(No Model.)

W. LOUDEN.

HAY STACKER.

No. 298,218. Patented May 6, 1884.

Fig. 1.

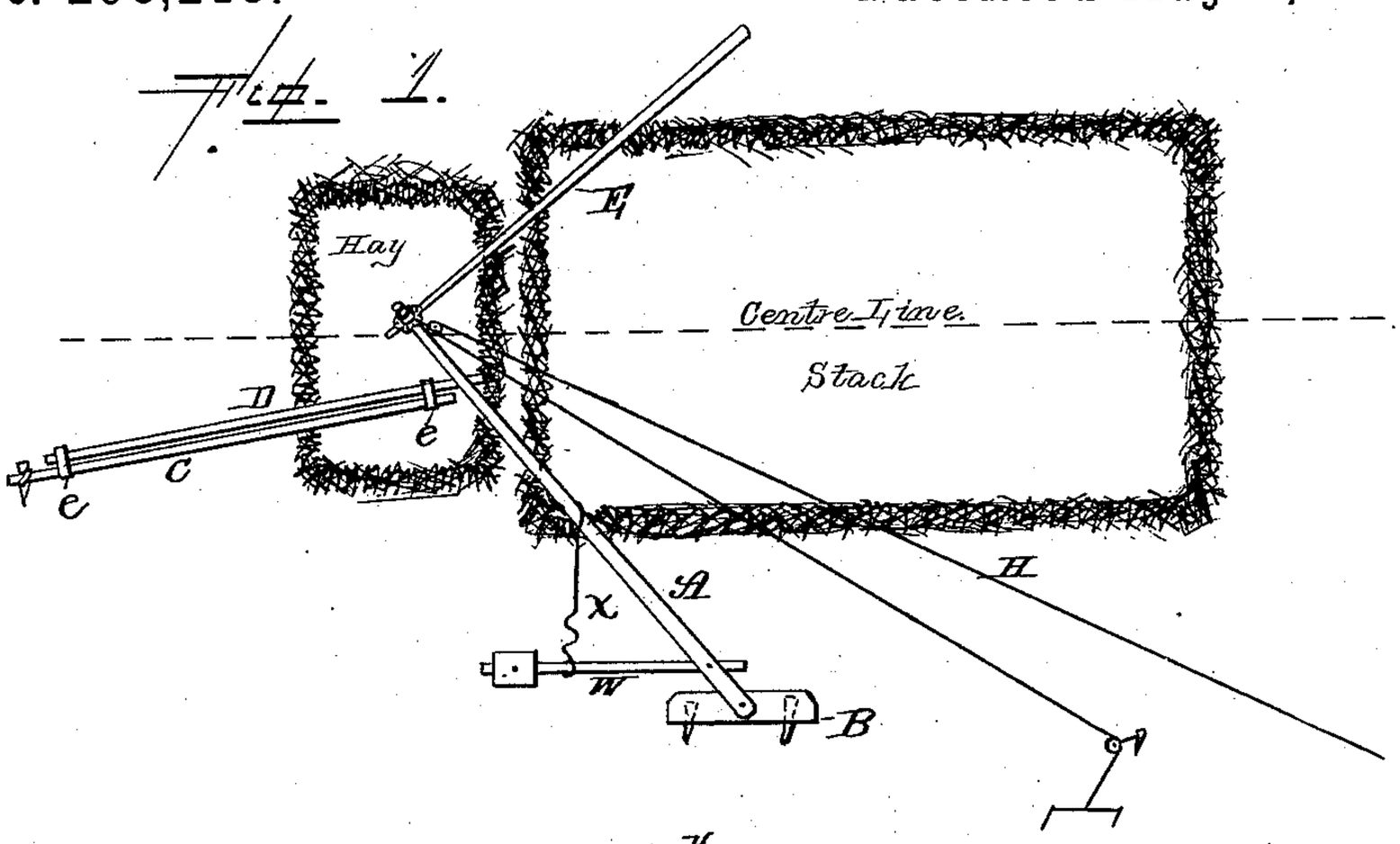

Fig. 2.

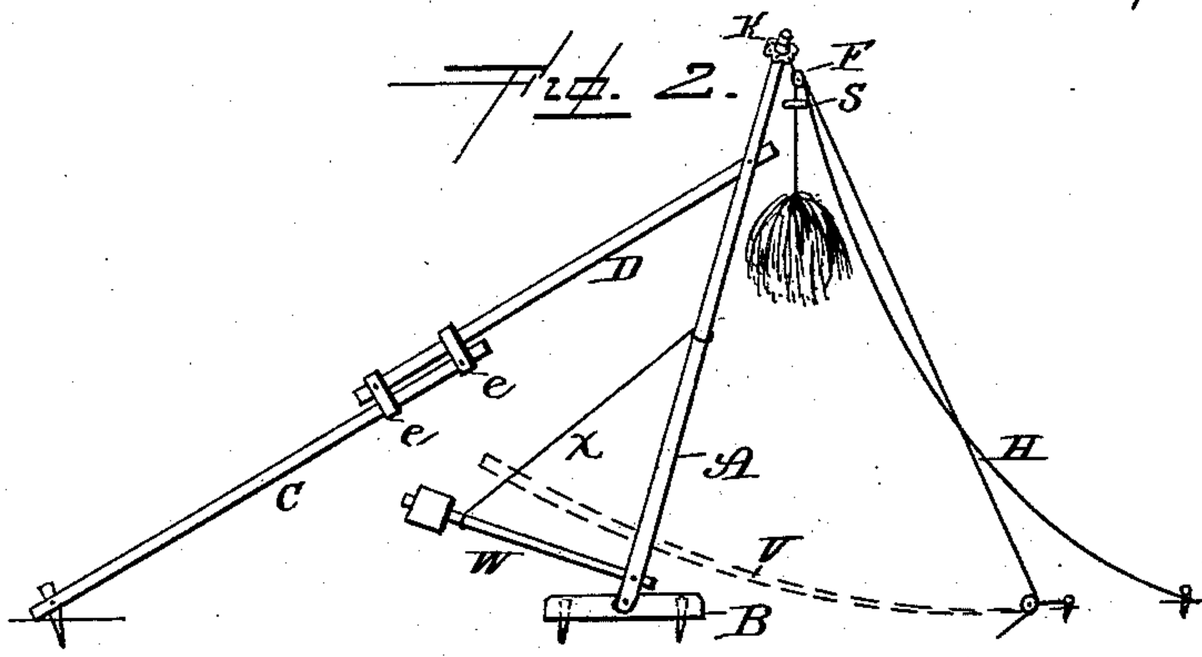

Fig. 4.

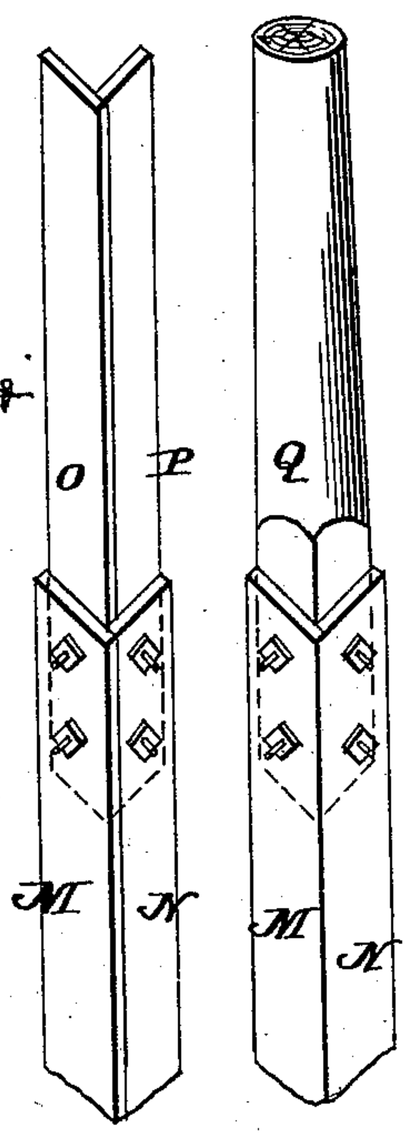

Fig. 5.

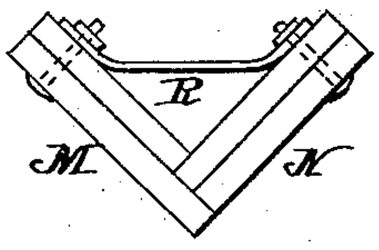

Fig. 3.

Fig. 6.

Witnesses.
Louis F. Gardner
J. W. Garner

Inventor.
Wm. Louden
per
F. A. Lehmann,
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM LOUDEN, OF FAIRFIELD, IOWA.

HAY-STACKER.

SPECIFICATION forming part of Letters Patent No. 298,218, dated May 6, 1884.

Application filed January 23, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LOUDEN, of Fairfield, in the county of Jefferson and State of Iowa, have invented certain new and useful Improvements in Hay-Stackers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in hay-stackers; and it consists, first, in the combination of the stacking-pole, having its lower end placed upon the ground at one side of the stack, with suitable means for supporting it in an inclined position, whereby the upper end of the pole will be moved along the central line of the stack; second, the combination of the stacking-pole with suitable supporting-braces, which are provided with a sliding or flexible connection, whereby the pole will be free to be moved back and forth over the stack; third, the combination of the stacking-pole, suitable supports therefor, a suitable hoisting-tackle for elevating the hay, and a suitable locking or holding device which is adapted to catch and hold the hoisting-tackle and prevent it from dropping down while the pole is being moved over the stack; fourth, the combination of the stacking-pole with a weight or spring which is applied directly to the pole for the purpose of regulating its motion in either direction; fifth, the stacking pole or mast composed of a number of light pieces suitably secured together at an angle, for the purpose of forming a cheap, light, strong, and easily-spliced stacking-pole or hay-elevating mast; sixth, in the combination and construction of parts, which will be more fully described hereinafter.

Figure 1 is a plan view of my stacking apparatus, showing the braces attached to the pole for the purpose of supporting it and the pole in the position for elevating the hay. Fig. 2 is a side elevation showing the jointed braces drawn out and the pole in the position of carrying the hay over the stack. Fig. 3 is an enlarged view showing the locking device and the collar which encircles the top of the pole. Figs. 4 and 5 are detail views showing the pole constructed of light boards fastened together. Fig. 6 is a detail view of the collar K.

A represents the stacking-pole, which is placed on a suitable base, B, or directly upon the ground, as may be preferred. The base of the pole is placed to one side of where the stack is to be formed, and is supported in an inclined position, so that its upper end will be over the central line of the stack. When the pull of the hoisting-tackle draws the pole over the stack, its upper end will move back and forth along this central line, and the hay will be deposited thereon in the best manner to form a perfect stack.

C, D, and E are braces which are used to support the pole in position, in place of guy-ropes, which are usually employed; but, if preferred, the brace E may be dispensed with and suitable guy-ropes used in its place. The braces C and D are connected together at their inner ends by means of sleeves *e e*, which encircle both the braces, each sleeve being securely fastened to one end of each brace, while it loosely encircles the opposite one, and is free to play back and forth upon it. The outer end of the brace D is pivoted to the pole A near its upper end, or at any other suitable point, and the outer end of the brace C is secured to a stake driven in the ground, or otherwise suitably anchored.

The stacking-pole being in the position shown in Fig. 1, and the hoisting-tackle being suitably adjusted thereon, the fork or grapple is set in the hay to be stacked. Power being applied to the hoisting-tackle H, the hay is elevated until the stop S or trip-pulley T, Fig. 3, on the rope comes in contact with the pulley F and draws the pole, with tackle attached, over the stack. The braces will then be drawn out, as shown in Fig. 2, and the hay will be carried over the stack. When the power is released from the hoisting-tackle, the pole will be drawn back and the braces C D will be closed up, as shown in Fig. 1. Instead of the sleeves *e e*, any other flexible connections may be used that will support the stacking-pole in position and permit it to move back and forth over the stack. By this means a simple, cheap stacking apparatus is produced, that will elevate the hay and carry it along any part of the stack, where it may be

deposited, and the stack will be cheaply and easily formed.

In order to prevent the fork and tackle from dropping down should the hoisting-rope become slackened while the pole is being moved over the stack, I have provided my stacker with a locking or holding device which is adapted to catch and hold the hoisting-tackle and prevent it from descending until the lock is released. In Fig. 3 is shown an enlarged sectional view of this locking device, and also of the collar K, to which the yoke Y of the pulley F is suspended, as seen on the side of the pole next to the stack, one side of the pulley-yoke being removed to show the construction. A dog or eccentric, L, is pivoted to the pulley-yoke Y in such a manner that it will drop on the hoisting-rope H and clamp it, so as to prevent the weight of the fork and hay from drawing it endwise. To this dog or eccentric a guy-rope, G, is attached in such a manner that when the pole drops over the hay to be stacked and tightens up the guy-rope it will automatically operate the dog and loosen the rope H, so that the fork will be lowered to the hay. As soon as the power applied to the hoisting-rope H begins to draw the pole over the stack, the guy-rope becomes slackened, and the dog or eccentric L drops automatically on the rope and holds it from being drawn endwise until the dog has been again released by the tightening of the guy-rope. Thus a very simple and inexpensive locking device is produced, and the movement of the pole in carrying the hay over the stack is made much more steady, certain, and safe than it can be without the aid of this locking device. I do not confine myself to any particular construction of this locking device, nor to any particular method of operating it. It may be operated by a rope for that purpose held in the hand of an operator, or arranged to work automatically, as shown, or by any other suitable means. It may be adapted to catch on the rope or on the trip-pulley T, or in any other suitable manner, the essential feature of my invention consisting in the application of a locking or holding device to the hoisting-tackle of a stacking-pole, to hold the fork and tackle from dropping down while the pole is being moved over the stack.

As shown in Fig. 3, the pulley F is attached to the stacking-pole by means of its yoke Y being tied or hooked to an eye in the collar K, which encircles the top of the pole. This collar is provided with a series of eyes, or hooks, if preferred, and is used for the purpose of attaching the ropes, pulleys, and other attachments used in connection with a stacking-pole. By the use of this collar these attachments can be made in a very secure and convenient manner, and in any desired position on the pole. Ribs *i i* are placed on the inside of the collar K, to prevent it from turning on the pole.

For the purpose of regulating the movement of the pole, a weighted rod or bar, W, is bolted to it, and is further connected to the pole by a small rope or cord, X. When the pole is in the position to elevate the hay, the weight will preferably rest upon the ground, and when the pole is drawn over the stack the weight will be lifted up by means of the cord X, and will assist in drawing the pole back into position. Usually this weighted bar will be so attached that it will not be lifted off the ground until the pole has been raised to nearly a vertical position, as it will principally be needed in drawing the pole back when it has swung past a vertical position, and when the gravity of the pole is drawing in the opposite direction. By reversing this weighted bar and cord and placing them on the opposite side of the pole the weight may be used to ease off the return motion of the pole over the hay, and to make it raise more easily in the start with its load over the stack. By placing a weighted bar on each side of the pole both these purposes can be accomplished at the same time, and the motion of the pole will be rendered uniform and steady throughout. If preferred, a spring, V, (shown in dotted lines in Fig. 2,) can be attached to the pole, instead of the weighted bar W, and in a similar manner, and can be used for all the purposes which the weight will accomplish.

When it is desired to make a very light and cheap stacking-pole that can be readily spliced and adjusted to different lengths, and that can be easily taken apart for shipment or storage, two boards, M N, are secured together at their edges, so as to form a V, and then two other boards, O P, similarly secured together, are placed inside of these boards, and their ends being sufficiently lapped the whole is bolted or otherwise fastened together. The boards O P can be slipped up or down inside of the boards M N, and they can be fastened together at any desired point, and the stacking-pole so constructed can thus be readily adjusted to any desired height.

If preferred, the pole may be composed in part of the solid pole Q, placed inside the boards M N, and will be fastened to them in a manner similar to that already described. The top of the boards O P may be rounded off to receive the collar K, the collar may be made V-shaped to fit them, or the hoisting-tackle may be secured to them in any other suitable manner. If found necessary for the purpose of strengthening the pole, braces R will be bolted to the boards, as shown in Fig. 5, at different points along the pole or mast, and thus an exceedingly light, cheap, easily-constructed, and strong stacking pole or mast for elevating hay is produced.

Having thus described my invention, I claim—

1. The combination of the stacking-pole A with means for supporting it in any inclined position, so that its base will be at one side of the stack, and its upper end will be moved

along the central line of the stack, substantially as shown and described.

2. The combination of the stacking-pole with supporting-braces which are provided with a sliding or flexible connection, whereby the pole will be moved back and forth over the stack, substantially as set forth.

3. The combination of the stacking-pole, with supports therefor, a hoisting-tackle for elevating the hay, and a suitable locking or holding device, which is adapted to catch and hold the hoisting-tackle and prevent it from dropping down while the pole is being moved over the stack, substantially as specified.

4. The combination of the stacking-pole, with supports therefor, a hoisting-tackle for elevating the hay, a locking device for holding the hay at any desired elevation, and a guy-rope, G, which is connected to said locking device at one end and to the ground at the other, so as to automatically operate the lock, substantially as shown and described.

5. The combination and arrangement of the pole A, pulley F, rope H, dog L, and guy-rope G, substantially as and for the purpose set forth.

6. The combination and arrangement of the pole A, hoisting-rope H, braces C D, and the sleeves *e e*, substantially as and for the purpose set forth.

7. A stacking-pole or hay-elevating mast composed of a number of boards which are secured together at an angle to each other, substantially as shown and described.

8. A stacking-pole or hay-elevating mast composed of a number of boards secured together at an angle to each other, and the solid pole Q, the whole being secured together substantially as shown and described.

9. The stacking-pole composed of the boards M N O P and the brace R, the whole being secured together substantially as shown.

10. The combination of the stacking-pole with a weighted rod, W, or spring K, for the purpose of regulating the motion of the pole, substantially as set forth.

11. The combination of the stacking-pole with a collar, K, provided with a series of eyes or hooks, for the purpose of making attachments thereto, substantially as described.

12. The combination of the stacking-pole with the collar K, having hooks or eyes for making attachments thereto, and having the ribs *i i*, to prevent it from turning on the pole, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM LOUDEN.

Witnesses:
R. B. LOUDEN,
ANDREW LOUDEN, Jr.