S. Rogers,

Grapple.

No. 100,330. Patented Mar. 1. 1870.

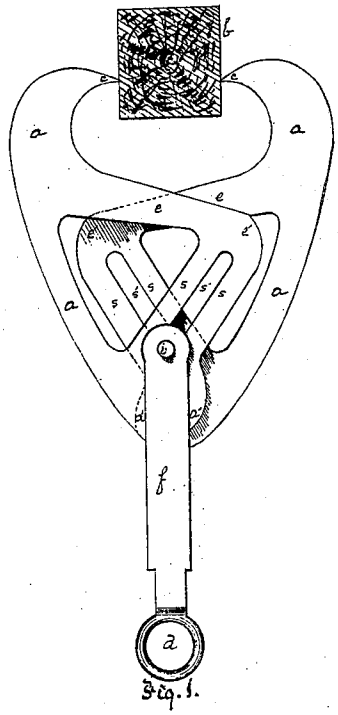

Fig. 1.

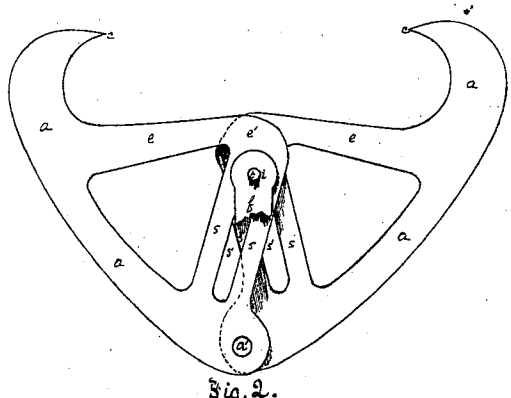

Fig. 2.

Witnesses:
Thos. B. Kerr
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Inventor:
Seymour Rogers,
by Bakewell & Church
his Attys.

United States Patent Office.

SEYMOUR ROGERS, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 100,330, *dated March* 1, 1870.

IMPROVEMENT IN GRAPPLES.

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

To all whom it may concern:

Be it known that I, SEYMOUR ROGERS, of the city of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Grapples; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents my improved grapple as it appears when attached to a rafter and in working position, and

Figure 2 is a plan view of the grapple with its jaws distended.

Like letters of reference indicate like parts in each.

In the use of horse hay-forks it is desirable to have some device by which the hoisting pulleys can easily and quickly be attached to the roof of the barn or to other convenient support overhead, and by which they can be as easily and quickly taken down and reattached to some other part of the same or some other roof or other support. My invention relates to the construction of a grapple for such and other kindred uses.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and mode of operation.

The grapple consists of two hooks *a*, with their shank ends pivoted or hinged to each other as at *a'*.

The points *c* are curved toward each other, and if need be, are slightly re-entrant, or in other words, while bending toward each other they may also curve toward the pivoting point *a'*, sufficiently so that when attached to a rafter, *b*, or other support overhead, they will take a firm and secure bite on such rafter or other support under the operation of the downwardly operating weight of the pulley-blocks attached to the eye *d* of the grapple, or of the load to be hoisted, or of both.

From any suitable part of the hooks *a*, preferably about midway between the biting points *c* and the pivoting point *a*, I make bars *e*, extending inwardly toward each other to such distance that at the greatest desired distension of the hooks *a*, as in fig. 2, the inner ends *e'* of such bars shall overlap each other, and thence I lead each such bar back to its own hook and connect them fixedly at or a little outside of the pivoting point *a'*. Such returning bars *s* have slots *s'*, and the bars *s* are so arranged, with reference to each other and with reference to the hooks *a*, that the slots *s'* shall cross or intersect each other at all adjustments between the greatest and least desired distensions of the hooks *a*.

The carrying-arm *f*, having an eye, *d*, or hook, or other equivalent at its lower end to which to attach the pulley-block, is slotted or bifurcated, so that one arm of the bifurcation shall pass up on each side of the bars *s*, and the two are joined at their upper end by a pin or rivet, *i*, which passes through both the slots *s'*.

The slots *s'*, it will be observed, cross each other, so that by the raising of the arm *f* the pin *i*, acting in the slots *s'*, will cause the hooks *a* to be distended, and *vice versa*.

By the weight of the pulley, or of the load attached thereto, or of any downwardly-acting force applied to the arm *f*, the points *c* of the hooks *a* will be caused to take a secure bite on the rafter *b*, and the greater the weight hung to or hoisted by the arm *f* the more secure the hooks *a* will engage the rafter *b* or other support to which they are attached.

It is obvious that the grapple described may be easily and quickly put up, and as easily and quickly removed from one support or point of support to another, which, in the hurry of "haying," is a desirable end.

I am aware that grappling devices have been made in which the weight operated in closing the jaws on inclined slots arranged outside the pivoting point of the jaws, and hence I do not claim, broadly, operating the jaws or hooks by means of the weight to be raised; but

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

In the construction of a grapple, the inclined crossing or intersecting slots *s'*, arranged inside the hooks and between the hinging point and the biting point of the hooks, substantially as and for the purposes described.

In testimony whereof, I, the said SEYMOUR ROGERS, have hereunto set my hand,

SEYMOUR ROGERS.

Witnesses:

GEO. J. ROWLEY,

ROBT. HERREN.