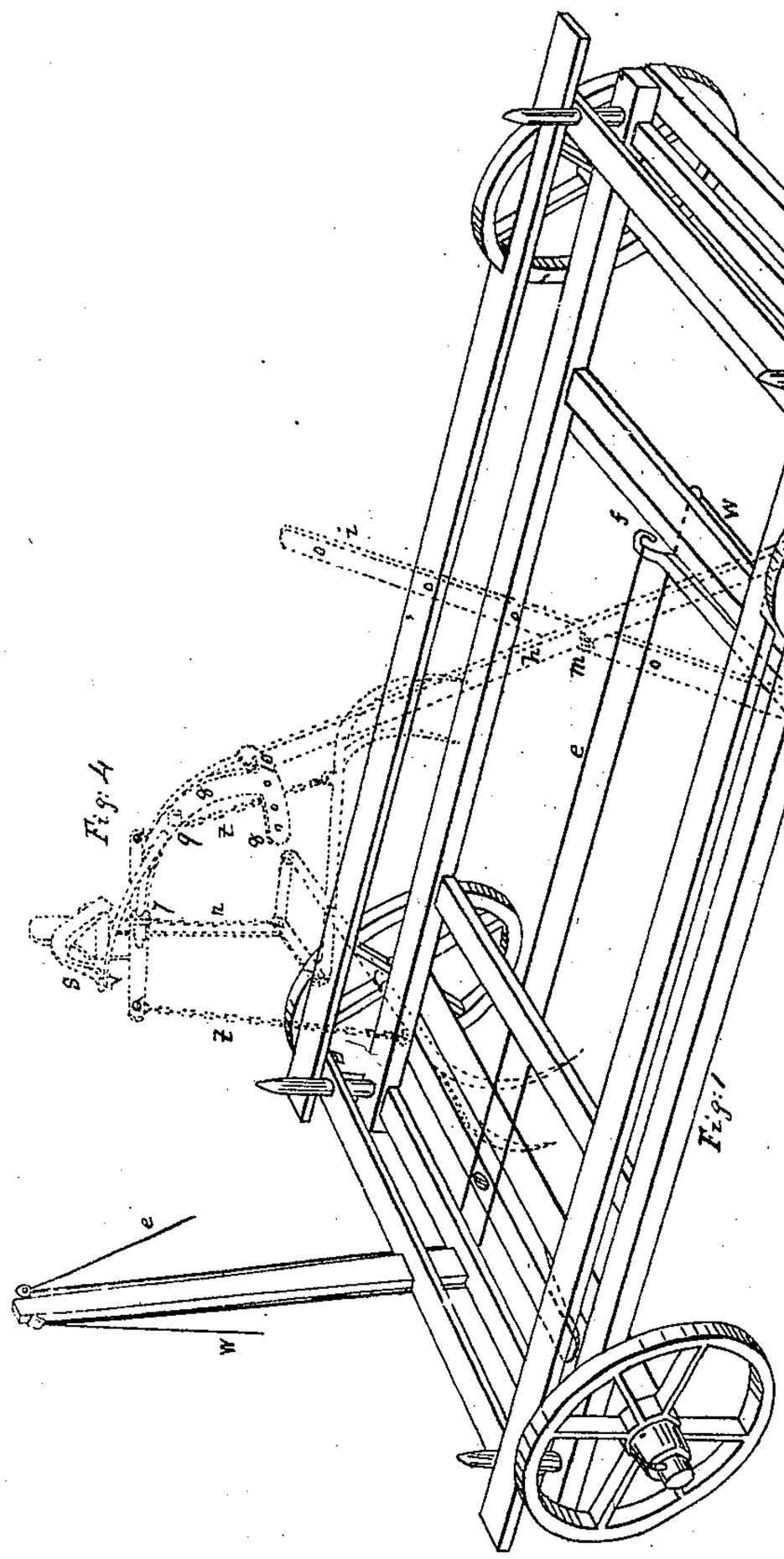
Albt. Vose,

Hay Loader

No. 71,250. Patented Nov. 19, 1867.



Witnesses.

D. Franklin Reagarty.

Geo. W. Tibbitts

Inventor.

Albert Vose

United States Patent Office.

ALBERT VOSE, OF PITTSFIELD, VERMONT.

Letters Patent No. 71,250, *dated November* 19, 1867.

IMPROVEMENT IN HAY-LOADERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ALBERT VOSE, of Pittsfield, in the county of Rutland, and State of Vermont, have invented a new and improved Mode of Pitching Hay; and I do hereby declare that the following is full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in so constructing a grapple-fork and lifting-device that it may be attached to any hay-wagon or cart, deriving its power for pitching the hay therefrom, to be operated by the driver on the load, and so constructing it that the same fork may be used for pitching off the load in the barn, by detaching it from the lifting-arm, and attaching it to a rope and pulleys in the barn for the purpose, all substantially as described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I attach to the rear wheel of a wagon, on the outside, an iron bevel-gear, about twelve inches in diameter, represented in the accompanying drawings by letter A, fastening it to the wheel by four clips around the spokes, represented by *b*. Then I attach an iron shaft, *a*, about five feet in length, and one and one-half inch in diameter, supporting it by the bearings *c c*, made in two pieces of timber, bolted to the under side of the body represented by *d d*. Then I attach to this shaft the bevel-gear *u* of a toothed segment, of a semi-diameter of twelve inches, corresponding with the gear A, which is thrown in gear by pulling the rope *e*, which is attached to the lever *f*, and is thrown out of gear by the spring *g*, whenever the rope *e* is relaxed. I attach the lifting-arm *h* to the shaft *a* at the rear end by a pivot-bolt, in such way that it will raise the arm when thrown in gear by the turning of the wheel. I attach the arm *i* to the other end of the shaft *a* in the same manner that I attach arm *h*, by a pivot-bolt passing under arm *h* to support it, and by which arm *h* is adjusted and graduated to pitch a high load, fastening them together where they cross each other by the small bolt *m*. The arm *h* is eleven feet long; the arm *i* is eight feet long. The arms may be raised or lowered by moving the bolt *m*. The fork *n* is attached to the upper end of the arm *h* in the manner hereafter described. The fork *n* is constructed in such a manner that it sets itself, by its own weight, in readiness for lifting the hay when it is lowered upon the hay. The fork *n* is a common grapple, attached to the block *o* by two chains *t t*, and the ratchet-rod *r*, in such a way that, when the pawl *s* is thrown off from the ratchet, the rod *r* slides down through the block *o*, thus opening the fork and suspending it by the chains *t t*, as at fig. 4.

When the fork is placed on the hay, the block *o*, which contains the pawl *s*, slides down by its own weight, and the pawl *s* catches in ratchet-rod *r*, so that when arm *h* lifts the fork it is lifted by rod *r*, thus loosening the chains *t t*, and closely grappling the hay and lifting it to the load, by means of the gears and lifting-arms before described. When the fork is raised to a certain point above the load, the pawl *s* is thrown out of the ratchet *r* by means of the short arm *v*, leaving rod *r* to descend, forced by its own weight, and the pressure of the hay opening the fork *n*, and dropping the hay on the load, leaving the fork in readiness for the next tumble or hay-cock. The fork remains suspended over the load, unaffected by the gear, until the operator pulls the rope *w*, and lets it down upon another tumble of hay. The rope *w* is attached to shaft *a* by means of a short arm, *x*, which is so arranged as to start the fork back, and steady it down, by gently pulling the rope *w*, upon the hay at pleasure, when it fastens to it by its own self-acting rod *r* and pawl *s*. Then it is thrown in gear by pulling the rope *e*, and elevated as before.

The fork represented by *n*, fig. 2, is attached to the revolving iron 5, by placing its arms in the holes 6 6 of the block *o*, and fastening them by the hand-nuts 7 7. The revolving iron 5 is attached to plate in such a way as to turn and always adjust the fork to its right position. The iron plate 8 is attached to the lifting-arm by the bolt 9, in such a way that it may be adjusted to its right position, and fastened by the pin 10. The fork is rendered applicable to pitching on and off, by means of the block *o*, rod *r*, and pawl *s*, and, after driving to the barn, may be detached from the revolving iron 5, by taking off the nuts 7 7, and be hitched to a rope and pulleys in the barn by the ring 11, and be used for unloading the hay.

Figure 1 is a perspective view of the machine.

Figure 2 represents the position of the fork when placed upon the hay, in readiness to be thrown into gear.

Figure 3 represents the position of the fork while lifting the hay.

Figure 4 represents the position of the fork after it has dropped the hay, and is descending to the tumble or hay-cock.

Thus combining a machine, as before described, for pitching on and off from the load with a great saving of labor.

Claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the sliding shaft *a* and spring *g*, substantially as and for the purposes set forth.

2. I also claim the combination of the sliding shaft *a*, provided with a toothed segment, *u*, cogged wheel A, spring *g*, and lever *f*, substantially as and for the purposes set forth.

3. I also claim the lifting-arm *h*, or its equivalent, when the same is adjustable laterally, substantially as and for the purpose set forth.

4. I also claim the lifting-arm *h*, pivoted to the elevating-shaft *a*, substantially as and for the purpose set forth.

5. I also claim the combination of the pivoted lifting-arm *h*, pivoted brace *i*, and shaft *a*, substantially as and for the purpose set forth.

6. I also claim the combination of the shaft *a*, arm *x*, and cord *w*, substantially as and for the purposes set forth.

7. I also claim the combination of the lifting-arm *h*, or its equivalent, and an elevating-fork, *n*, pivoted thereto, substantially as and for the purpose set forth.

8. I also claim the combination of a laterally adjustable lifting-arm, *h*, and an elevated fork, *n*, pivoted thereto, substantially as and for the purposes set forth.

9. I also claim the combination of a laterally adjustable lifting-arm, *h*, and a vertically adjustable arm, *i*, attached thereto, and supporting the fork *n*, substantially as and for the purposes set forth.

10. I also claim an elevating-fork, *n*, as connected to its lifting-arm *h*, that it may be readily detached therefrom, for the purpose of unloading the hay, substantially as described.

11. I also claim the combination of the forked arm 5, block or plate *o*, and nuts 7 7, substantially as and for the purpose set forth.

12. I also claim the combination of the notched sliding bar *r*, tines *n*, guides and pawl *s*, substantially as described.

13. I also claim the automatic tripping device *v*, consisting of the arm *v* on the lifting-arm *h*, and the pivoted pawl-lever *s* on the pivoted fork *n*, arranged and operated substantially as described.

ALBERT VOSE.

Witnesses:

JULE C. McCOLLOM,

GEO. M. FULLER.