

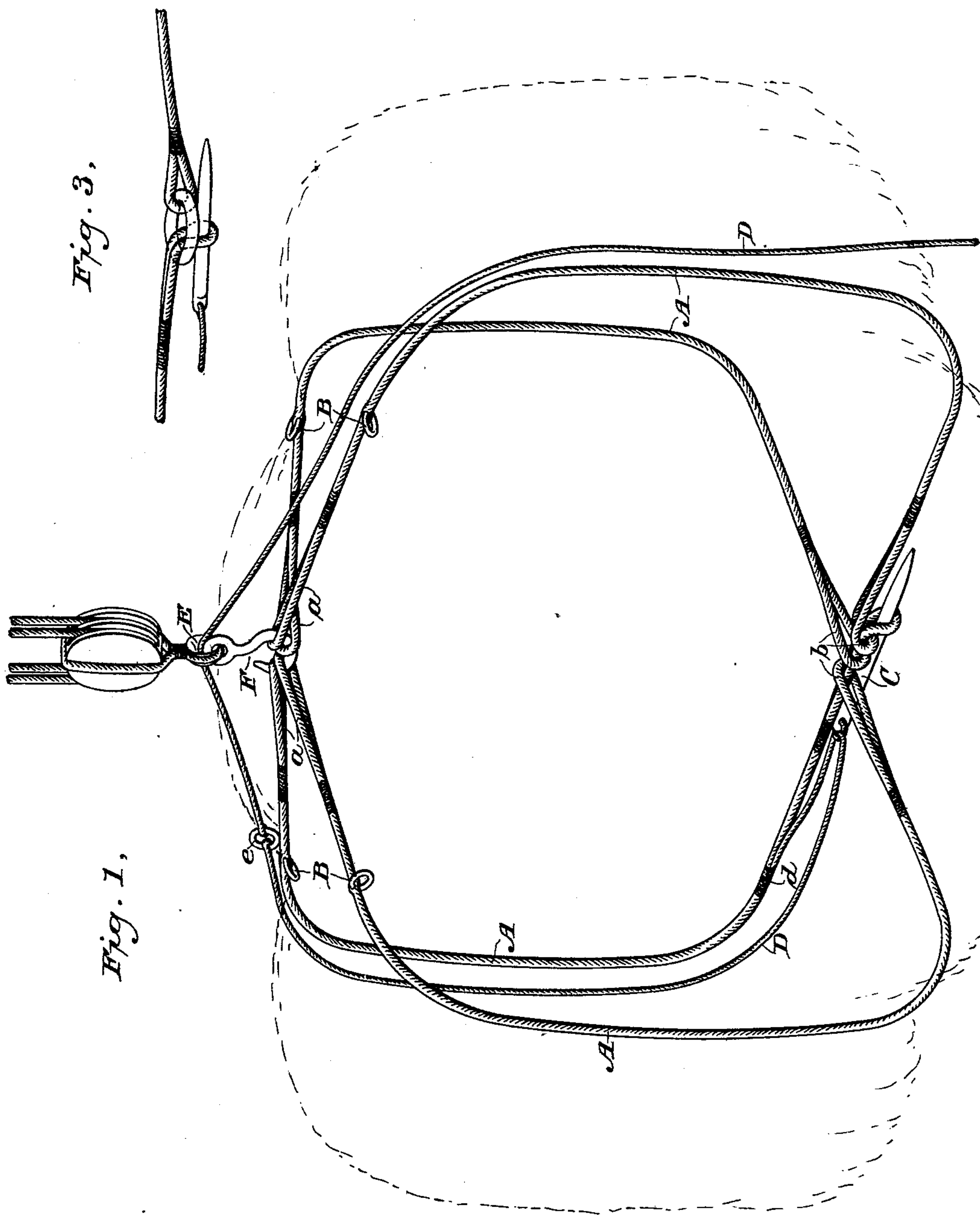
(No Model.)

2 Sheets—Sheet 1.

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Apparatus for Slings and Elevating Hay.  
No. 229,553.

Patented July 6, 1880.



WITNESSES

Wm A. Skink  
Geo W. Breck.

INVENTOR

Morton Potter,

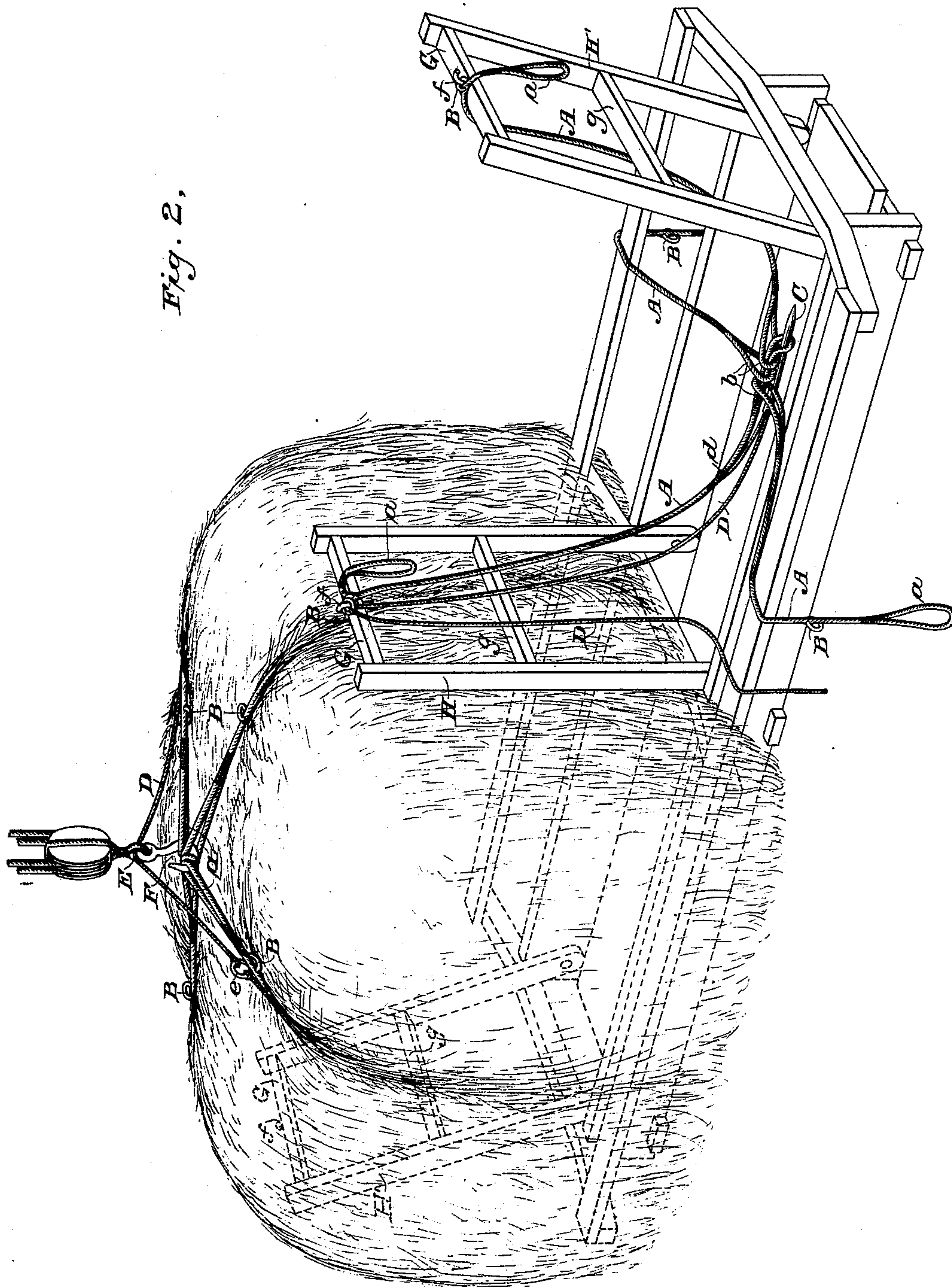
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# UNITED STATES PATENT OFFICE.

MORTON POTTER, OF MENDON, MICHIGAN.

## APPARATUS FOR SLINGING AND ELEVATING HAY.

SPECIFICATION forming part of Letters Patent No. 229,553, dated July 6, 1880.

Application filed May 28, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, MORTON POTTER, of Mendon, in the county of St. Joseph and State of Michigan, have invented certain new and useful Improvements in Apparatus for Slinging and Elevating Hay, &c., of which the following is a specification.

My invention relates to improvements in that class of elevating apparatus for hay, straw, and other loose material in which ropes are employed to temporarily confine or bundle the material in such manner as to constitute slings for elevating the bundles by the aid of suitable tackle, and so that the connections between the binding-ropes or the devices used to secure the ropes about the bundles may be loosened or tripped to free the material when elevated and deposit the loads in barns, &c.

The objects of my improvements are to facilitate the securing and the elevating of the loads or bundles and expedite the discharging of them, to adapt the sling-ropes for use for varying sized bundles or loads, and to avoid entanglement of the apparatus and place it thoroughly under the control of the attendant.

The subject-matter claimed will specifically be designated after first fully describing my improvements with the aid of the accompanying drawings, in which the sling is shown as especially designed for use in connection with a hay-wagon rack or body.

Figure 1 is a view, in perspective, representing the sling as though binding a bundle of hay, &c., which is outlined by dotted lines. Fig. 2 is a perspective view, representing the hay body or rack of a wagon partly loaded with hay, about which the sling is secured and attached to the tackle ready for elevating, the position of the sling-ropes ready to secure the hay being also represented in this figure; and Fig. 3 represents a slight modification.

The sling or bundling apparatus is composed of any suitable number of main or binding ropes or other material, A. Preferably four such ropes are used for each sling, though three, or even two, would answer well, (see Fig. 3,) and a much larger number might be used advantageously in bundling short-fiber material—such, for instance, as cotton—unless bagging were used to envelop the bundle before applying the sling-ropes.

Each of the ropes A is provided with loops *a b*, one for each of its ends; or for these loops metal rings, links, or their equivalents may be substituted.

In addition to the loops *a* at the outer or upper ends of the binding-ropes A, there are provided other rings or loops, B, one or more for each rope. A number—say three—of such rings B may be employed for each rope, arranged at short intervals or at increasing distances from the end, to adapt the ropes for securing bundles varying in size to a considerable extent, as will fully be understood farther on; and two or more loops or rings instead of the one loop *b* at the lower ends of the respective ropes may be provided to increase the adjustment of the sling. By making the loops *b* much longer and binding together the ropes or opposite sides of the loops at one or more points intermediate the ends of the loops, this adjustment would be provided for in a simple way.

A pin, C, for connecting the ropes by interlocking their loops *b* temporarily, is secured to a rope, D, by which it may be disengaged from the loops to trip the load when elevated, and so deposit it at the point desired.

The sling-rope locking and tripping pin C is pointed so that it may be freely engaged with the interlooped ends *b* of the ropes A, as shown. The heel end of the pin is provided with an eye, through which passes the rope D. This rope, which may either be knotted in the pin-eye or simply passed through it, is secured at its end to one of the sling-ropes, as at *d*, and near the loop *b* of this sling-rope. Loss or separation of the rope D is thus prevented.

The point *d*, at which the pin-tripping rope is attached to the sling-rope, is near enough to the loop *b* thereof to insure the pin always being near at hand when wanted.

The looped ends of the sling-ropes are secured together, as clearly shown, by passing or threading one of the loops *b*—that at the end of the sling-rope to which the trip-rope is spliced—through the remaining loops *b*, and then inserting the pin through the end or projecting portion of the loop so threaded through the others.

It will be seen that so long as the pin C maintains its locking position, as shown by



the drawings, the looped ends *b* of the sling-ropes are connected, and that when desirable a pull on the pin serves to disconnect them and trips the load.

5 A ring or other suitable stop, *e*, on the pull-rope or pin-tripping rope *D*, is provided for a purpose soon to be explained.

In operation, the hay or other material to make up the load to be elevated having been encompassed after piling it on the ropes *A* with their loops *b* interlocked and secured by the pin, and the loops *a* or rings *B*, according to the size of the bundle, having been connected with the hoisting-tackle hook *F* and the rope *D* passed through the ring *E*, connecting the hook and block *G*, the load is raised and swung or run in in well-known ways to the proper place, where it is deposited by tripping the pin *C* by a pull on the rope *D*. This rope *D* then remains engaged with the block by means of the ring or stop *e*, thus enabling the apparatus to be controlled by the rope *D* to pull the block, &c., out and lower it ready for making up another load or to disengage the empty sling and attach another to the hoisting apparatus. By passing the tripping-rope through the ring *E* or between the pulley-ropes, or in other way suitably connecting it to the hoisting-tackle, not only are the empty sling and the block, &c., placed under control, but entanglement of the sling apparatus with the hay is prevented.

Fig. 2 represents a desirable way of attaching the sling apparatus either to the divided or to the ordinary hay body or rack of a wagon.

35 The rings *B* of two of the ropes *A* are hooked, as at *ff*, to the cross-bars of the pivoted frames or standards of the rack before loading. The frame cross-bars *g*, as well as those *G*, may be provided with pins or hooks *f*, so that a number of sling-loads may be made upon the one wagon if a large one.

The looped ends *a* or the rings *B* may either be brought together and secured for the time by bending or tying with cord, by a split ring, hook, &c., as the bundles are accumulated on the wagon, or the bringing together and securing of these top ends of the sling-ropes may be delayed until the barn or mow is reached and the connection between the ends *a* or rings *B* there be first made by the tackle-hook.

The central or division frame or standard, *H*, or two or more frames intermediate the end frames, *H' H'*, are provided, each pivoted so that it may be swung up vertically or folded down horizontally and out of the way, according to the size of the wagon body or rack and dimension of sling-load desired.

I am well aware that it is not new, broadly

considered, to provide elevating or sling attachments for hay-wagons, and am also aware that slings have been provided in various ways with tripping devices, and that sling-ropes have been provided with loops or rings for temporarily connecting them. I do not, therefore, broadly claim slings so constructed or having any of such features, nor a rack having intermediate or division frames or standards, broadly considered.

I claim as of my own invention—

1. In a sling or elevating apparatus for hay, &c., the series of independent or disconnected ropes *A*, respectively provided with the loops *a* and *b* at their opposite ends, and with one or more rings, *B*, substantially as and for the purpose hereinbefore set forth.

2. The method described of interlocking and temporarily securing the sling-ropes together around the bundle, consisting in threading the loop at the end of one rope through the loops or rings at the ends of the other ropes, and passing the tripping-pin through the projecting end of such threaded loop, as shown.

3. The combination of the locking and tripping pin *C* and its rope *D*, provided with the stop *e*, and secured to one of the sling-ropes, substantially as and for the purpose hereinbefore set forth.

4. The combination, substantially as hereinbefore set forth, of the loop-ended sling-ropes, the tripping-rope secured to one of the sling-ropes, and the locking and tripping pin operating in connection with the sling-rope loops, as described.

5. The combination of the sling-ropes having the loops *a* and *b*, the tripping-rope secured at *d* to one of said sling-ropes, and provided with the stop to engage the tackle, and the loop-engaging tripping-pin, substantially as and for the purpose hereinbefore set forth.

6. The combination of the hoisting-block, the sling-ropes provided with the end loops, *a* and *b*, the tripping-rope secured to one of the sling-ropes near its loop *b*, and the tripping-pin, substantially as and for the purpose hereinbefore set forth.

7. The combination of the frames *H' H'* and pivoted frame *H*, of the hay-rack, the pins or hooks thereof, the loop-ended sling-ropes, and the locking and tripping pin and its rope, substantially as and for the purpose hereinbefore set forth.

In testimony whereof I have hereunto subscribed my name.

MORTON POTTER.

Witnesses:

W. R. LYLE,  
J. J. POWERS.