Rhoades & Carroll.
Hay Fork.

No. 77,760. Patented May 12. 1868.

Fig. 1

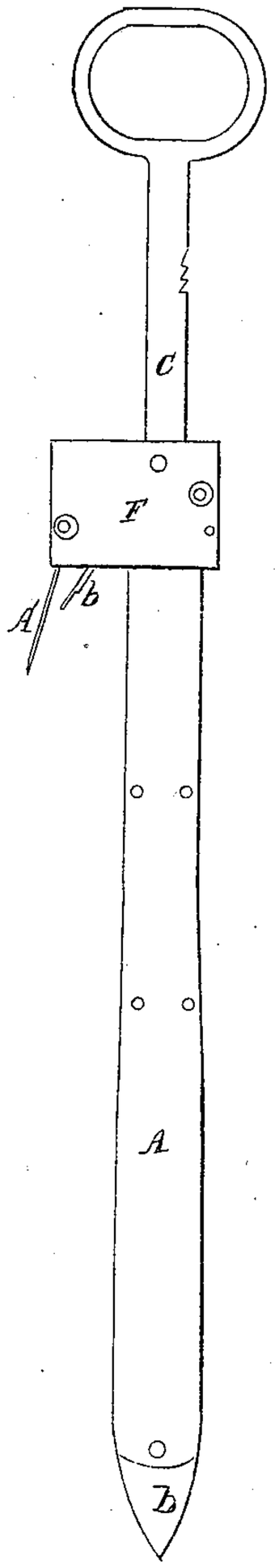


Fig. 2

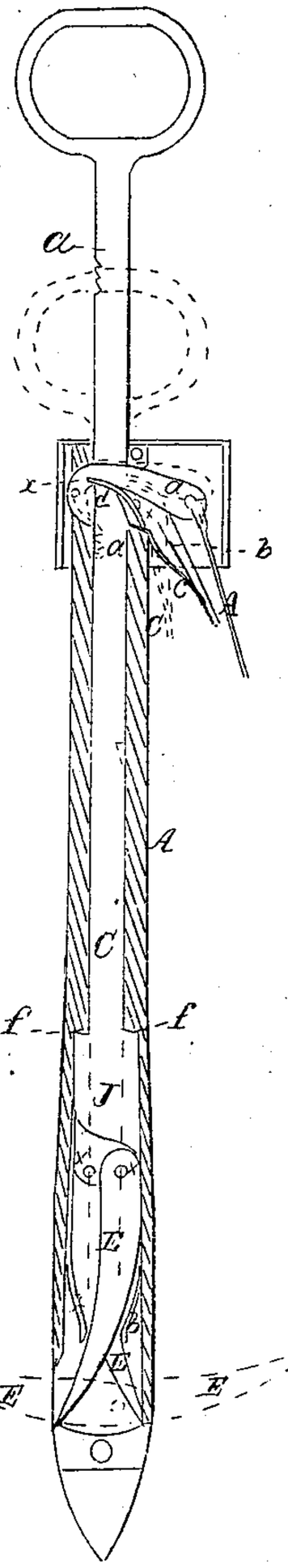
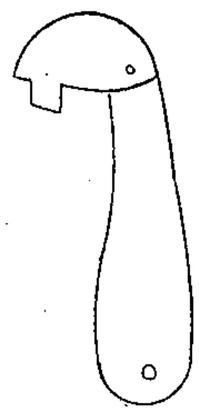


Fig. 3.



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Letters Patent No. 77,760, *dated May* 12, 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 we, S. H. RHOADES, of Clyde, in the county of Sandusky, and State of Ohio, and WILLIAM CARROLL, of Hillsdale, in the county of Hillsdale, and State of Michigan, have invented certain new and useful Improvements in Hay-Forks; and we do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of the fork.

Figure 2 is a vertical section.

Like letters refer to like parts.

In fig. 1, A represents a flattened tube or sheath, the lower end of which is armed with a steel point, B. In this tube is fitted a shaft, C, fig. 2. The upper end of this shaft terminates in a ring, D. To the lower end are pivoted the prongs E at the points X. F is a case enclosing the catches *a b*, pivoted to the sheath at the points X, and by which the fork is locked and sprung. Each of the catches is furnished with a spring, *c d*, by which it is sprung into position for locking the fork, as will hereafter be shown.

The practical operation of this fork is as follows:

When in the condition shown in fig. 1, it is thrust down into the hay, which may be supposed to be a load standing alongside of the bay or mow.

This being done, the prongs E are then compelled outward, as indicated by the dotted lines in fig. 2, by pressing down upon the shaft C, to which they are pivoted, as above said, the catch *b*, first being disengaged from the notch by depressing the arm of the same, as indicated by the dotted lines *c'*, which will allow the shaft to descend until the notches *a'* are engaged by the catch *a*, which will hold the distended prongs while the hay is being lifted by the fork, it being drawn upward by an appropriate arrangement of pulleys for that purpose.

The hay is discharged from the fork by disengaging the catch *a* from the notches *a'*, and which is done by pulling on the cord A'. The prongs are then withdrawn from the hay into the tube, as shown in fig. 2. In this condition the prongs are restrained from being forced outward, by the catch *b*, which is sprung into engagement with the notch by the spring *c*, as was the catch *a* sprung into the notch *a'* by the spring *d*.

It will be observed that the lower end of the shaft C is much enlarged, forming a kind of head, J, to which the prongs are pivoted. At the conjunction of this head to the shaft are shoulders *f*, which, on the withdrawing of the prongs, collide with the shoulders of the tube which receives the shock, thereby relieving the locking-apparatus from the violence of the blow which always follows the withdrawing of the prongs.

It will also be observed that each prong is backed by a spring, *b'*, by which, when the prongs are withdrawn, they are prevented from protruding their points while the fork is being thrust into the hay, which they will often do when not thus prevented, thereby rendering the insertion of the fork a work of much labor.

Figure 3 shows a form of catch which may be used in place of that above described, which in some respects is deemed the most desirable.

What we claim as our improvement, and desire to secure by Letters Patent, is—

1. The springs *b'* in combination with prongs E, for the purpose specified.

2. The catches *a b*, and springs *c d*, as constructed and arranged to operate in combination with the shaft C, for the purpose specified.

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Witnesses:

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