J. R. FITZHOUS.

HAY-ELEVATOR DOG.

No. 171,114. Patented Dec. 14, 1875.

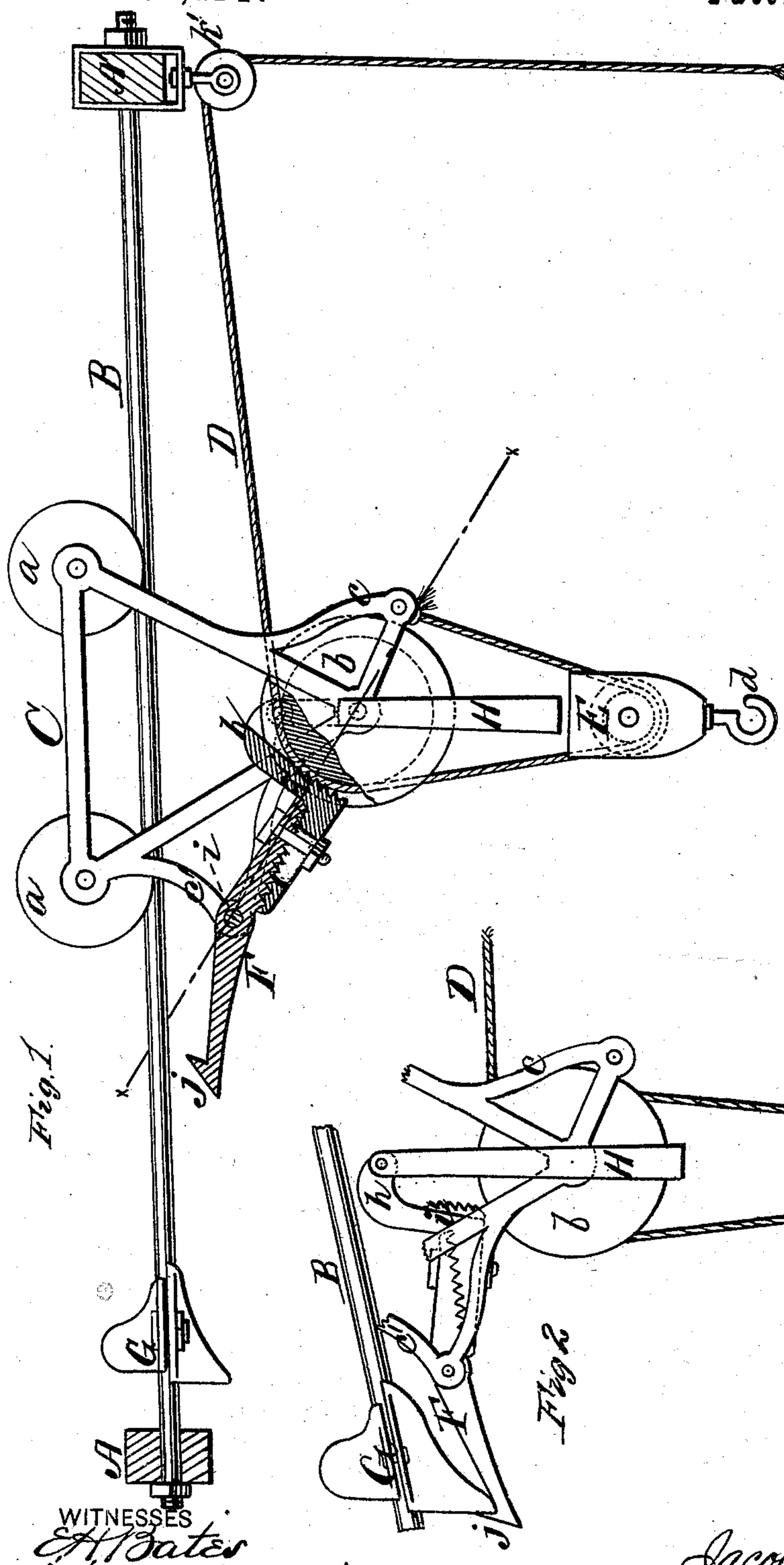

Fig. 1.

Fig. 2.

WITNESSES

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JACOB R. FITZHOUS, OF INDIANA, PENNSYLVANIA.

IMPROVEMENT IN HAY-ELEVATOR DOGS.

Specification forming part of Letters Patent No. **171,114**, dated December 14, 1875; application filed May 28, 1875.

To all whom it may concern:

Be it known that I, JACOB R. FITZHOUS, of Indiana, in the county of Indiana and State of Pennsylvania, have invented a new and valuable Improvement in Hay-Elevator Eccentric Lock; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view, part sectional, of my device, and Fig. 2 is a detail view of the same.

This invention has relation to improvements in that class of hay-elevators for which Letters Patent of the United States were issued to me, bearing date of September 1, 1874, and numbered 154,598, and is intended as an improvement thereon. It is also designed as an improvement upon the devices shown in my application filed May 8, 1875.

The object of the invention is to devise a means whereby the gripe of the dog (letter D in the said patent) may be rendered effective in preventing the elevating-rope from running over the hoisting-pulley, and allowing the loaded fork to be lowered during the passage of the carriage to the mow.

To this end the nature of the invention consists in the arrangement and novel construction of the eccentric lock, and in the relation which its serrated heel bears to the periphery of the hoisting-pulley, whereby the elevator-rope, passing over the latter, will be very forcibly jammed against the said wheel, as will be hereinafter more fully explained.

In the annexed drawings, A A′ designate the roof-timbers of a barn, to which are rigidly secured the ends of a round bar, B, supporting an angular carriage, C, which traverses on the said bar by means of transporting-wheels *a*, and which carries in its lower end a hoisting-pulley, *b*. Over this latter wheel an elevating-rope, D, passes, which rope is rigidly secured to an offset, *c*, on the carriage, and carries a pulley-block, E, having a hook, *d*, upon its lower edge, from which a suitable fork, having a tripping device, is designed to be suspended. F represents an eccentric lock, which is pivoted at *i* to an offset, *c′*, on the carriage. This dog is adjustable for the purpose of increasing or diminishing its length, as may be required; but as this feature forms the subject-matter of an application now pending in the office, wherein its construction is clearly set forth, it is not deemed necessary to go into particulars herein. Eccentric lock F has upon one end an upturned hook, *j*, and upon its other extremity a bifurcation, *h*, the heel *i′* of which is at right angles, or nearly so, to the body of the dog, and is longitudinally concaved and transversely corrugated, hook *j* being designed to engage with a stop, G, on rod A, for the purpose of holding the carriage stationary while the loaded hay-fork is being raised through the medium of the forcibly-actuated hoisting-rope D. This rope passes over a pulley, *k′*, at the inner end of rod B; consequently, when pulley-block E is brought forcibly in contact with a stirrup, H, loosely depending from the furcated end of eccentric lock F, this end will be thrust upward, disengaging hook *j* on its other end from stop G, and allowing the carriage to move into the barn to the mow.

When the mow is reached the hoisting-rope may be let go, and the serrated heel *i* of the dog will gripe the rope, and will cause it to be jammed against the periphery of the hoisting-wheel, holding the loaded fork suspended over the mow.

In this position the heel of the dog will be tangential to the tautened rope, and a very firm gripe of the eccentric lock thereon will be obtained, for the purpose of jamming the rope against the wheel. Its extreme lower edge will be below a dotted line, *x x*, drawn through the pivot of the eccentric lock and the center of the hoisting-pulley, as shown in Fig. 1.

The greater the weight of the hay loaded on the fork, the greater will be the degree of depression of the lower edge of the eccentric lock below the said line, and the more firmly will the rope be jammed against the said hoisting-wheel, for the following reason: The heel of the eccentric lock being at right angles to its body, the distance between its pivotal point and the corrugations on the heel, from its extreme lower edge upward toward its furcated end, will increase in the ratio of the altitude

to the hypotenuse of a right-angled triangle, the latter being drawn through the pivot of the eccentric lock and the point where its serrated heel jams the rope against the periphery of hoisting-pulley. The length of the hypotenuse, as above drawn, will increase in the same degree as the extreme lower end of the eccentric lock is depressed below the line *x x*, and as this depression is in proportion to the weight of hay on the fork, an automatically-adjusting eccentric lock, having a greater or less bite on the hoisting-rope, will be obtained.

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

In a hay-elevator, and as an improvement upon my patent of September 1, 1874, the eccentric lock F, the corrugated heel of which is at right angles to its body, and the lower edge of the heel below a line drawn through the pivot *i* of the said lock, and pivot of hoisting-pulley *b*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JACOB R. FITZHOUS.

Witnesses:
FRANCIS J. MASI,
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