(No Model.) 2 Sheets—Sheet 1.

P. F. FLEMING.

HAY ELEVATOR.

No. 310,810. Patented Jan. 13, 1885.

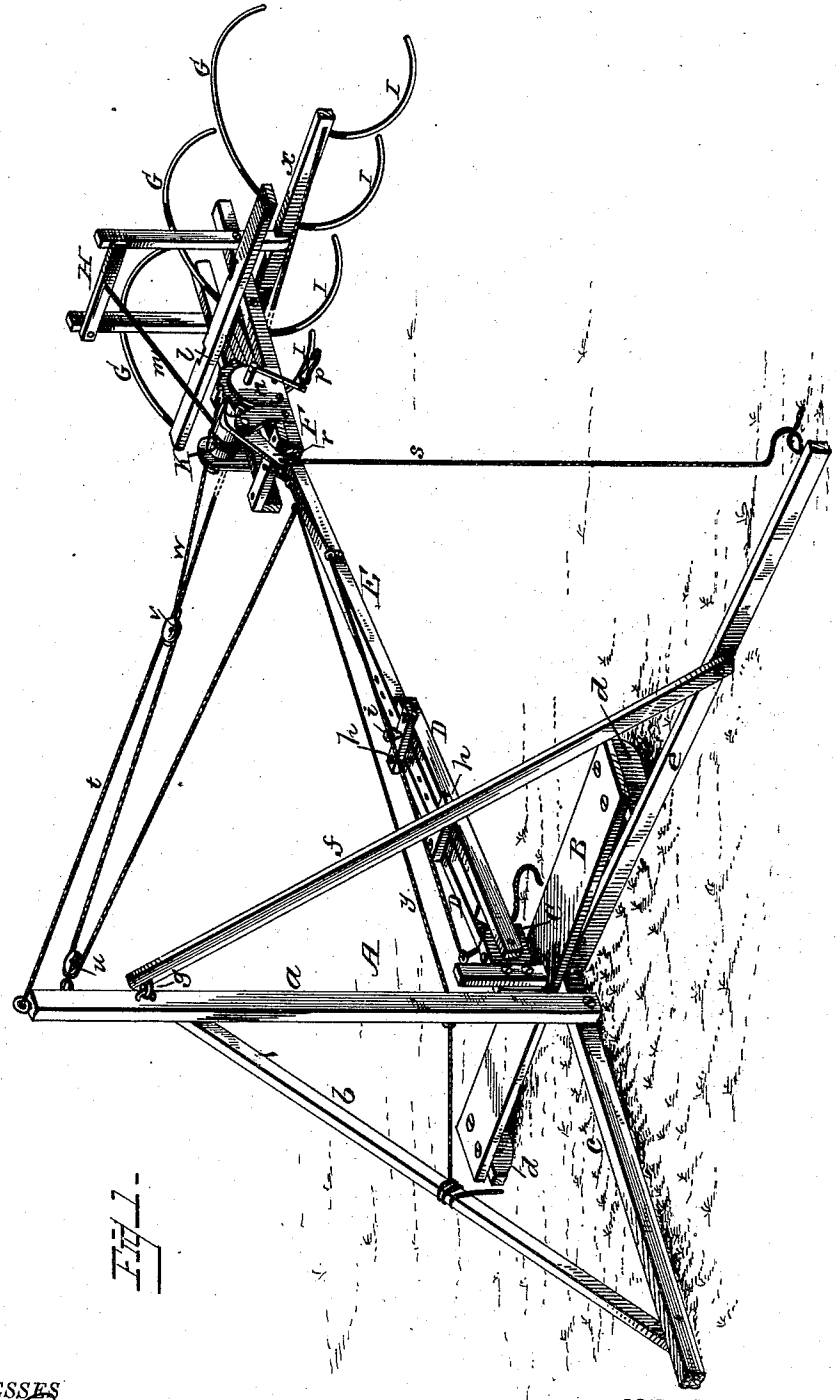


Fig. 1.

WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

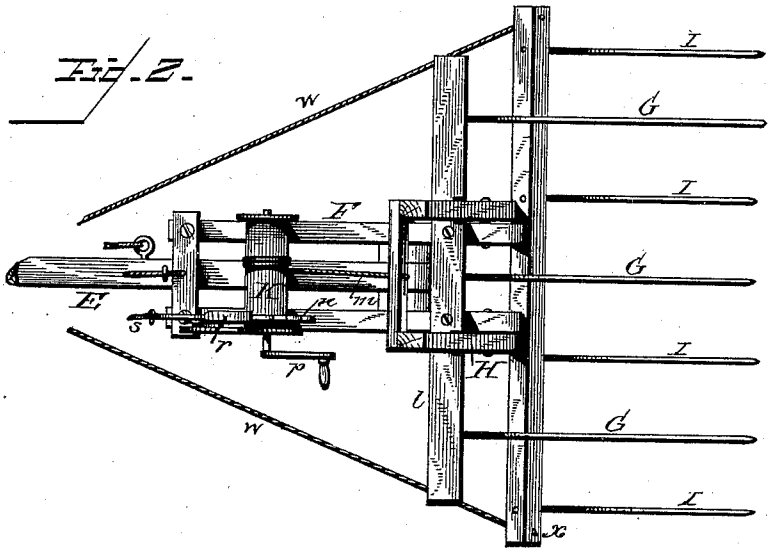


Fig. 3.

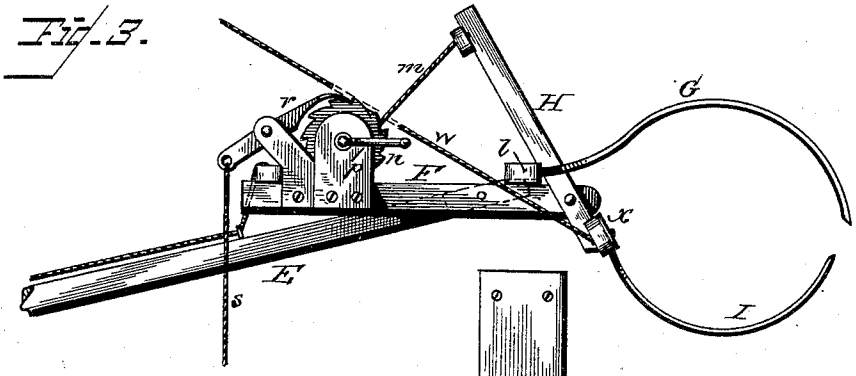
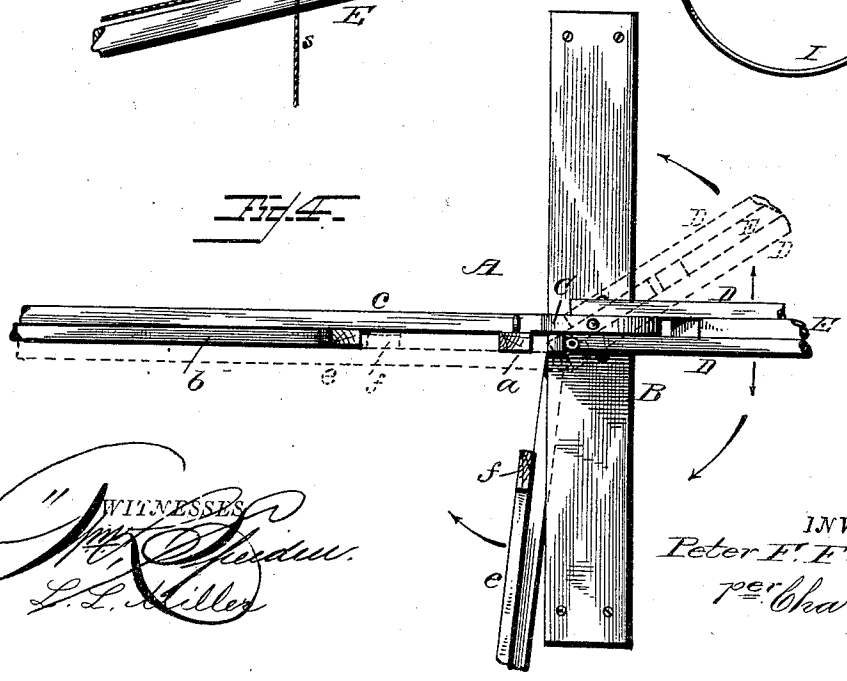


Fig. 4.



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UNITED STATES PATENT OFFICE.

PETER F. FLEMING, OF HUNTSVILLE, MISSOURI.

HAY-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 310,810, dated January 13, 1885.

Application filed November 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, PETER F. FLEMING, a citizen of the United States, residing at Huntsville, in the county of Randolph and State of Missouri, have invented certain new and useful Improvements in Hay-Elevators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a perspective view of my invention; Fig. 2, a top plan view in detail of the device used in grabbing the hay; Fig. 3, a side elevation thereof, and Fig. 4 a detail plan view of a portion of the derrick or frame of the machine.

The present invention has relation to certain new and useful improvements in hay-elevators; and it consists in the details of construction, substantially as shown in the drawings and hereinafter described and claimed.

In the accompanying drawings, A represents the derrick, which consists of an upright post, *a*, and brace *b*, connected thereto and to a horizontal and longitudinal beam, *c*, the post being secured at its lower end to said beam, as shown. The beam *c*, at its rear end, is firmly secured to a cross-head, B, said head having runners *d* at its extremities, so as to retain the derrick steady while moving the machine.

To the under side of the head B is pivoted the end of a beam, *e*, similar to the stationary beam *c*, and in like manner provided with a brace, *f*, but with this exception, that the upper end thereof is hinged or swiveled to the upright post, as shown at *g*, instead of being rigidly attached thereto.

The above-described devices constitute what I term the "derrick" or main frame of the machine, formed in two sections hinged together, so that when in use the hinged section proper, consisting of the beam *e* and brace *f*, is extended, as shown in Fig. 1, so as to increase the area of base, but when not in use folded against the post *a* and brace *b*, as shown in dotted lines, Fig. 4.

To the upper side of the cross-head B is pivoted a block, C, and to this block, upon each side thereof, are pivoted the ends of bars D, held the required distance apart by transverse cleats *h*. The block C, as will be seen, is pivoted so that it will turn horizontally upon the arc of a circle, while the bars D are pivoted thereto to move vertically upon the arc of a circle.

Between the bars D is located the end of an arm, E, adjustably connected thereto by a key or pin, *i*, passing through a hole in the upper and forward one of the transverse cleats *h* and through one of a series of holes in the rear end of the arm.

By the above means provision is made for shortening or lengthening the arm, so as to make a high or low stack when the machine is used for stacking hay.

To the outer end of the arm E is pivoted a rectangular frame, F, provided with a stationary transverse bar, *l*, having teeth G, and a frame, H, with teeth *m*, which is pivoted to the forward end of the rectangular frame F. One end of a cord or rope, *m*, is secured to the frame H, and the opposite end extending around a windlass, K, connected to the frame F, and provided with a ratchet, *n*, and crank-handle *p*, for operating it, a pivoted pawl, *r*, engaging with the ratchet and controlled by a cord, *s*, connected thereto and extending down to the ground within reach of the attendant. When the teeth G I enter the hay, they are in the position shown in Fig. 1, and by turning the windlass K and winding the cord or rope thereon the teeth I of the pivoted frame H will be closed against the hay between the teeth, the position of the teeth being thus shown in Fig. 3.

In using the machine the hinged section, consisting of the beam *e* and brace *f*, is extended, as shown in Fig. 1, and after the teeth G I have taken their load and closed upon it by means of the windlass K and core *m*, as hereinbefore described, the arm E is elevated by pulling on the rope *t*. One end of this rope is attached to the upper end of the post *a* and passes around pulleys *u v*, the former being connected to the post and the latter to a rope, *w*, secured to the ends of the cross-bar *x* upon the pivoted frame H. The rope or cord *w* passes through a suitable staple in the forward end of the arm E, and extends back to the rear of the machine and through a suit-

able eye or staple in the post *a*, within convenient reach of the operator or attendant. Thus the arm, with its load of hay held between the teeth, can be elevated to the required height, and by releasing the pawl *r* from engagement with the ratchet *n* the teeth G I will release their load and discharge it where required. The arm E can be swung around sidewise by means of the cord or rope *y* and the pivoted block C, to which the arm is connected.

When the machine is to be moved, the hinged section of the derrick or main frame is closed against the stationary section, as shown in dotted lines, Fig. 4, and a horse or team connected thereto and the machine drawn to the place required.

The machine may be used for elevating any loose substance, although especially designed for elevating hay or straw, either for the purpose of loading or unloading wagons, stacking, or transferring it from a stack or wagon to the barn, for all of which the elevator may be found practically useful.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A hay-elevator provided with a derrick or frame consisting of a stationary and a hinged section adapted to be folded together or extended, to increase the area of base of the derrick or frame when the elevator is in use, substantially as and for the purpose set forth.

2. In a hay-elevator, the combination, with the derrick or frame, of an extensible arm carrying the grab-teeth at its outer end, substantially as and for the purpose specified.

3. In a hay-elevator, the derrick or frame provided with a horizontally-pivoted block, in combination with bars pivoted to the sides thereof, and having connected to it an arm carrying the grab-teeth, substantially as and for the purpose described.

4. In a hay-elevator, the combination, with a pivoted arm, of two frames pivoted together and provided with grab-teeth, one of said frames being pivoted to the arm, and having a windlass, ratchet, and pawl for connecting the two frames together by a cord or rope, substantially as and for the purpose set forth.

5. A hay-elevator consisting of a derrick or frame formed in two hinged sections, an extensible arm suitably pivoted to a block, which is in turn pivoted to the derrick or frame, and two frames carrying the grab-teeth, pivoted together and to the arm, and a windlass, ratchet, and pawl for operating one of said frames, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

PETER F. FLEMING.

Witnesses:
W. C. MALONE,
E. E. ELLINGTON.