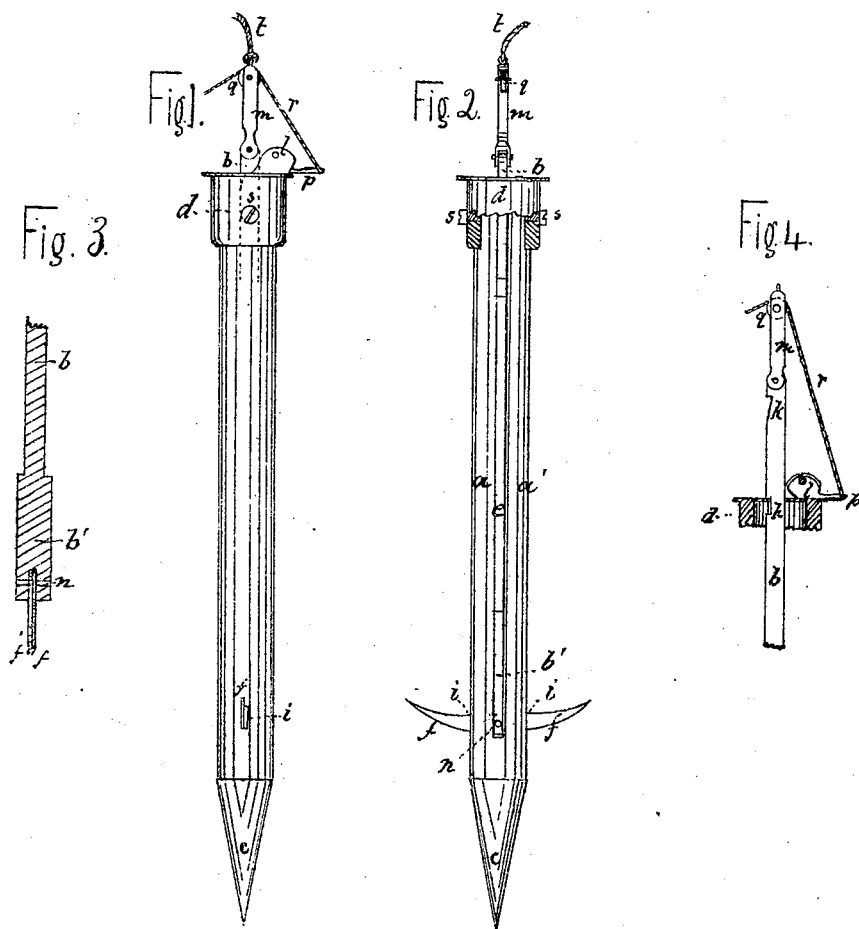


*S. Rogers.*  
*Horse Hay-Fork.*

*N<sup>o</sup> 53345*

*Patented Mar. 20, 1866.*



*Witnesses.*

*W. Lewis*  
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*Seymour Rogers*  
*by his attorney*  
*H. B. Baskin*

# UNITED STATES PATENT OFFICE.

SEYMOUR ROGERS, OF PITTSBURG, PENNSYLVANIA.

## IMPROVEMENT IN HORSE HAY-FORKS.

Specification forming part of Letters Patent No. 53,345, dated March 20, 1866.

*To all whom it may concern:*

Be it known that I, SEYMOUR ROGERS, of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Hay-Elevators; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, in which—

Figures 1 and 2 are exterior views of my improved hay-elevator with the rod depressed and the prongs protruding from the case. Fig. 3 is a sectional view of the lower end of the rod or plunger. Fig. 4 represents the top of the plunger and a section of the cap, showing the relative position of those parts when the plunger is raised and the prongs are drawn in.

Like letters of reference in each figure denote similar parts.

The hay-elevator hereinafter described is an improvement on the hay-elevator for which Letters Patent of the United States No. 46,027 were granted to me on the 24th of January, 1865, which consists in the manner of constructing the case or sheath whereby it is reduced in weight and can be made more easily and cheaply.

To enable others skilled in the art to make use of my improvement, I will proceed to describe the construction and operation of my improved hay-elevator.

In the drawings the sheath or case of my hay-elevator is constructed of two straight side pieces, *a* and *a'*, which may be of crescent shape in transverse section, or any other convenient shape which will give a suitable exterior and leave a cavity within for the rod or plunger *b*. The side pieces, *a* *a'*, are welded together at one end and drawn to a point, forming a tapering extremity, *c*, and above the place where they are welded together the edges of the side pieces are not brought together, but leave a parallel slot, *e*, on each side of the sheath. The side pieces are kept in position without touching each other above the point where they are united at the lower end by means of a cap-piece, *d*, the upper end of the sheath or side pieces, *a* *a'*, entering the cap, and being fastened to it by the screws *s* *s*.

A little above the tapered point of the sheath are two holes, *i* *i*, in the sheath-pieces *a* and *a'*, one on each side, through which the curved

prongs *f* *f'* of the fork protrude when the rod or plunger *b* is depressed. The prongs *f* *f'* are slightly curved and come to a point at their outer end, the other end of each being fastened to the lower extremity of the rod or plunger *b* by a pin or pivot, *n*, as seen in Fig. 3. The rod *b* extends upward in the cavity of the sheath, and its upper end projects through a slot in the top of the cap-piece *d*, the lower end of the rod being enlarged in one direction on each side, as seen in Fig. 3, so that the edges of the enlarged portion *b'* extend through the slot *e* on each side of the sheath. This serves to keep the rod in position and prevents any tendency to twist.

The rod *b* has two notches in it, both on one side of the rod, one notch, *h*, being at that point of the rod which is level with the top of the cap *d* when the rod is drawn up, and the other notch, *k*, at the level of the top of the cap when the rod is depressed. On top of the cap-piece *d* is a cam, *l*, which, when its lever-arm *p* is depressed, presses the rod *b* to one side, so that the edge of the hole in the cap enters the notch, and thus keeps the rod at the height required, either up or down. The face of the upper notch, *k*, is inclined, so that when the cam-arm *p* is raised the rod may be drawn up in the sheath, the face of the rod sliding over the edge of the hole in the cap-piece *d*.

On top of the rod *b* is pivoted a bail, *m*, and at the upper end of the bail is a small pulley, *q*, (see Fig. 2,) over which passes the cord *r*, which is attached to the end of the cam-arm *p*. The hoisting-rope *t* is attached to the upper end of the bail *m* above the pulley *q*.

Thus constructed the operation of my hay-elevator is as follows: The rod *b* being raised so that the lower notch *h* engages the top of the cap *d*, the prongs *f* *f'* are withdrawn into the cavity of the sheath and the cam-lever *p* is lowered so as to hold the rod in place. The elevator is then pressed down into the hay, point foremost. The cam is then raised, so as to allow the depression of the rod *b*, which causes the prongs *f* *f'* to protrude through the holes *i* *i* in the sides of the sheath-pieces into the hay, and as soon as the upper notch, *k*, reaches the top of the cap *d* the cam-arm *p* is lowered, which presses the rod over against the side of the slot in the cap and prevents the rod being raised independently of or within its

sheath. The whole implement is then raised by horse or other power applied to the hoisting-rope *t*, carrying with it a large mass of hay supported by the outstretched prongs *ff'*. As soon as it is desired to discharge the hay from the elevator it is done by a downward pull on the cord *r*, which, passing over the pulley *q* at top of the bail *m*, raises the cam-arm *p* and at once the sheath drops on the rod *b* over the prongs *ff'*, which are thus withdrawn inside the cavity of the sheath, and the load of hay is deposited wherever required.

The arrangement of operating the cam to release the notch of the rod from the cap by a downward pull of the cord *r*, instead of requiring it to be done by an upward pull, is not only much more convenient, but it avoids the difficulty arising from the cord getting twisted around the sheath, because when the cord is

pulled downward it will become unwound, or at any rate will operate to raise the lever.

The making of a sheath of two side pieces welded together at the lower end, instead of using a tubular sheath, simplifies the construction and consequently lessens the cost of manufacturing.

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

Making the sheath or case of the hay-elevator of two side pieces of any desired shape, united at the lower end by welding or otherwise, substantially as described.

In testimony whereof I, the said SEYMOUR ROGERS, have hereunto set my hand.

SEYMOUR ROGERS.

Witnesses:

ALLAN C. BAKEWELL,  
W. D. LEWIS.