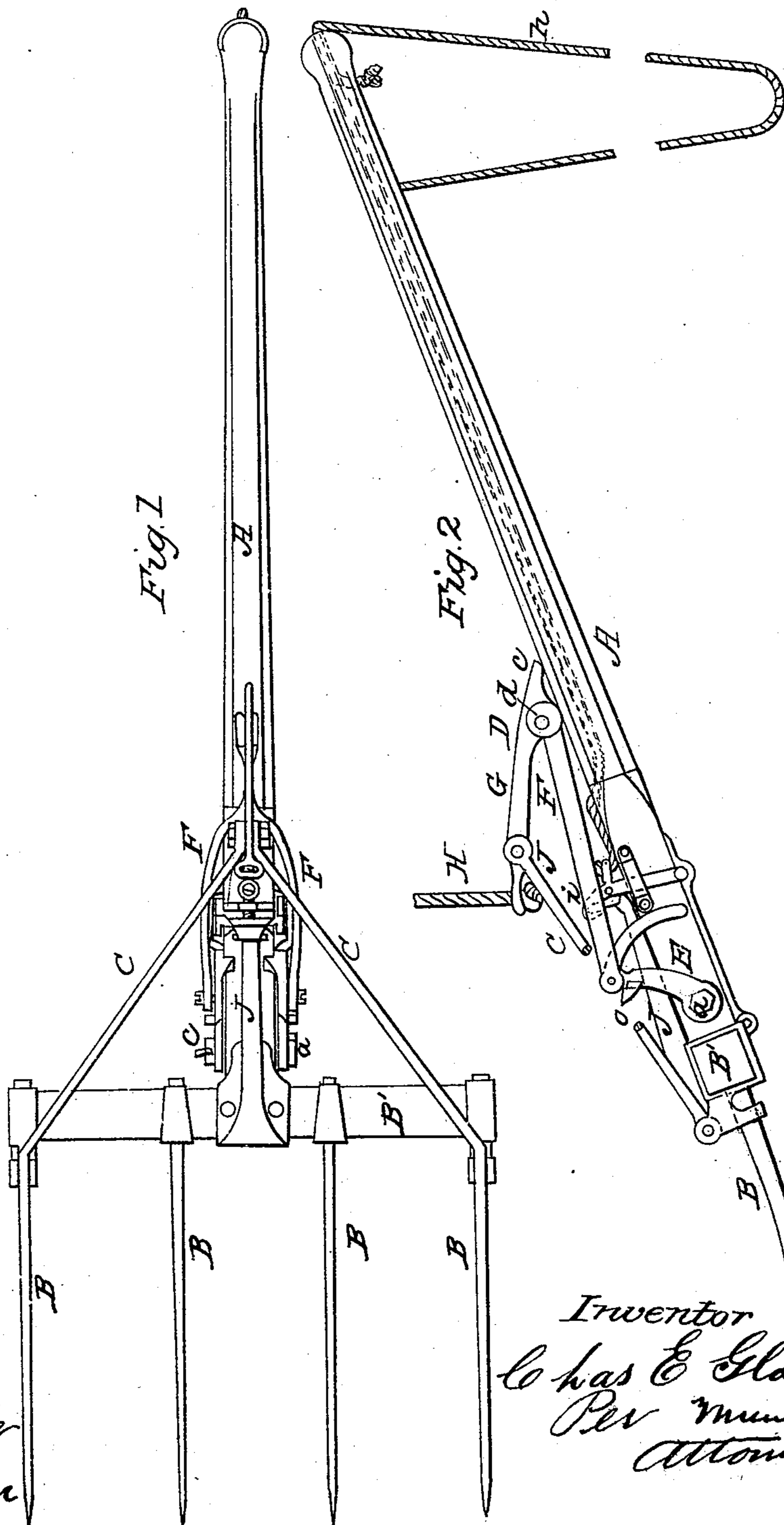


C. E. GLADDING.

Horse Hay Fork.

No. 73,179.

Patented Jan'y 7, 1868.



Witnesses  
J. H. Tucker  
W. F. Frewin

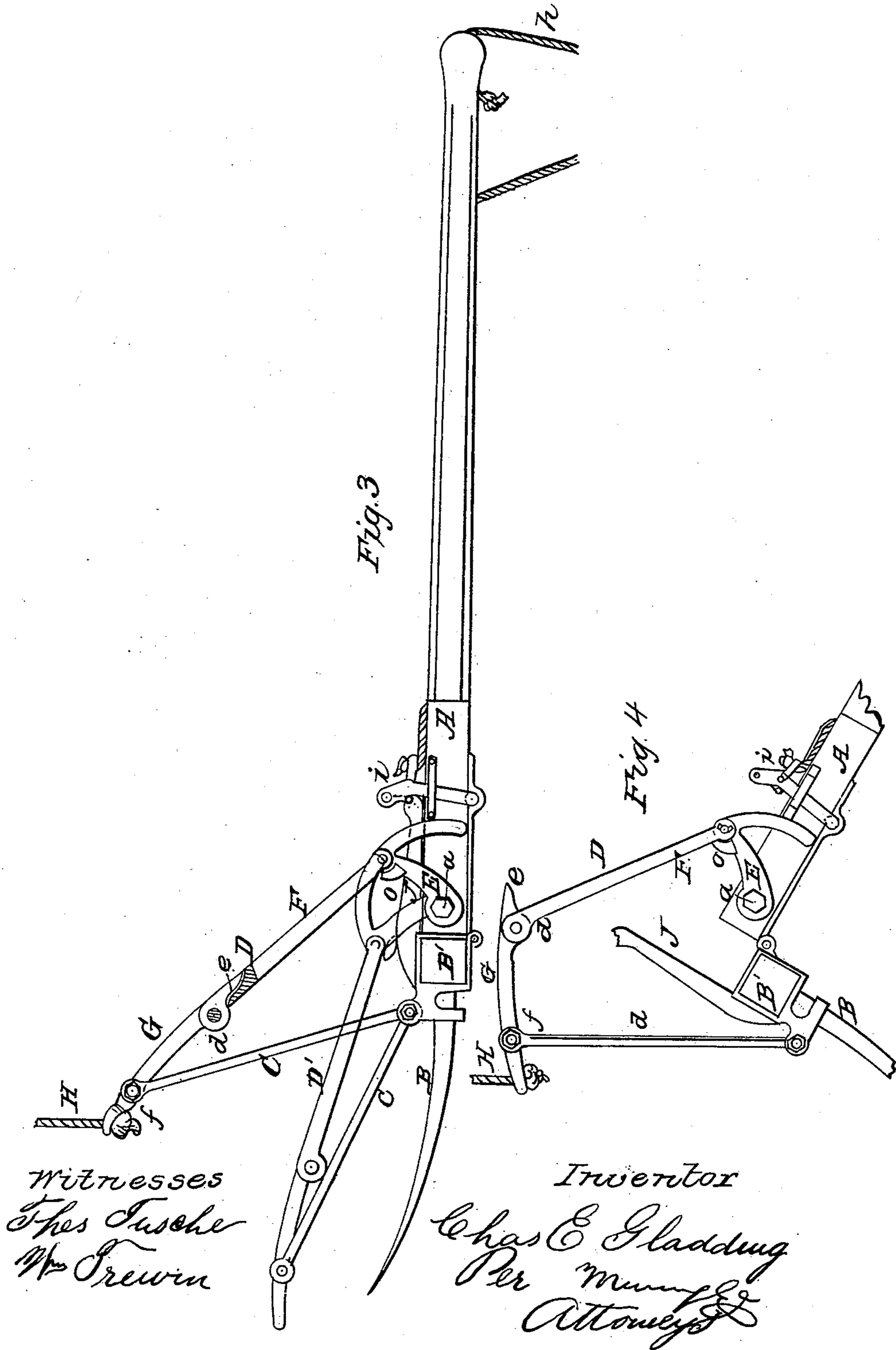
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# United States Patent Office.

CHARLES E. GLADDING, OF TROY, PENNSYLVANIA.

*Letters Patent No. 73,179, dated January 7, 1868.*

## IMPROVEMENT IN HORSE HAY-FORKS.

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, CHARLES E. GLADDING, of Troy, in the county of Bradford, and State of Pennsylvania, have invented a new and improved Horse-Power Hay-Fork; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to improvements made on my "fork for elevating hay," for which Letters Patent were granted me, dated May 11, 1858, which improvements render the fork much more convenient for use, and much better adapted to the purposes for which power hay-forks are intended; and the invention consists in attaching to the handle and to the bail of the fork a jointed connection, formed of different parts or sections, which, in the different positions which the fork assumes as it is used in elevating and discharging the hay, places it entirely under the control of the operator, and greatly increases the value and usefulness of the implement.

Figure 1 is a longitudinal top view of the fork, with the bail and the parts above mentioned folded down on to the handle.

Figure 2 is a side view of the same, showing the detaching-cord and a section of the rope by which the fork is elevated.

Figure 3 is a side view of the fork, with the bail and connection in position for elevating, and in red color at D' the same parts are represented as thrown forward when pressing upon the hay, which position will be referred to hereafter.

Figure 4 represents the fork as when discharging the hay.

Similar letters of reference indicate corresponding parts.

A represents the handle of the fork; B, the tines or fork proper. B' is the head of the fork. C is the bail, which is attached to ends of the fork-head and outer tines, as seen in fig. 1. D represents the "connection," which is formed of three parts or sections, which, in connection with the bail, form the subject-matter of the present invention.

In the patent which I have alluded to there is no rigid bail, the lifting-rope being attached to the fork, much as my present bail is, by a transverse rope, forming a loop or crotch to which the lifting-rope is fastened. In pitching or loading the fork, this loose rope is a source of great annoyance, as it frequently gets tangled and interferes with the detaching-apparatus.

My present improvement obviates this difficulty, while it enables me to introduce the loaded fork into windows or doors in elevated or other situations, where it could not enter before for the discharge of the hay. The peculiar form and construction of the connection D will be understood by noticing the different figures of the drawing. The connection is formed of the parts E, F, and G. H is the rope by which the fork is elevated. Upon each side of the handle are the plates E, fastened by a bolt and thumb-screw. The head of the bolt is seen at *a*. The thumb-screw is seen at *c*, fig. 1. F is a crotch-connection, each leg of which is attached to one of these plates E, as seen in fig. 1. The crotch F is connected to the piece G by a stop-joint at *d*, the projecting lip of which joint, *e*, prevents the two parts from turning back farther than to a straight position, or as seen in fig. 3. The part G is a lever, whose fulcrum is at the point *f*, where the bail C is attached. Four different views of the fork are seen in the drawings, representing the different positions it assumes when it is in operation. When the fork is thrust into the hay, the connection D is folded back upon the handle, as seen in figs. 1 and 2, so that the operation is unobstructed by the loose rope, as in the old fork. In fig. 3 the bail and connection D are seen as when the fork is loaded. In this position the fork, when loaded, is balanced, or nearly so. As the connection is rigid, the purchase which the rope has on the connection holds the fork and load nearly balanced, which is, in that position, easily managed by the attendant, who has hold of the rope, marked *h*, by which the fork is guided. D', in the same figure, shows the position which the bail and connection are made to assume by hauling back on the fork by the rope *h*, when it is necessary to introduce the fork into a window or through a narrow space for the discharge of the hay. In this case the bail and connection are pressed down on to the hay, thus forcing it to occupy a smaller space, the amount of compression on the hay being according to the change in the centre of gravity caused by pulling back the fork. This arrangement is allowed

by the change in the position of the plates E, which turn on the bolt *a* and assume the position seen in red, fig. 3. Fig. 4 represents the position of the connection and bail as when discharging the hay from the fork. The tongue J is rigidly attached to the head of the fork, and it is held in place on the handle, as seen in figs. 1, 2, and 3, by the latch or detaching-arrangement seen in the drawing at *i*. This arrangement is operated by the rope *h*, which passes through the handle, as seen in dotted line, the end being attached to the latch, as represented in the drawing.

When the loaded fork is in the desired position for the discharge of the hay, the attendant draws upon the part of the rope *h* which is attached to the latch, which liberates the tongue J. The part F of the connection D is stopped by lugs on the plates E, (seen at *o*,) while the tongue J passes up through the crotch of F, while the head and fork drop down, as seen. When the hay slides off the fork, the pull of the hoisting-rope H on the lever G brings the fork into position again, when it is drawn back or folded down on the handle and made ready for another operation. The detaching-arrangement, with the head of the fork jointed to the handle, and secured by the tongue J, is fully described in my patent before alluded to.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

1. In combination with a power hay-fork, the connection D, or its equivalent, formed of the parts E, F, and G, or their equivalents, substantially as and for the purposes herein shown and described.
2. In combination with the connection D, or its equivalent, the bail C, substantially as described.

The above specification of my invention signed by me, this 13th day of September, 1867.

C. E. GLADDING.

Witnesses:

WM. F. McNAMARA,

ALEX. F. ROBERTS.