

(No Model.)

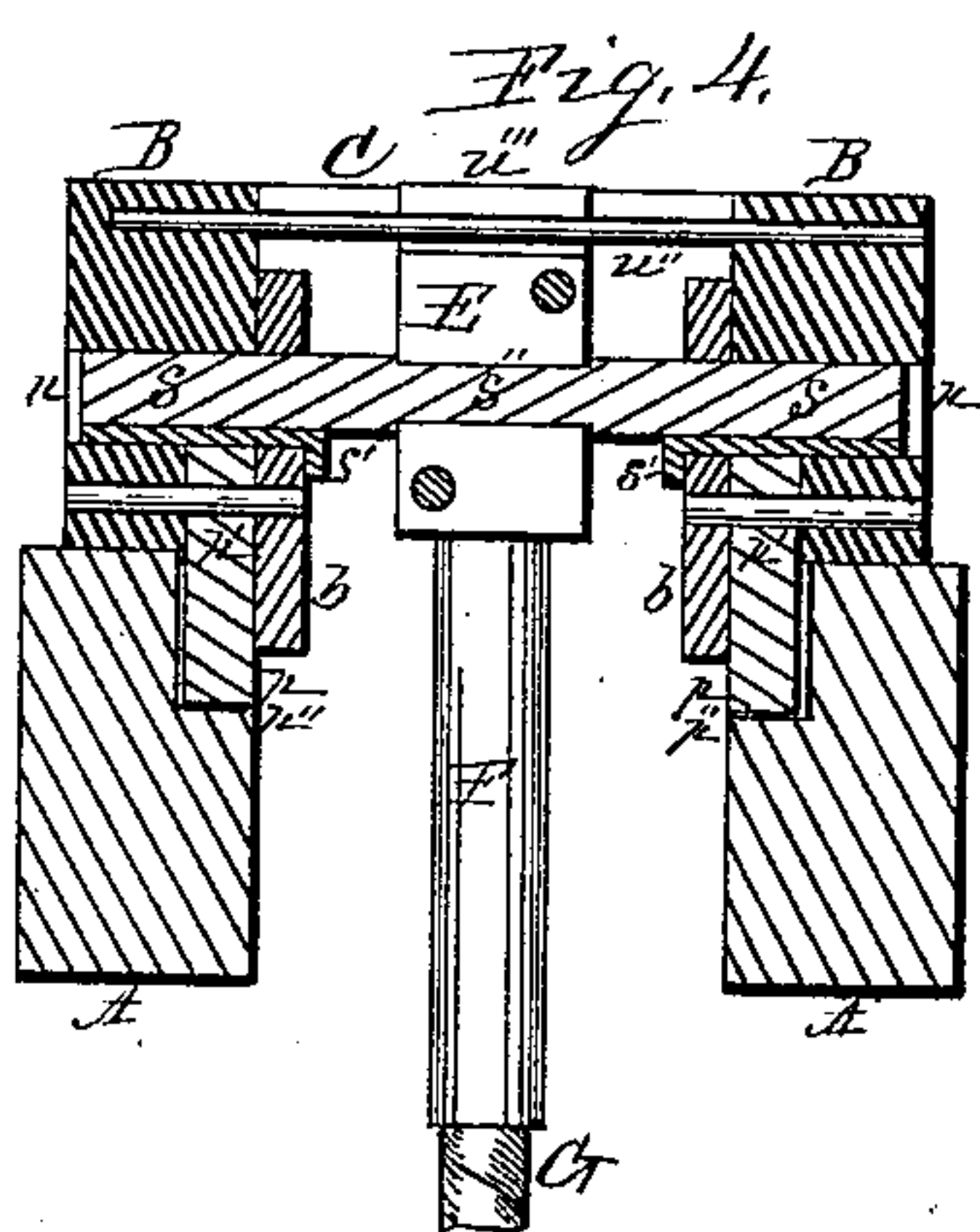
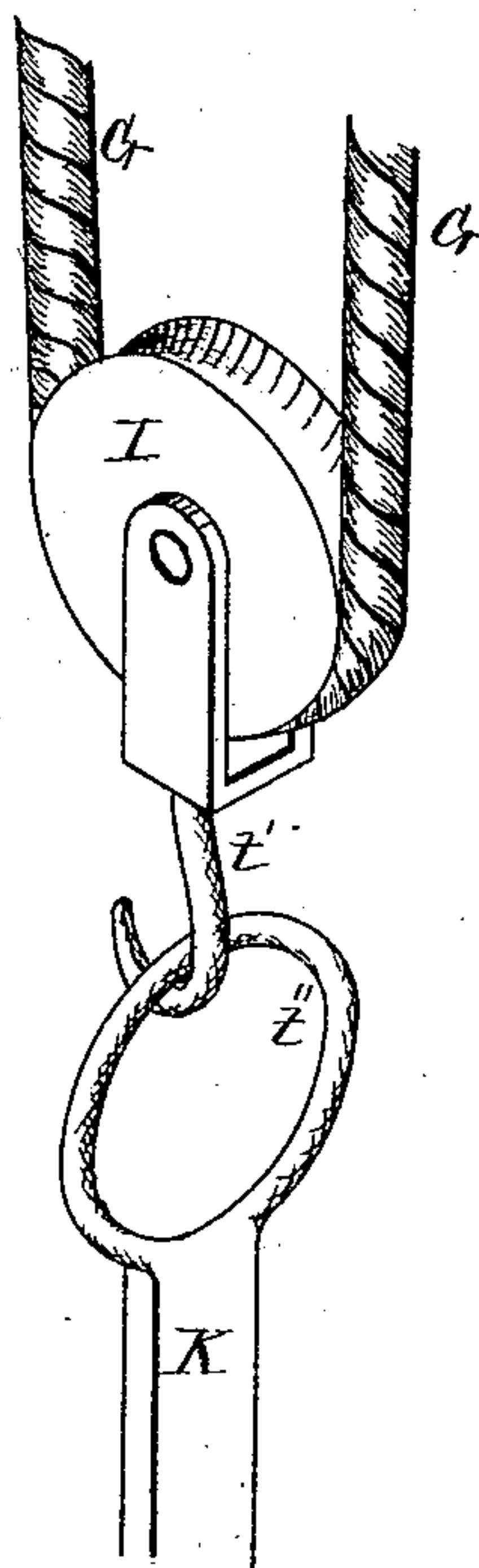
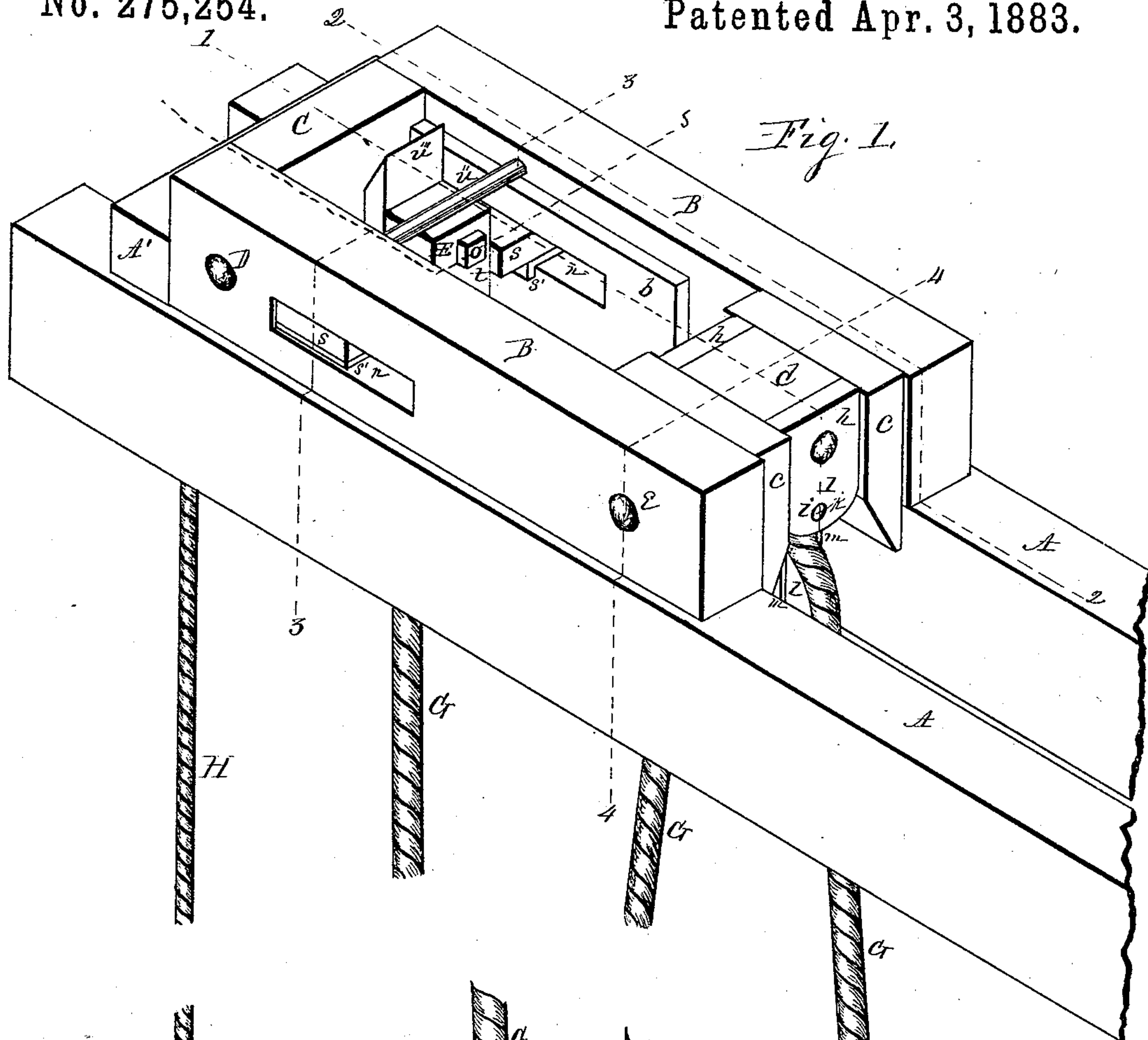
2 Sheets—Sheet 1.

J. NETTLETON.

HAY CARRIER.

No. 275,254.

Patented Apr. 3, 1883.



Witnesses,
A. V. Behel
Geo. E. Fox

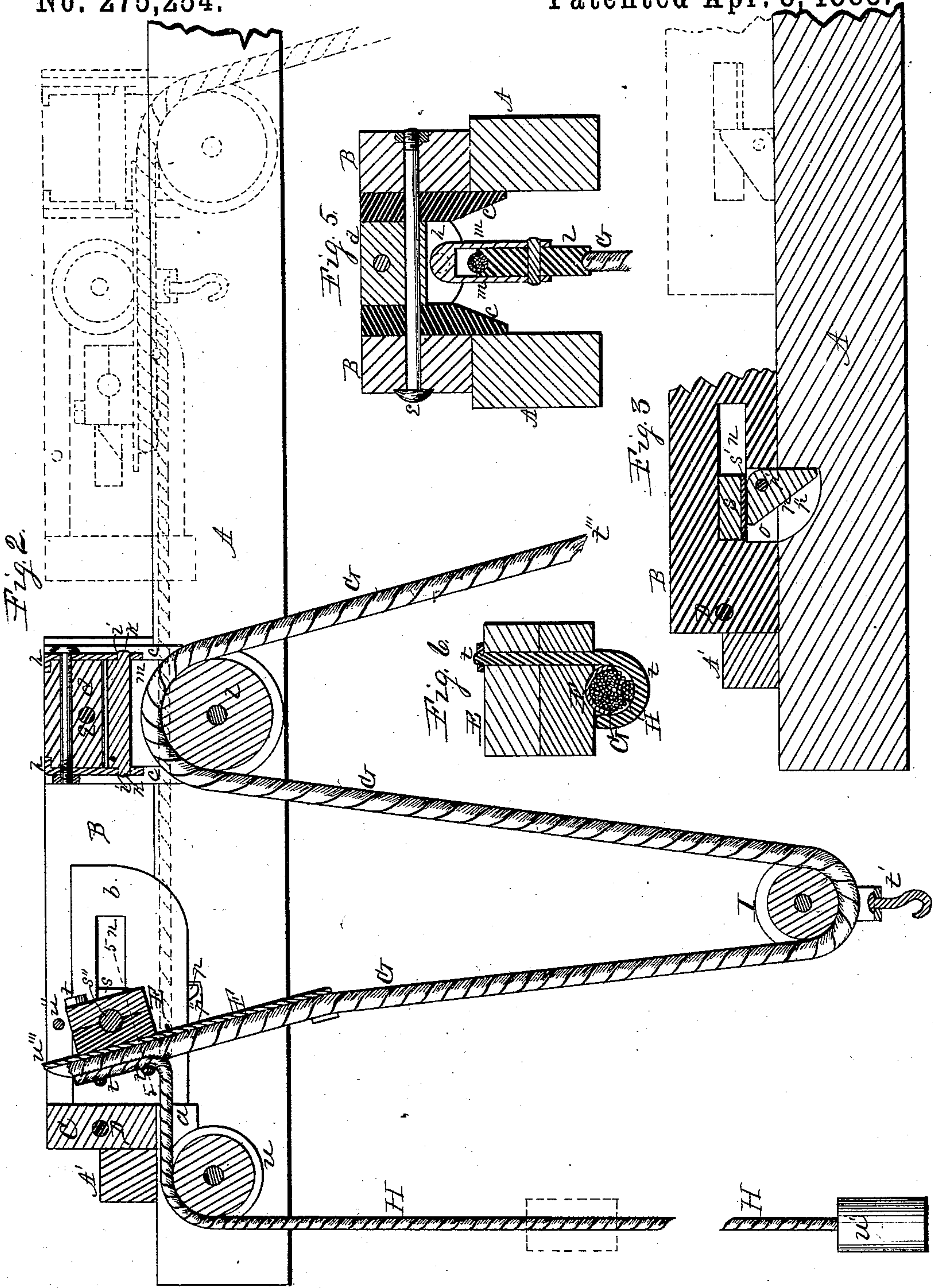
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UNITED STATES PATENT OFFICE.

JAMES NETTLETON, OF DAYSVILLE, ILLINOIS.

HAY-CARRIER.

SPECIFICATION forming part of Letters Patent No. 275,254, dated April 3, 1883.

Application filed April 29, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES NETTLETON, a citizen of the United States, residing at Daysville, in the county of Ogle, in the State of Illinois, have invented a new and useful Improvement in Hay-Carriers, of which the following is a specification.

This invention relates to machines known as "hay-elevators" or "hay-carriers," and its object is to provide a machine which, in connection with suitable power, may be employed to lift hay from a loaded wagon, carry it, and deposit it in the bay or on the rick, or vice versa; and it consists in the mechanism and in the several combinations of the devices represented in the accompanying drawings, all of which will be hereinafter more fully explained, and pointed out in the claims.

In the accompanying drawings, Figure 1 is an isometrical representation of a machine embodying my invention, of which Fig. 2 is a lengthwise vertical central section on dotted line 1. Fig. 3 is a lengthwise vertical section on dotted line 2. Fig. 4 is a vertical transverse section on dotted line 3. Fig. 5 is a transverse vertical section on dotted line 4, and Fig. 6 is a transverse section on dotted line 5.

In the figures, A represents beams of suitable dimensions to form a trackway on which to support a vehicle employed as a carrier. These beams are placed parallel to each other, and are suitably separated, and in their separated position are joined by means of suitable transverse beams, A', fixed to the upper face of the end portions of the beams, and these transverse beams also serve to limit the travel of the vehicle. These beams may be supported in proper position to the roof-timbers or other convenient parts of the hay-barn, rick-frame, or other suitable supports.

At B are represented side beams of suitable dimensions to form the sides of a carrying frame or vehicle. These beams are placed parallel to each other, having their inner walls separated substantially the same distance as the inner walls of the beams forming the trackway, and at their rear ends are held in their separated position by means of a transverse beam, C, placed between them, and a suitable screw-bolt, D, passed transversely through the parts. Portions *a* of the transverse beam C and suitable bars, *b*, fixed to the inside of the side beams, B, depend below the side beams of the vehicle and enter between the beams of

the trackway and serve as guides to the vehicle.

At *c* are represented suitable guide-blocks fixed to the inner walls of the forward ends of the side beams, B, of the vehicle, and their lower ends depend below the beams to enter between the beams of the trackway to serve as guides to the vehicle.

At *d* is represented a block of suitable dimensions, placed between the guide-blocks *c*, and is of a proper size to preserve the parallel position of the side beams. These parts are fixed in position by means of a suitable screw-bolt, *e*, passed transversely through the parts.

At *h* are represented metallic plates fixed to the ends of the center block, *d*, having their ends depending below the block, and said depending ends are provided with suitable holes, *i*, as bearings to receive the journals *k* of a sheave-support.

At *l* is represented a sheave having its journal-supports in suitable bearing-plates, *m*, produced in yoke form to span the pulley or sheave in the usual manner. These yoke-formed plates are provided with journals *k*, which enter and are supported in the bearings *i* in the metallic plates *h* in such a manner as to permit the sheave to oscillate therein to adjust itself to the direction of the draft-line of the rope passed over the sheave.

The rear end portions of the side beams, B, of the vehicle are provided with lengthwise slots *n*, extending horizontally through the beams. These beams are also provided on their inner lower corner with a recess, *o*, at the rear end portion of the lengthwise slots, to receive a suitable detent.

At *p* are represented right-angled triangular detents, pivoted at their right angle at *p'* in the forward end of the recess *o* in such a manner as to permit it to oscillate on its pivotal center one-fourth of a circle.

At *p''* are represented recesses cut in the upper inner corner of the track-beams in such a manner as to permit one of the free arms of the detent to drop into it when the vehicle is in its farthest rearward position on the track-beams.

At *s* is represented a transverse bar placed in the lengthwise slots *n*, and the under face of its end portions is provided with metallic shoes *s'*, having their inner ends turned down in hook form to engage the inner face of the guide-bars *b* to prevent endwise movement of

the bar, but in such a manner as to permit the bar to slide lengthwise in the slots. The center portion of this transverse bar is shaped in journal-bearing form, as shown at s'' .

At E is represented a two-part box-bearing, fitted to receive the journal-bearings s'' .

At F is represented a metallic semi-tubular portion, in which is placed the rear end portion of the main hoisting-rope G and the end portion of the return-rope H. These parts are placed against the under side of the two-part box E, and are fixed thereto by means of hook screw-bolts t , which embrace the parts, having their screw-shank portion extending through the two-part box-bearing E, and by means of a suitable screw-nut serve to fix the parts to each other in a proper manner. The length of the tubular portion F is such that when elevated to a horizontal position and the transverse bar s is carried to the forward end of the slot, as in the dotted lines, the forward end of the tube will rest on the sheave l at the forward end of the vehicle.

At I is represented a sheave of ordinary construction, provided with a hook, t' , to engage the ring t'' of a suitable fork, a portion of which is represented at K. This sheave is supported on the hoisting-rope G, between its connection with the transverse bar s at the rear end of the vehicle and its support on the pivoted sheave l at the forward end of the vehicle. The end portion t''' of the hoisting-rope is passed under a suitable snatch block or sheave suitably located, and its free end is designed to connect with a team or other suitable power to operate the machine. The return-rope H, from its connection with the transverse bar s , extends rearward over a pulley, u , supported between the trackway-beams at their rear end immediately under the transverse beam A', fixed to the track-beams.

At u' is represented a suitable weight fixed to the free end of the return-rope, employed to return the vehicle to its position (shown in solid lines) after the hay has been discharged from the fork.

At u'' is represented a bar passed through the side beams of the vehicle, in position to receive the rearward-projecting end u''' of the semi-tube F, to act as a fulcrum to carry the slide-bar s to the rear end of the slot when the fork is carried rearward of a perpendicular line, and to prevent the forward movement of the slide-bar from releasing the vehicle until the fork is fully elevated and supported on the semi-tube, as represented in the dotted lines in Fig. 2.

In using my improved hay hoisting and carrying apparatus with the several parts combined and arranged substantially as described, the vehicle is caused, by means of the weight on the return-rope, to be carried to the rear end of the trackway, against the transverse beam fixed on the upper face of the track-beams, at which point the detents will drop into the recesses in their inner upper corners, which will place their upper face in a horizon-

tal position slightly below the transverse bar in the slots in the side beams, and will permit the bar to be carried over them to the rear end of the slots, which will lock the vehicle in place. This action will carry the forward end of the semi-tube inclosing the rope rearward of the sheave in the forward end of the vehicle, and permit the fork supported on the hoisting-rope to descend to engage the hay, and when loaded, by means of the power employed, in connection with the free end of the rope, it will be elevated; and when supported on the semi-tube inclosing the rope the transverse bar, to which the semi-tube is connected, will be drawn to the forward end of the slots in the side beams of the vehicle, forward of the detents, which will permit them to rise from the recesses in the track-beams into the recess in the side beams of the vehicle, and permit the vehicle to slide on the trackways to the place of deposit, at which point the load will be dropped from the fork in the usual manner, and when relieved of the load the vehicle will be returned and locked in its rearward position, and the fork will again descend to repeat the operation.

I claim as my invention—

1. The combination, with the trackway provided with suitable depressions or their equivalent, and with the vehicle, of the triangular detents, having a pivotal connection with the vehicle and adapted to engage the track-beams, substantially as and for the purpose hereinbefore set forth.

2. The combination, with the vehicle carrying the pivotal detents, of the transverse bar capable of a sliding movement over the pivoted detents, substantially as and for the purpose hereinbefore set forth.

3. The combination, with the transverse bar capable of a sliding movement over the pivoted detents, and with the pivoted sheave in the forward end of the vehicle, of a semi-tube embracing the hoisting-rope, and having a journal-support on the transverse bar, substantially as and for the purpose hereinbefore set forth.

4. The combination, with the semi-tube having a journal-support on the transverse bar, of the hoisting and return ropes, substantially as and for the purpose hereinbefore set forth.

5. The combination, with the semi-tube connected with the hoisting and return ropes, of a fork-supporting sheave, substantially as and for the purpose hereinbefore set forth.

6. The combination, with the semi-tube, hoisting-rope, and weighted return-rope there-to attached, of a transverse bar, u'' , to engage the rear end of the semi-tube, substantially as and for the purpose hereinbefore set forth.

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