

(No Model.)

W. G. RICKER.

HAY SLING.

No. 353,084.

Patented Nov. 23, 1886.

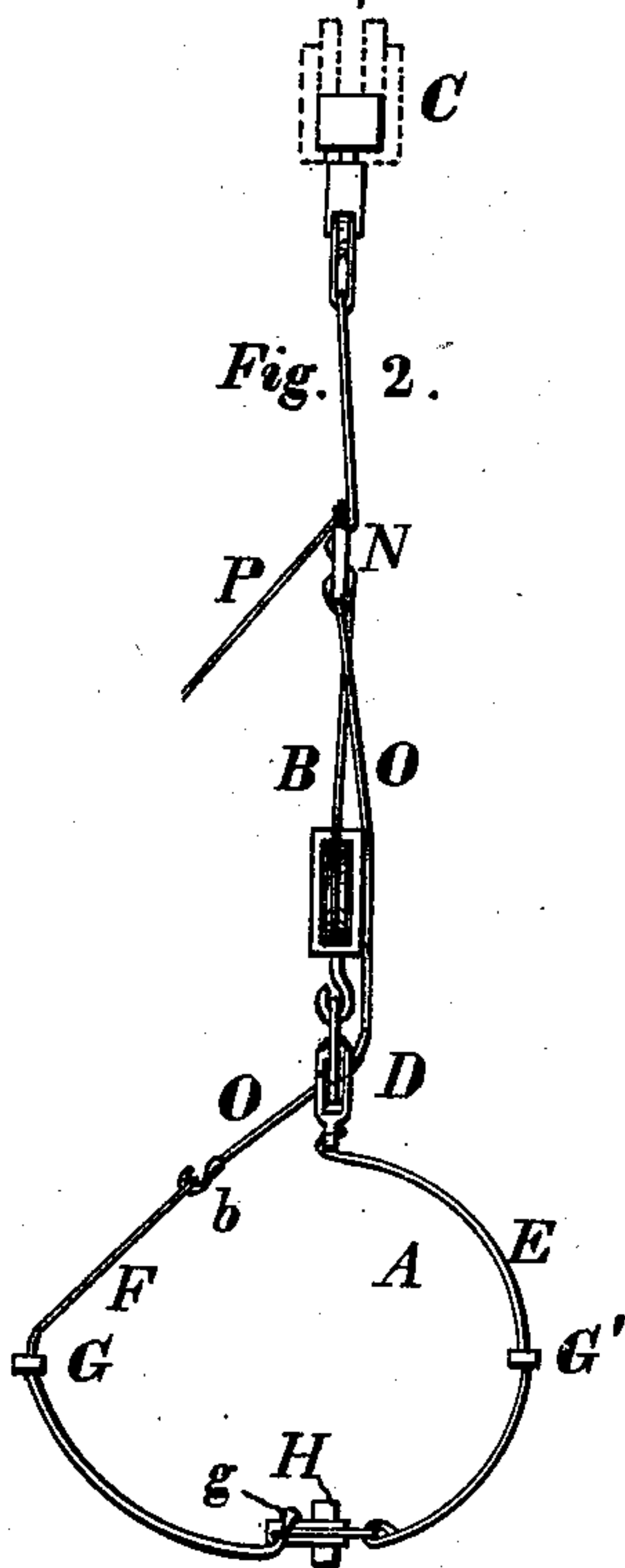


Fig. 2.

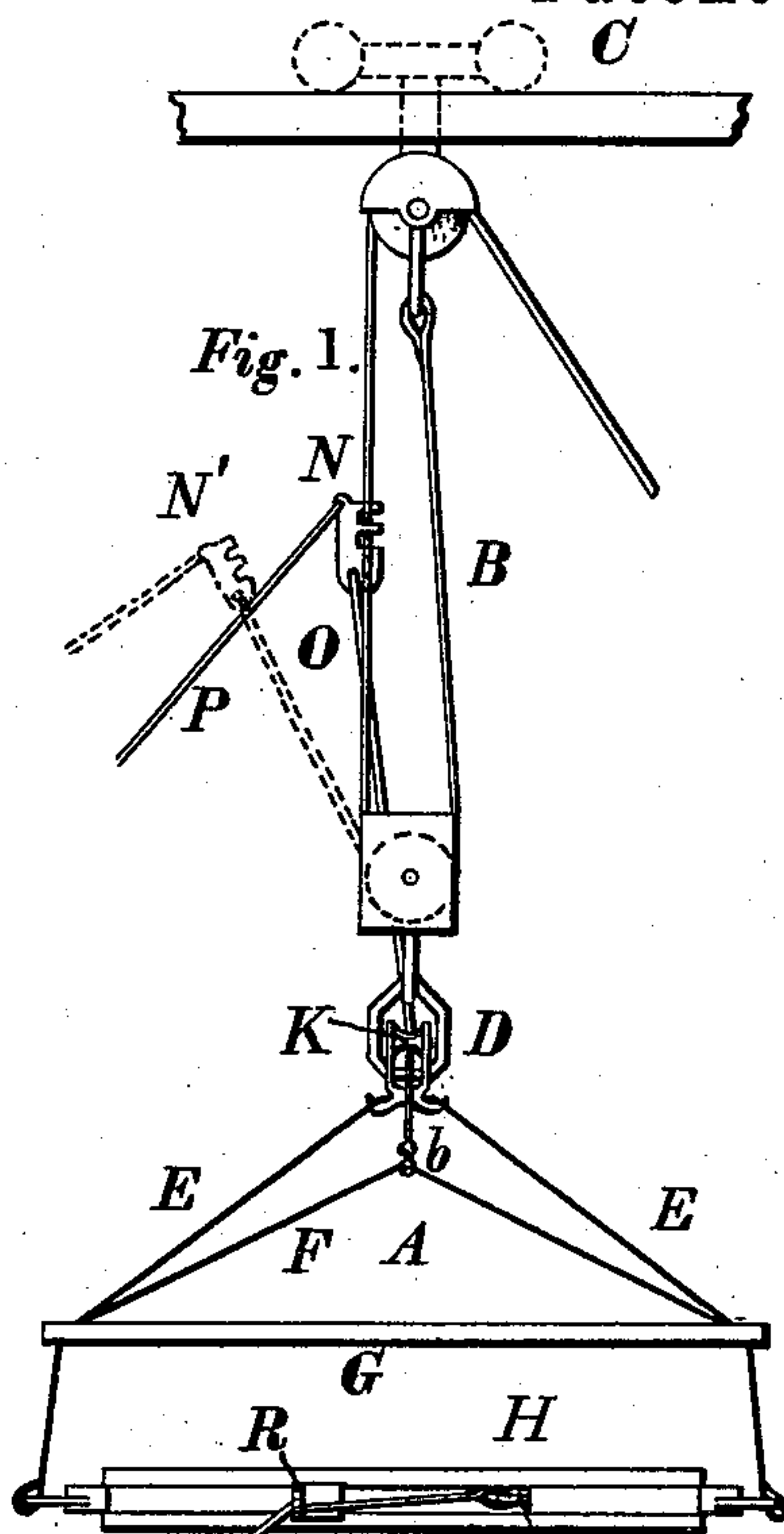


Fig. 1.

Fig. 6.

Fig. 7.

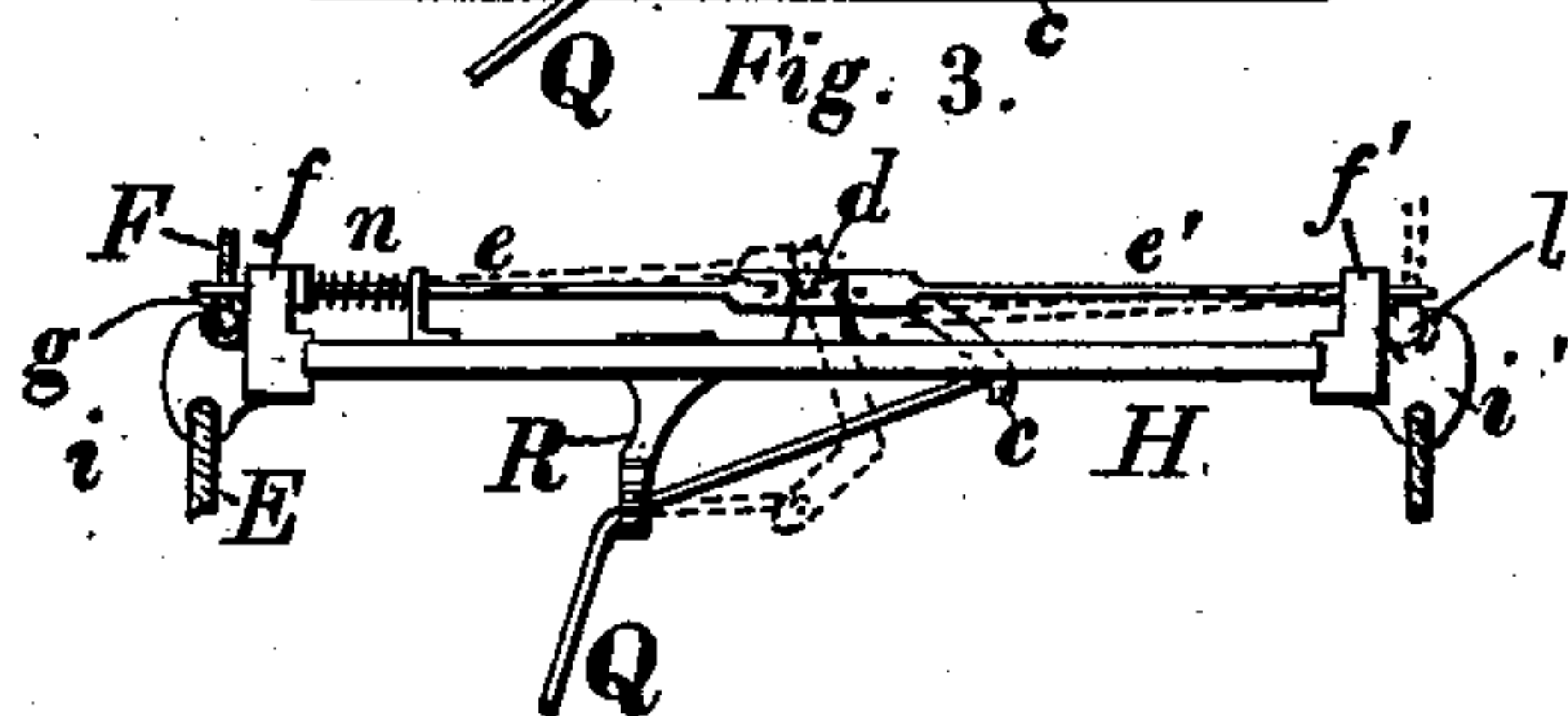
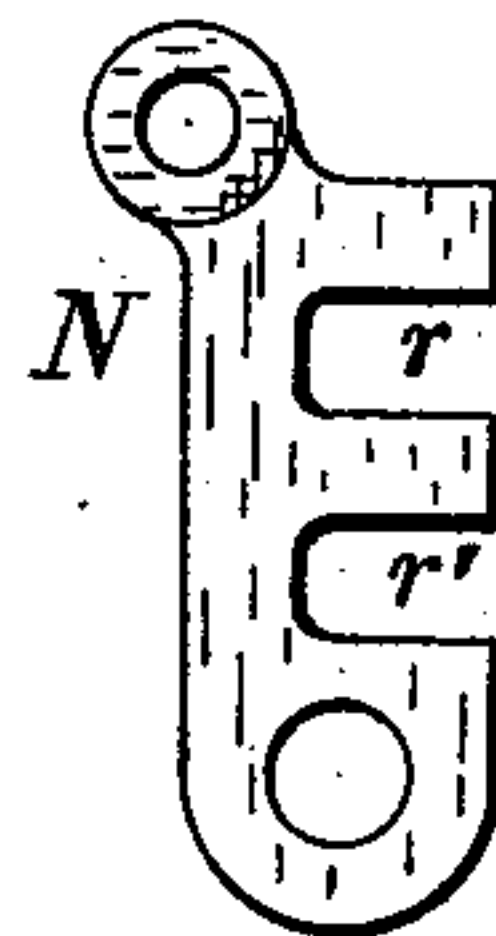
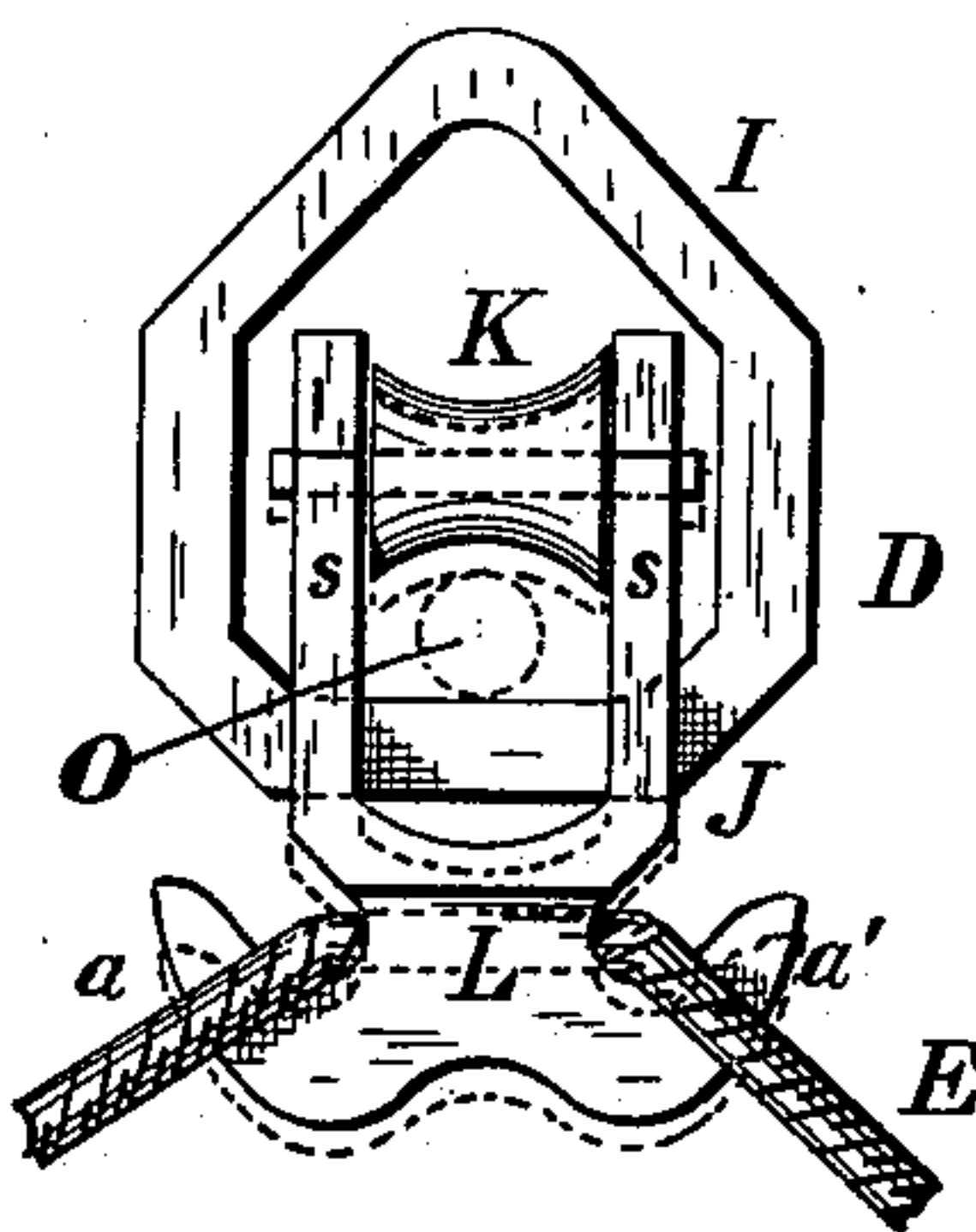
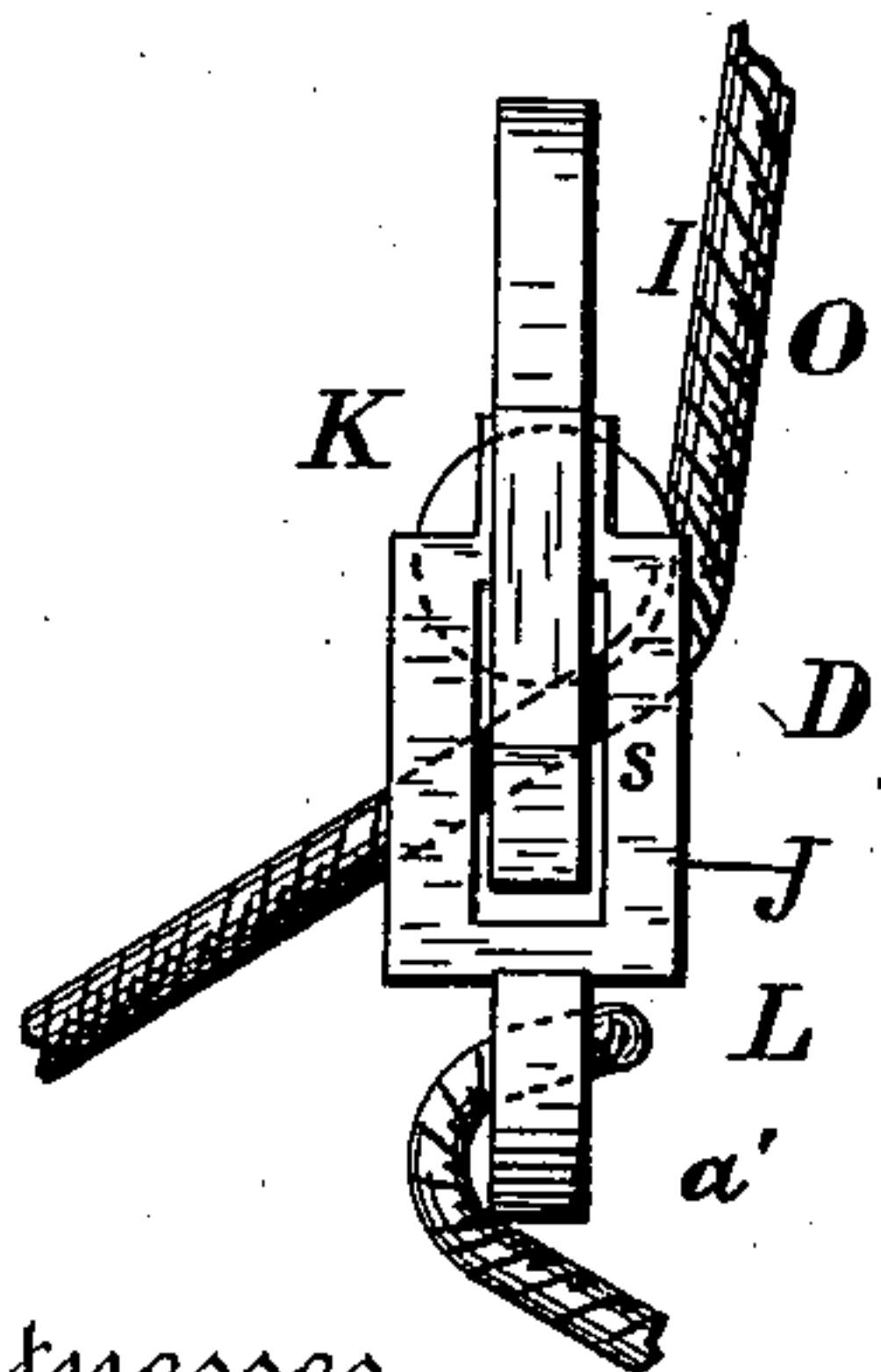


Fig. 3.

Fig. 5.

Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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HAY-SLING.

SPECIFICATION forming part of Letters Patent No. 353,084, dated November 23, 1886.

Application filed March 9, 1886. Serial No. 191,536. (No model.)

To all whom it may concern:

Be it known that I, WENTWORTH G. RICKER, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain Improvements in Hay-Slings, of which the following is a specification, reference being had to the accompanying drawings.

My present invention relates to certain improvements in hay-slings designed to be used in connection with any ordinary or preferred traveling carriage or carrier, or with the usual lifting-tackle, which improvements are fully described and illustrated in the following specification and accompanying drawings, and the novel features thereof specified in the claims annexed to the said specification.

In the accompanying drawings, representing my improvements in hay-slings, Figure 1 is a side elevation. Fig. 2 is an elevation at right angles with Fig. 1. Fig. 3 is a plan view of the locking-bar and locking device. Fig. 4 is a side elevation of the binding mechanism. Fig. 5 is an end elevation of the same. Fig. 6 is a side view of the rope-clamp. Fig. 7 represents the rope-clamp as seen at right angles with Fig. 6.

In the accompanying drawings I have represented my improved hay-sling A as arranged to be raised with its load by an ordinary tackle-block, B; but it may be used in connection with any ordinary or preferred form of hay-carrier. (Represented by the dotted lines C in Figs. 1 and 2.)

My improved hay-sling consists, essentially, of the binding device D, ropes E and F, cross-bars G G', and locking-bar H, provided with a suitable locking device, by which the ropes E and F are attached together during the elevation of the load; but are arranged so as to be disconnected when the load has arrived at the point where it is desired to deposit it.

The binding device consists of a ring or hook, I, and a frame, J, carrying the roller or pulley, K, which clamps the binding-rope O on the lower part of the ring, and is provided at its lower end with a hook, L, which is preferably made double, as indicated at *a a'* in the drawings.

The ropes E and F, cross-bars G G', and the locking-bar D, constitute the sling proper,

two or more of which are used in loading the hay or grain onto the wagon on which it is hauled to the barn or stack. On lifting the load contained in the sling the rope E is engaged with the hook L, and the binding-rope O is attached, by means of the hook *b*, to the rope F, the rope O passing between the pulley K and the ring I, while its end is fastened to the rope of the tackle B or the draft-rope of the carrier by means of the rope-clamp N.

On applying power to raise the load the clamp N grips firmly on the rope B and draws the sling around the load, the rope O sliding freely between the pulley K and frame or hook I until all the slack in the sling has been taken up and the load is firmly bound in the sling. The operator now detaches the clamp N from the rope B by a side pull by means of the cord P, when the rope O is immediately bound by being clamped by the weight of the load between the pulley K and the frame I, and the load is thereby supported while being further elevated or transported to the desired locality. The load is discharged by disconnecting the ropes E and F by a pull on the cord Q, which unlocks the locking mechanism and allows the load to fall.

The cord Q is attached to the lever *c*, pivoted to the bar H at *d*, Fig. 3. The rods *e e'* are connected to the lever *c* on each side of the pivot *d*, and extend each way along the bar H, passing through lugs *f f'* on each end of the bar. The hooks *i i'* are attached to the ends of the bar, an opening, 1, Fig. 3, being formed between them and the ends of the rods *e e'* of sufficient size to receive the rope F, but not large enough to permit a knot or ball, *g*, on the end of the rope to pass through. On swinging the lever *c* from the position indicated by the full to the dotted lines in Fig. 3, the ends of the rods *e e'* will be drawn inward and the rope F allowed to escape, thereby disconnecting the sling and permitting the discharge of the load. A spring, *n*, on one of the rods, or connected to the lever, holds the ends of the rods out in position to secure the ropes F in the recesses 1. The rope Q passes through the eye R on the cross-bar, by which the rope is guided, so that the lever *c* may be operated by a pull on the cord Q from any direction.

The cross-bar H may be formed in one piece,

a mortise being cut through it for the play of the lever *c*; or, as I prefer to make it, of separate pieces secured together by bolts or screws, the hooks *i i'* being attached to the projecting ends of the central portions of the bar.

As will be observed from an inspection of Figs. 4 and 5, the ring *I* of the binding device passes through slots in the arms *s s* of the frame *J*, so that the pulley *K* is free to descend, in order to clamp the binding-rope *O* against the lower part of the frame *I*, as indicated by the dotted lines in Fig. 4. When the part *I* is constructed as a ring, it may be formed first and placed in the mold in which the frame *J* is cast. The roller *K* is secured in the frame by a pin passing through it. The manner of attaching the rope *E* to the double hooks *a a'*, if the latter are used, will be readily understood from the drawings. A block may be used in place of the roller *K*; but I prefer to use the roller, as it reduces the friction and wear on the rope.

The rope-clamp *N* is provided on one side with the notches *r r'*, through which the rope *B* is bent, as represented by the dotted lines in Fig. 7. This construction affords a firm grip on the rope, while at the same time it permits the clamp to be readily detached from the rope by a side pull, as indicated at *N'* in Fig. 1. The clamp is also provided with hooks or orifices, into which the binding-rope *O* and the cord *P* are secured.

The ring or hook *I* is attached to the lower pulley on the draft-rope or lifting-tackle.

It will be observed that the rope-clamp *N* is attached to the upwardly-moving portion of the draft or lifting rope, so that the binding-rope receives a motion which is more rapid than that of the binding device *D*, whereby the load is compressed and bound, or held firmly within the sling.

The binding-rope *O*, provided with hook *b*, clamp *N*, and binding device *D*, may be sold separately for use in connection with hay-slings of any ordinary construction.

I claim—

1. The combination, with the bar *H*, having

rope *E* attached thereto and provided at its ends with the hooks *i i'*, of the sliding rods *e e'*, lever *c*, and the rope *F*, having enlarged ends, substantially as described.

2. The combination, with the bar *H*, having rope *E* attached thereto and provided at its ends with the hooks *i i'*, of the sliding rods *e e'*, lever *c*, the rope *F*, having enlarged ends, cord *Q*, and cord-guide *R*, substantially as described.

3. The combination, with the binding-rope of a hay-sling, of the detachable notched clamp *N*, substantially as described.

4. The detachable clamp *N*, provided with the notches *r r'*, adapted to receive and grip the rope to which it is applied, substantially as described.

5. The combination, with a hay-sling, of the binding-rope *O*, clamp *N*, and means for elevating the load placed in the sling, substantially as described.

6. The combination, with the hay-sling *A*, of the binding-rope *O*, provided with a suitable rope-clamp and the binding device *D*, substantially as described.

7. The combination, with the ropes of a hay-sling, of the ring or hook *I*, frame *J*, and clamp or pulley *K*, substantially as described.

8. The combination, with the ropes of a hay-sling, of the ring or hook *I*, frame *J*, provided with a double hook, *a a'*, and clamp or pulley *K*, substantially as described.

9. The combination, with a separable hay-sling consisting of the ropes *E* and *F*, bar *H*, provided with suitable locking mechanism, and binding-rope *O*, of a detachable clamp, *N*, and the binding device *D*, substantially as described.

10. The combination, with a hay-sling, of the binding-rope *O*, provided with hook *b*, detachable rope-clamp *N*, and the binding device *D*, substantially as described.

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Witnesses:

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