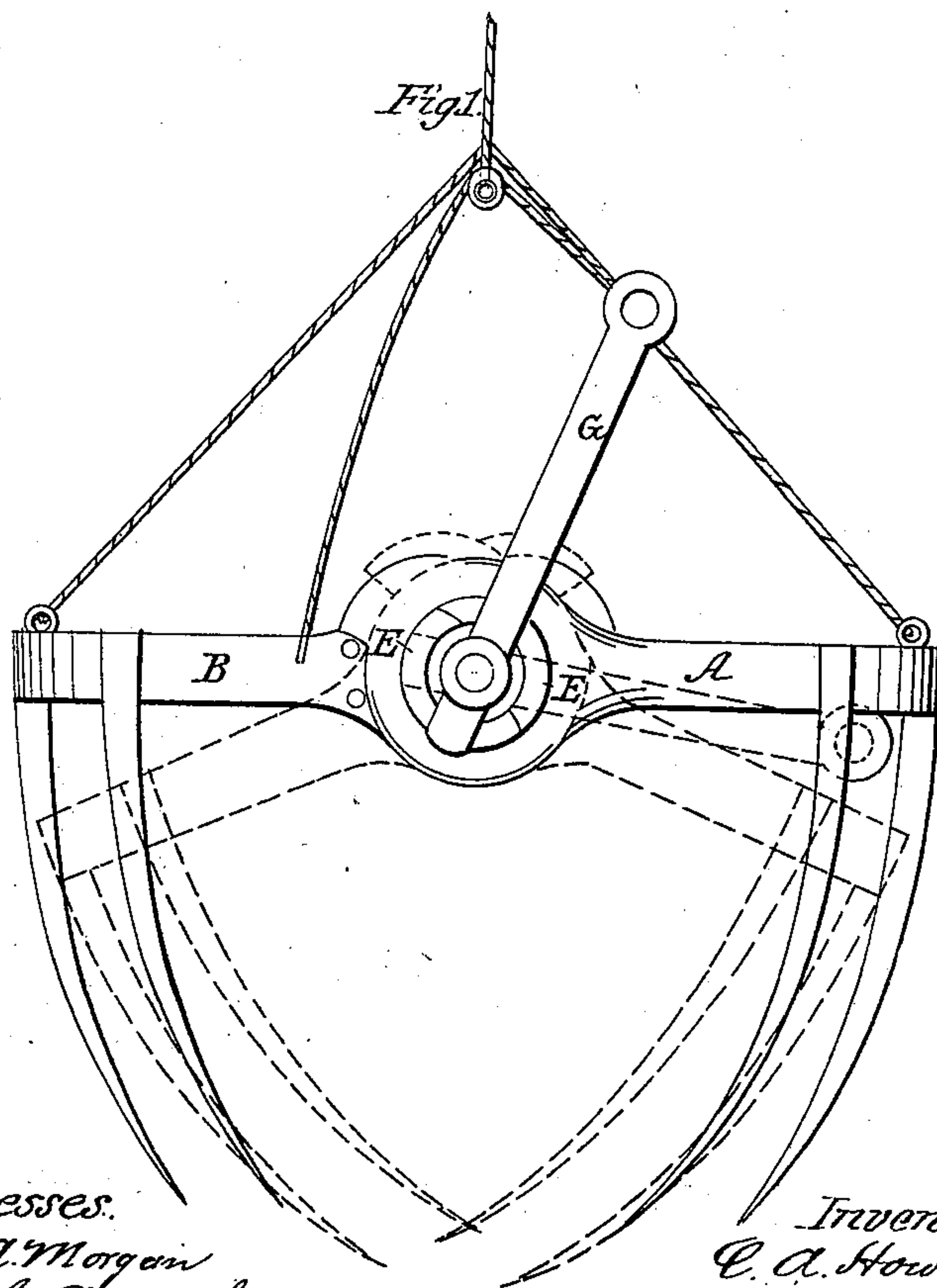


C. A. HOWARD.
Horse Hay Fork.

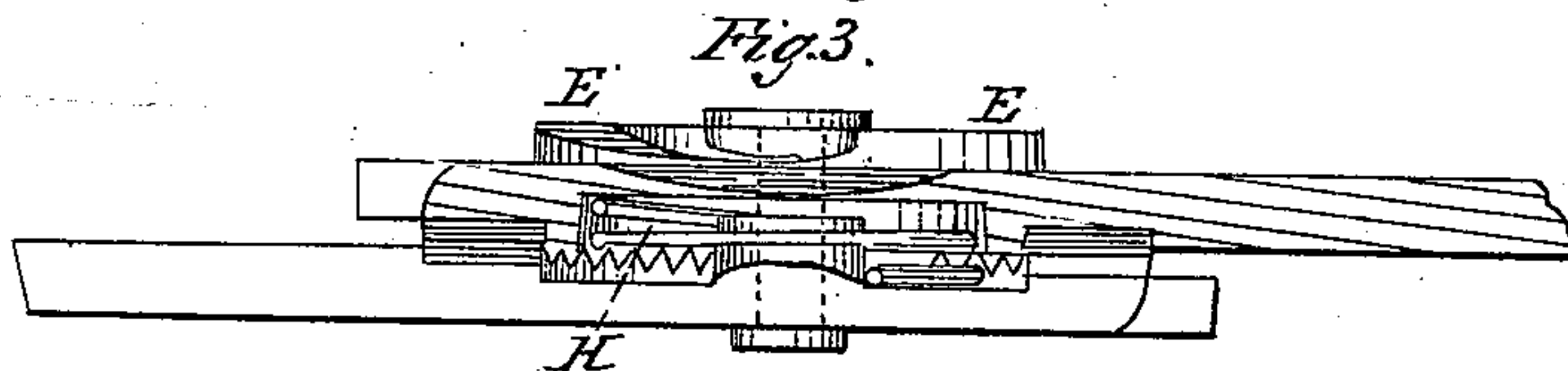
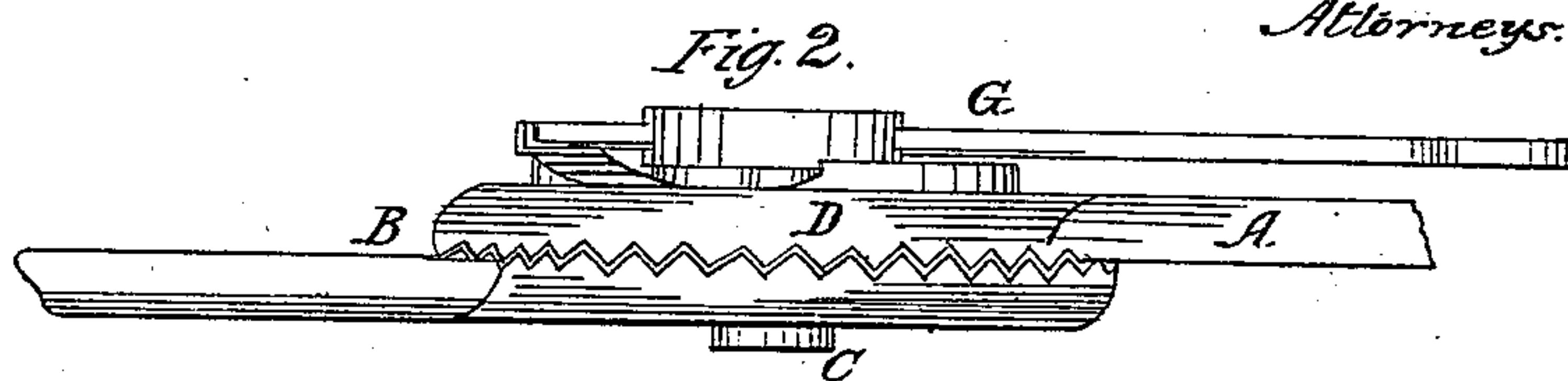
No. 83,063.

Patented Oct. 13, 1868.



Witnesses.
Wm. A. Morgan
Ch. C. Dieterich.

Inventor.
C. A. Howard
per Munroe & Co.
Attorneys.



UNITED STATES PATENT OFFICE.

C. A. HOWARD, OF PONTIAC, MICHIGAN.

IMPROVEMENT IN HORSE HAY-FORKS.

Specification forming part of Letters Patent No. **83,063**, dated October 13, 1868.

To all whom it may concern:

Be it known that I, C. A. HOWARD, of Pontiac, in the county of Oakland and State of Michigan, have invented a new and Improved Locking-Joint for Horse Hay-Forks; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others 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 in locking-joints for horse hay-forks; and has for its object to provide a more simple and convenient locking-joint than any now in use.

It consists in radially grooving the contiguous faces of the enlarged ends of the fork-head around the pivot-bolt and providing inclined planes upon the outer face of one of the enlargements, by which they are forced together, to be locked by a lever secured to the axial bolt, the projections of one face taking into the grooves of the other. A spring is interposed between the faces of the said enlarged and grooved ends of the fork-heads, to throw them out of connection when required.

Figure 1 represents a side elevation of a fork constructed according to my improvements. Fig. 2 represents a plan view of the same. Fig. 3 represents a partial horizontal section of the same.

Similar letters of reference indicate like parts.

The two parts A and B of the fork-head have circular enlargements around the joint-bolt C, which I provide with radial grooves or corrugations in their adjacent faces, as represented at D. I also provide the outer face of one of the enlargements with curved inclined ways E and F.

G represents a lever, secured to one end of the axial bolt, and working against the faces of the inclined ways to force the grooved faces of the said enlargements together when moved up the said inclines, and thereby lock the projections of one part with the grooves of the other.

A spring, H, is interposed between the said grooved enlargements, to throw them out of connection when the lever is moved in the opposite direction, and a sufficient movement of one of the parts on the axial bolt for discon-

necting the said grooved faces is permitted when the lever bears against the lowest parts of the inclined ways.

When the fork is required to engage a quantity of hay for elevating it, it is presented to the top of the mass with the tines in a vertical or nearly vertical position, as represented in black lines in Fig. 1, when they are pressed into the hay as far as may be, and curved down into the position shown, or to a greater extent in the same direction, for the purpose of holding the hay, and in order to do so they must be locked in this position. With my improved fork this may be readily done by turning the lever G by the hand up the inclines E and F. When the hay so taken by the fork has arrived at the place where it is desired to discharge it, a cord in the hands of the operator, and connected to the eye in the outer end of the lever G, may serve as the means of unlocking the parts A and B of the fork-head by pulling the said lever down the inclines, thereby allowing the spring to separate the grooved faces of the said enlargements, when the suspending cords or chains will restore the parts A and B to the position represented in black in Fig. 1, and discharge the hay.

It will be observed that by this arrangement the points of the tines may be brought together, so as to interlace each other as much as may be desired.

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

1. The parts A and B of a horse hay-fork, provided with corrugated, grooved, or otherwise roughened surfaces, arranged to be locked together in any preferred position by a lever and inclined ways, substantially as and for the purpose described.

2. The combination, with the parts A and B, arranged to be locked as described, of a spring for separating them for unlocking, substantially as and for the purpose described.

The above specification of my invention signed by me this 5th day of September, 1868.

C. A. HOWARD.

Witnesses:

FRANK BLOCKLEY,
ALEX. F. ROBERTS.