in the recess of each block a guide-roller 24 is located. The lower members 20 of the arms at each side of the central or lifting bar 10 are connected by a rod 25, whereby said members may be manipulated by hand and independently of the upper members of the arms, and the lower members of the arms may be disengaged from the latches 18 through the medium of ropes 26 and 27, the ends of the rope 26 being passed over the guide-pulleys 24 of the blocks 22 and secured to the inner ends of the latches belonging to the connected arms at one side of the central or lift bar 10, and the rope 27 is passed in like manner over the pulleys 24

and is secured at its ends to the latches of the opposite side of the connected arms, as is best shown in Figs. 1, 2, and 3.

Both ropes are operated simultaneously by passing them through a ring 28, to which ring a rope 29 is attached, leading downward to the ground. When the latches are disengaged from the lower members of the arms, the said lower members of each set of arms may be carried outward to readily spill the hay or material carried thereby, and the outward movement of these members is effected by drawing upward upon the connecting-rods 25. As the lower ends of the latches 18 and the upper extremities of the lower members 20 of the arms are rounded off, if the rope 29 is released it suffers the latches to spring back to their normal position, and the lower members 20 may be readily closed, as their upper ends will pass the latches.

In the operation of hoisting hay the device is placed in the position shown in Fig. 1 to grapple with the load. As the device is drawn upward through the medium of the rope 13, each connected set of arms approach one another and bind the hay within the device. When the device has been carried to the place where the hay is to be dumped, the dumping operation is effected by drawing downward upon the rope 29, which releases the lower members of the arms, and drawing upward upon the connecting-bars 25 of the arms, which action carries the said members out to the position shown in dotted lines, Fig. 2, releases the load, which immediately and cleanly drops from the device.

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

1. In a hay-fork, the combination, with a central lifting-beam having trunnions at its ends, of arms fulcrumed upon the said trunnions, two arms upon each of said trunnions, which arms are inwardly curved and comprise two hinged members, a spring-controlled latch carried by the upper member of each arm and adapted to engage with the upper end of the lower member, trip-ropes attached to the latches, and means, substantially as shown and described, for operating said ropes, as and for the purpose set forth.

2. In a hay-fork, the combination, with a central lift bar or beam having trunnions formed at its extremities, arms pivoted upon the trunnions, two upon each, which arms are curved inward in direction of the lift bar or beam, and each comprises two members having a hinge connection, and spring-controlled latches pivoted in the upper member of the arms and engaging with the upper ends of the lower members, of blocks located upon the lifting bar or beam at its extremities, guide-rollers located in the said blocks, ropes attached to the latches and passed over said rollers, and means for drawing the said ropes downward, as and for the purpose specified.

3. In a hay-fork, the combination, with a central lift bar or beam having trunnions at its extremities, arms pivoted upon said trunnions, two upon each trunnion, which arms are curved in the direction of the lift bar or beam and comprise two hinged members, the lower members of the arms at each end of the trunnion having their opposed faces oppositely beveled, of bars connecting the lower members of the arms at each side of the lift bar or beam, spring-controlled latches pivoted in the upper members of the arms and adapted to normally engage with the upper ends of the lower members thereof, blocks carried by the trunnions of the lift bar or beam and provided with guide-rollers, and ropes attached to the latches and passed over the pulleys in the blocks, and means for manipulating the said ropes, substantially as and for the purpose set forth.

JOHN ANDERSON.

Witnesses:
E. GILBERTSON,
H. H. HARVEY.