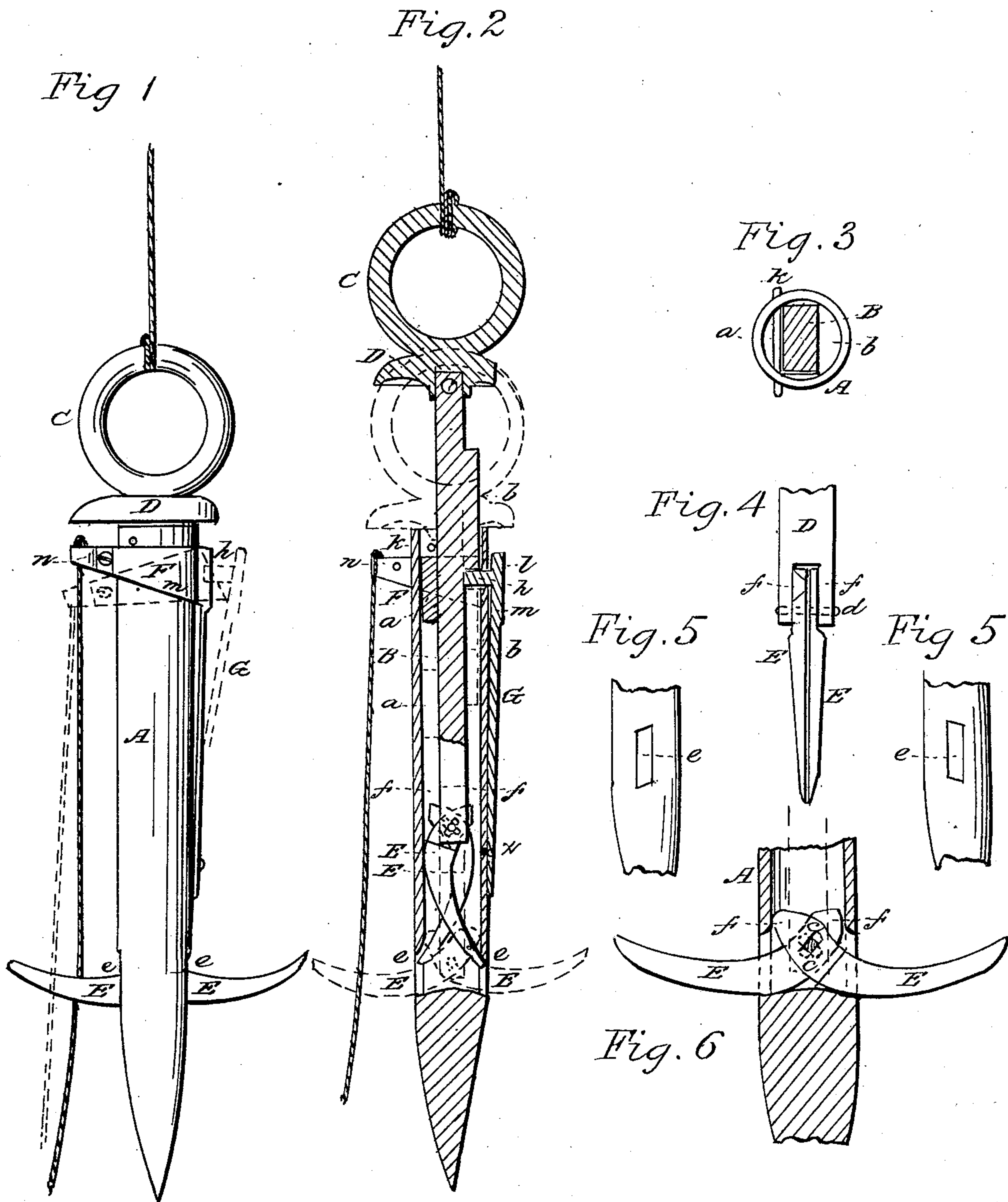


C. C. BLODGETT.

Horse Hay-Fork.

No. 60,467.

Patented Dec. 18, 1866.



Witnesses:

W. K. Mervin
W. Bailey

Inventor.

C. C. Blodgett
by J. Pollok
his atty

United States Patent Office.

IMPROVEMENT IN HORSE HAY FORKS.

C. C. BLODGETT, OF WATERTOWN, NEW YORK.

Letters Patent No. 60,467, dated December 18, 1866.

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

TO WHOM IT MAY CONCERN:

Be it known that I, CHESTER C. BLODGETT, of Watertown, in the county of Jefferson, and State of New York, have invented certain new and useful Improvements in Hay Forks; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a side elevation of a hay fork constructed in accordance with my invention.

Figure 2 is a vertical section of the same, showing the operative mechanism in two positions; and

Figures 3, 4, 5, and 6 represent in section and elevation detached parts of the fork.

My invention relates to that class of hay forks known as harpoon forks, and it has more particular reference to the operative mechanism of such forks, its principal object being to simplify the construction of such mechanism, both in order to cheapen the cost of the fork and to make it more effective in its operation and less liable to get out of order.

The invention consists principally, first, in the construction and arrangement of the rod by which the barbs or claws are operated, and its combination with the tubular open-topped sheath by which it is enclosed; second, in the claws or barbs slotted at the point where they are pivoted, and having their ends above the pivotal point elongated for the purposes hereinafter mentioned; and, third, in the construction of the "stop works" for locking and unlocking the centre rod, and their combination with such rod. There are also other improvements of minor importance which will be hereinafter mentioned.

To enable others skilled in the art to understand and use my invention, I will now proceed to describe the manner in which it is or may be carried into effect, by reference to the drawings which accompany and form part of this specification.

The fork consists of a tubular sheath, A, containing the rod, B, by which the fork is suspended, and to which the barbs or claws are pivoted, as hereinafter described. The sheath is open at its top, as shown in figs. 2 and 3, and is provided with a penetrator of ordinary construction, and slots, which allow the barbs to be projected from or drawn within the sheath. The rod, B, is of any suitable form or shape, and is steadied and held or centred in the sheath, A, by means of projecting pieces or flanges, *a b*, formed either in one piece with the rod, as shown in the drawings, or separately therefrom, and so shaped as to fit the interior of the sheath. The upper end of the rod, B, is provided with a ring, C, to which the rope by which the fork is suspended is secured; just under the ring, C, and on the rod, B, is a guard or flange, D, which protects the "stop works" and prevents the fork from being unlocked by accident during its ascent, as hereinafter explained. To the lower end of the rod, B, are attached the claws or barbs, E. These claws, instead of being constructed and pivoted as in other forks, are provided with slots, *c*, near their upper ends, such slots being transverse to the length of the claws, as shown in the drawings. The claws are held in a recess in the lower end of the rod by a pin, *d*, which passes through them and the rod also. The advantages which result from thus constructing the claws are easily seen, as the slots or openings, *e*, in the sheath, through which the claws are projected or withdrawn, may be made of much less size than in the ordinary fork, and the claws themselves can be pushed out further from the sheath. The upper ends, *ff*, of the claws extend some distance above the pivotal point, *d*, so that when the claws are forced out, as shown in red lines in fig. 2 and in fig. 6, the ends, *ff*, will bear against the sides of the sheath and thus hold the claws firmly and securely in position, assisting the projecting pieces, *a b*, to steady and centre the rod, B. The device for locking and unlocking the fork consists of a flat piece of highly tempered metal, G, forming a spring, the lower end of which is secured to the sheath at *x*. The upper end of the spring is provided with a pin or stud, *h*, which passes into the sheath, A, through a hole, *l*, and is there held by the force of the spring, G. To enable this pin to lock and unlock the rod, B, the projections, *a b*, are arranged as shown in the drawings. The length of the piece, *b*, on the side where the locking device is placed, is just equal to the distance traversed by the rod, B, in moving from the position in black lines to the position in red lines, shown in fig. 2, and its location on the rod is such that when the claws are in the position shown in red lines the locking pin, *h*, will be just above its upper end; and when the rod is as is shown in black lines the pin will be just under its lower end. It will be seen that the rod by this arrangement may be firmly held in either of

the two positions shown in the drawing. The rod, B, is prevented from being wholly withdrawn from the sheath by means of the piece *a*, diametrically opposite the piece *b*. This piece is placed on the rod in such position that when the latter is in the position shown in black lines, fig. 2, the upper end of the piece *a* will strike against a pin, *k*, which effectually stops the further withdrawal of the rod. The pin, *k*, is shown more clearly in fig. 3, and it will be seen that its function is not only to stop the movement of the rod beyond a certain point, but also to check any tendency the rod, on account of the cylindrical form of the sheath, may have to turn or revolve in the sheath. The pin, being placed so that it will bear against the flat side of the rod, effectually prevents any movement of this kind. By this arrangement I am enabled to construct the sheath, A, with an open top, which effects a considerable saving in expense, and also permits the fork to be taken apart with great ease. All that it is necessary to do is to withdraw the pin, *k*, after which the rod and claws can be removed from the sheath without any trouble. In order to withdraw the locking pin, *k*, whenever it becomes necessary to move the rod from one position to the other, I make use of hoop or cylindrical strip of metal, F, which loosely encircles the sheath, A, near its upper end and at the point where the pin, *k*, enters the sheath. Where the hoop, F, meets the locking pin it is perforated, at *l*, to allow the pin to pass through it. The pin, *k*, by these means, is made to hold the hoop, F, in position, and to prevent it from dropping lower down upon the sheath. The hoop upon the side where the locking pin, *k*, is situated increases in width, having a lip, *m*, extending down upon the sheath some distance below the pin, *k*. Diametrically opposite the locking pin, the hoop, F, projects out from the sheath so as to form a knob or handle, *n*. The manner in which the device operates is shown fully in fig. 1. When the workman desires to unlock the rod, he pulls on a rope which is attached to the handle, *n*. As the hoop, F, fits loosely around the sheath the part *n* is thus pulled down, which causes that part of the hoop on the opposite side of the fork to tilt, the upper edge being pressed firmly against the sheath and the lower edge or lip, *m*, being raised or tilted up against the spring, G, which is thus lifted and thrown back, carrying with it the locking pin, *k*. The hoop, F, is in effect a lever, the fulcrum being at the upper edge of the hoop, between the power at the handle, *n*, and the resistance at the lip, *m*. As soon as the rope is released the spring, F, immediately forces back the pin, *k*, into the sheath, and the rod, B, is again held in whichever of the two positions shown in the drawings it may happen to be. This device for locking and unlocking the fork may be employed with rods of different construction from that shown in the drawings, and I do not limit myself to its use in connection with a rod constructed and arranged as therein shown. It will be seen that the guard, D, covers and protects the handle, *n*, of the hoop, F, and prevents it from catching in or striking against any obstacle during the ascent of the fork, which would have the effect to depress it and thus unlock the fork. The slots or openings, *e*, in the sheath, A, are formed as shown in fig. 5, the lower edges of the slots being slanted or bevelled so as to facilitate the outward movement of the claws, E.

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

1. In combination with the tubular sheath and centre rod of a hay fork, as described, I claim the slotted claws or barbs elongated at their ends above the pivotal point so that when the claws are projected from the sheath the said ends shall be brought in contact with the sides of the sheath, substantially as and for the purposes set forth.
2. I claim the combination, with the tubular sheath of a hay fork, as described, of a centre rod or bar provided with flanges arranged relatively to each other and to the locking mechanism of the fork in such manner that they shall not only guide and centre the rod but also constitute the means whereby its motion in the sheath may be limited or stopped, substantially as herein shown and set forth.
3. In combination with the centre rod or bar, arranged as described, I claim the open-topped tubular sheath and the pin or equivalent device for preventing the withdrawal of the rod from and the rotation of the same within the said sheath, substantially as herein shown and set forth.
4. I claim the herein-described device for locking and unlocking the centre rod, the same consisting of a hoop or sleeve F loosely encircling the sheath, and combined with the spring G and locking pin *k*, substantially in the manner and for the purposes herein shown and set forth.
5. I claim the guard formed on the centre rod and constructed and arranged so as to protect the locking and unlocking device, substantially as herein shown and described.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

Witnesses:

DENNIS O'BRIEN,
T. BAKER.

C. C. BLODGETT.