

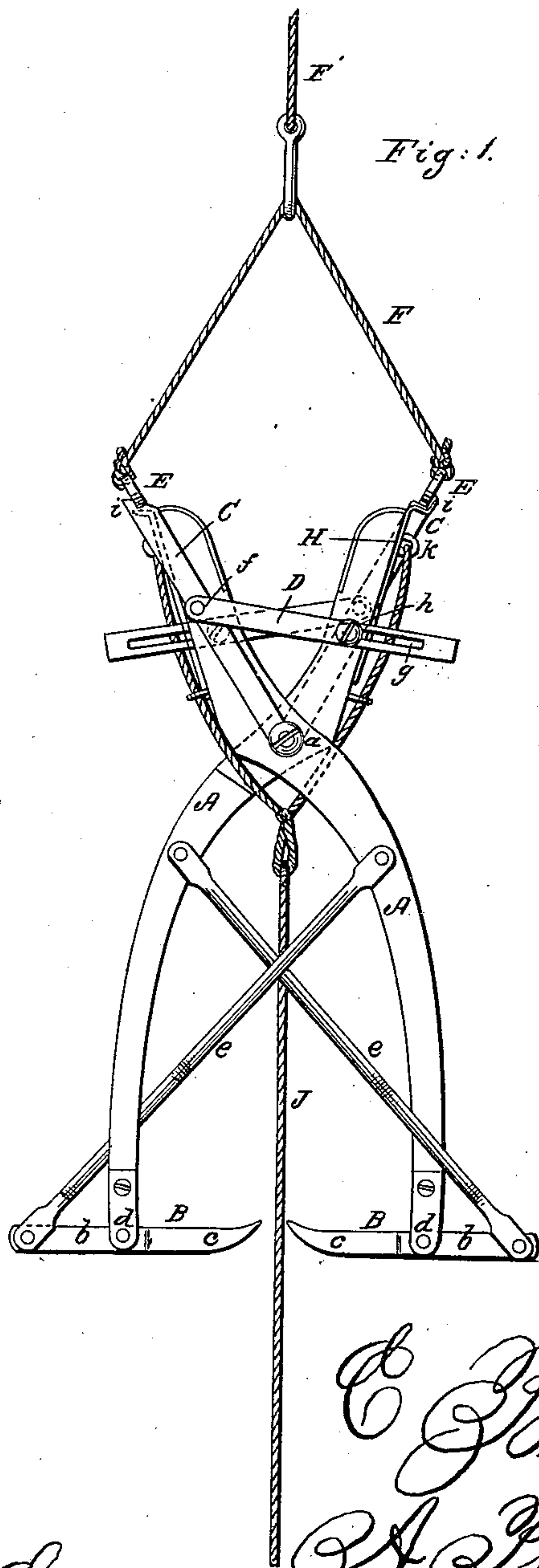
E. & A. BUCKMAN.

2 Sheets—Sheet 1.

Horse Hay Fork.

No. 52,134.

Patented Jan'y 23, 1866.



*Inventors:*

*E. Buckman.*  
*A. Buckman*  
*Munn & Co. attys.*

*Witnesses:*

*Wm. C. Lyon*  
*Wm. Brewin*

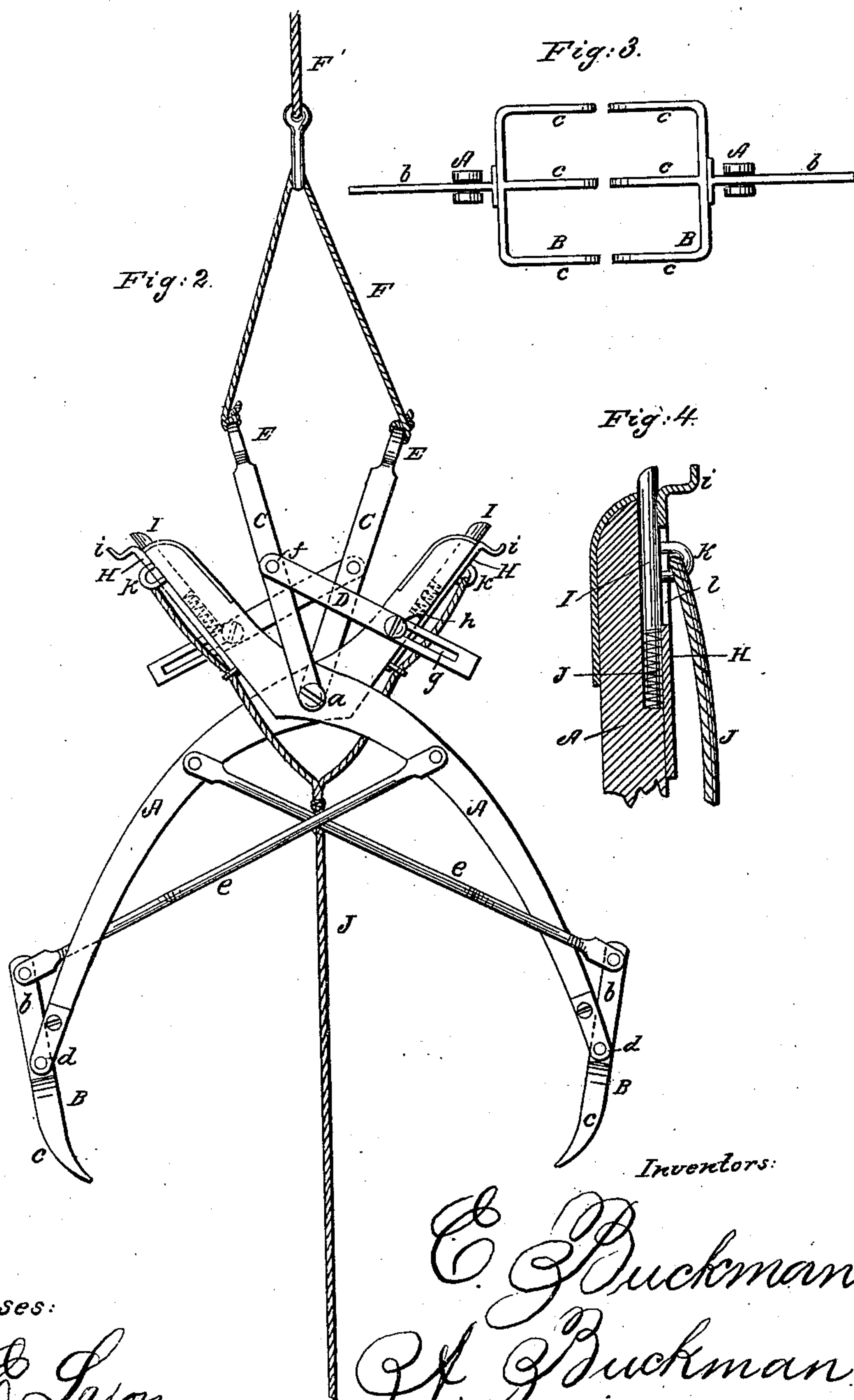
E. & A. BUCKMAN.

**2 Sheets—Sheet 2.**

Horse Hay Fork.

No. 52,134.

Patented Jan'y 23, 1866.



*Witnesses:*

Wm E Lyon  
Wm Brewin.

*Inventors:*

E. Buckman.  
J. A. Buckman.  
Munroe & Co. attys.



# UNITED STATES PATENT OFFICE.

E. BUCKMAN AND A. BUCKMAN, OF EAST GREENBUSH, NEW YORK.

## IMPROVEMENT IN HORSE HAY-FORKS.

Specification forming part of Letters Patent No. 52,134, dated January 23, 1866.

*To all whom it may concern:*

Be it known that we, E. BUCKMAN and A. BUCKMAN, of East Greenbush, in the county of Rensselaer and State of New York, have invented a new and Improved Horse Hay-Fork; and we 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, in which—

Figure 1 is a side view of our invention in a closed or working position; Fig. 2, a side view of the same in an open or distended state; Fig. 3, a bottom or end view of the device; Fig. 4, a vertical section of the upper part of one of the arms or levers of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved horse hay-fork of that class in which two arms or levers are crossed, connected by a pivot, and arranged so as to grasp and retain the load.

The invention consists in a novel and improved application of the forks to the arms or levers, whereby the forks are made to adjust themselves automatically, either in a working or dumping position, by the opening and closing of the arms or levers.

The invention also consists in a novel means for opening or distending the arms or levers, so that the fork may discharge its load at the will of the operator.

A A represent two arms or levers, which may be constructed of wood or metal. The former material will probably be used. These arms or levers cross each other, and are connected by a pivot-bolt, *a*, so that they may work freely thereon, and be opened or closed when desired.

The lower end of each arm or lever A A is slotted longitudinally to receive the shank or tang *b* of a fork, B. These forks are constructed with tines *c*, (three, more or less,) and the shanks or tangs are secured in the arms or levers by pivot-bolts *d*. The outer ends of the shanks or tangs *b* are connected by rods *e* to the arms or levers, the fork of one arm or lever being connected to the arm or lever of the other fork, and vice versa. (See Figs. 1 and 2.) By this arrangement it will be seen that when the arms or levers are opened and closed the

forks B B will be operated or moved, assuming a horizontal position, or a position at right angles with the arms or levers when the latter are closed, (see Fig. 1,) and assuming a nearly vertical position when the arms or levers are distended. (See Fig. 2.)

C C represent two metal bars, the lower ends of which are fitted on the pivot-bolt *a*, one at each end, so that a bar, C, will be at each side of the fork. Each bar C has a bar, D, connected to it by a pivot, *f*, and these bars have each a longitudinal slot, *g*, made in them, through which screws *h* pass into the arms or levers above the fulcrum-bolt *a*. These slotted bars D serve as guides for the bars C.

The upper ends of the bars C C are provided with wings E, to which the rope F is attached, the hoisting-rope F' being attached to F, and to the outer side of each arm or lever A A there is secured a metal plate, H, the upper ends of which extend a trifle above the upper ends of the arms or levers, to form stops *i* for the bars C, and in the upper part of each arm or lever there is inserted a rod, I, underneath which there are spiral springs *j*, which have a tendency to keep the upper ends of the rods I above the upper ends of the arms or levers, the upper ends of I being beveled to form catches and secure the upper ends of the bars C C against the stops *i*, said bars being bent at their upper ends so as to extend over the upper ends of the arms or levers, and admit of the upper ends of the rods I passing up at the inner sides of C C at the bottoms of the rings E. The rods I I have staples or eyes *k* attached to them, which project through slots *l* in the arms or levers and plates H, and a rope, J, is attached to these eyes.

The operation is as follows: When the implement is loaded the forks B B are in a horizontal position and the arms or levers A A in a closed state, and the pull of the hoisting-rope F' has a tendency to keep the arms or levers in a closed state and the forks B in a working position so that they may retain their load. When the fork has been elevated to the proper place over the spot where the load is to be discharged the operator pulls the rope J, and the rods I I are drawn down, so as to release the bars C C, and the upper ends of the latter, under the pull of rope F', will be drawn toward each other, while the upper and lower ends of the arms or levers A A will be drawn

apart under the pull of rope J, and the forks B turned or adjusted to nearly a vertical position, so that the load will be discharged. The fork is lowered in an open state, and when lowered the forks B B are thrust into the hay, the bars C C adjusted in contact with the stops *i* and secured by the rods I, and the fork being again hoisted, the arms or levers, under the pull of the hoisting-rope, will close, and the forks moved so as to hold the load.

The device is provided with the usual hoisting-tackle, and the horse or draft-animal attached in the ordinary manner.

The advantages of this implement consist in the ease with which it may be operated or manipulated, the secure manner in which the load is held, and the certainty with which it may be discharged.

Having thus described our invention, we

claim as new and desire to secure by Letters Patent—

1. The pivoted forks B B at the lower ends of the arms or levers A A, connected to said arms or levers by rods *e*, to cause the forks to move automatically by the movement of the arms or levers, substantially as described.

2. The bars C C, connected to the pivot-bolt *a* of the arms or levers A A, in combination with the rods I I, fitted in the upper parts of the arms or levers, and having the hoisting-rope and discharging-ropes G J attached, respectively, to them, and all arranged to operate substantially as and for the purpose specified.

EDWARD BUCKMAN.

Witnesses: ALEX. BUCKMAN.

HENRY GOODRICH,

JOHN H. VANDENBURGH.