

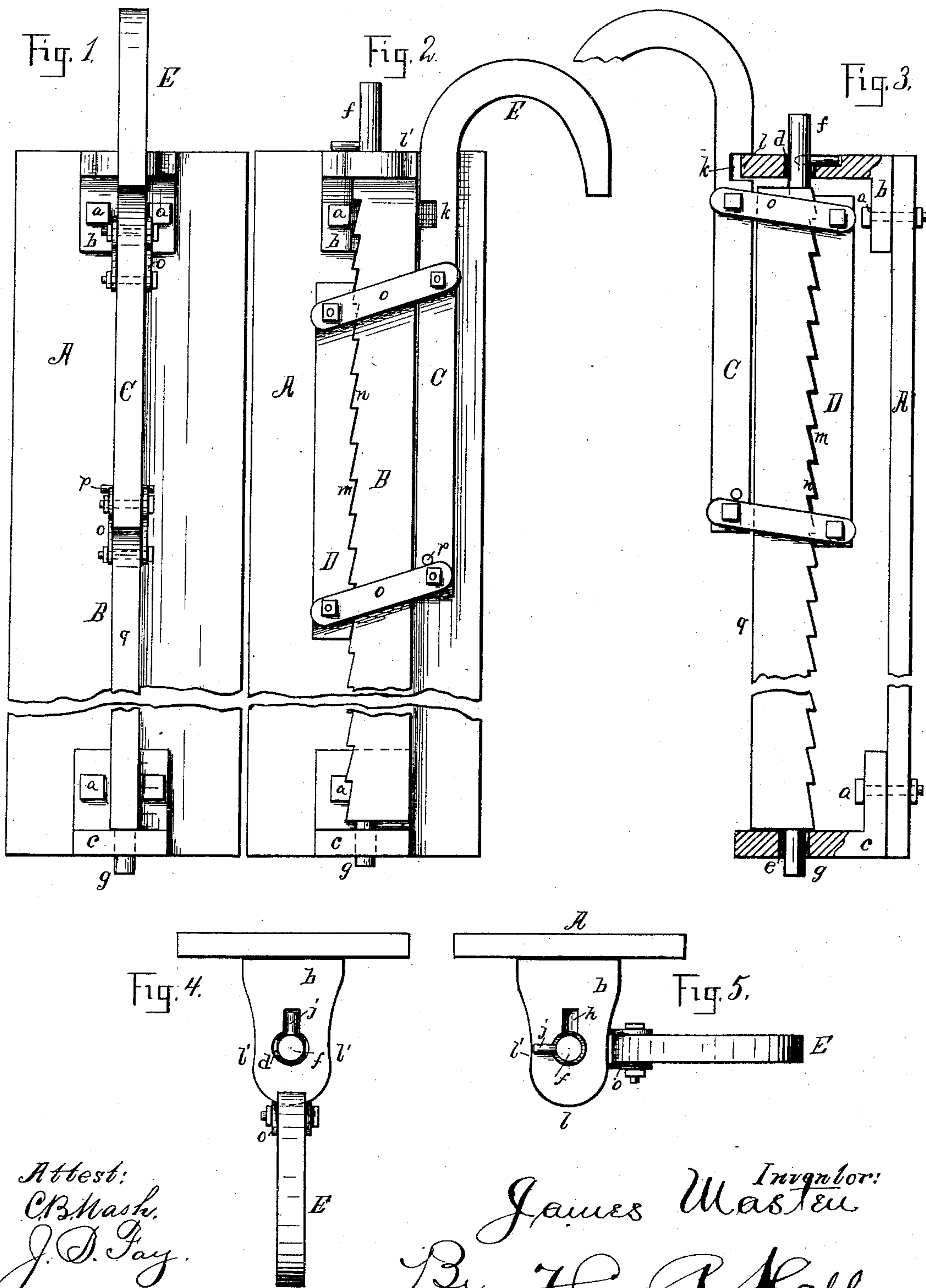
(No Model.)

J. MASTEN.

BOOM GRIP.

No. 375,759.

Patented Jan. 3, 1888.



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UNITED STATES PATENT OFFICE.

JAMES MASTEN, OF BOSWELL, OHIO.

BOOM-GRIP.

SPECIFICATION forming part of Letters Patent No. 375,759, dated January 3, 1888.

Application filed March 30, 1887. Serial No. 232,955. (No model.)

To all whom it may concern:

Be it known that I, JAMES MASTEN, a citizen of the United States, residing at Boswell, Goshen township, county of Mahoning, and State of Ohio, have invented certain new and useful Improvements in Boom-Grips; and I do hereby declare the following to be a description of the same and of the manner of constructing and using the invention in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it appertains to construct and use the same, reference being had to the accompanying drawings, forming a part of the specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to hay-racks.

It has for its object the construction of a boom grip or clasp for hay-racks which may be cheaply made, easily adjusted, and one that will hold the boom securely in place.

Referring to the drawings, Figure 1 is a front elevation with the boom-grip in elevated position. Fig. 2 is a side elevation with the boom-grip in position when gripped on a boom. Fig. 3 is a side elevation view with the boom-grip elevated in position, as shown in Fig. 1, certain of the parts being broken away. Fig. 4 is a plan in the position of Fig. 1. Fig. 5 is a plan view in position of Fig. 2.

A is a vertical staff with which the front and rear end of the hay-rack is provided. To the upper and lower portions of this staff are secured, by means of the bolts *a*, the brackets *b c*, having the holes, respectively, *d e*, in which the rounded ends *f g* of the vertical rack-faced bar B, respectively, have pivotal bearing. The bracket *b* is provided with a slot, *h*, in which the pin *j*, secured to the bar B, fits, and which prevents said bar turning in its bearing.

C is a boom-gripping bar provided at its upper end with the hook E, which grips the boom, and also with a transverse slot, *k*, which engages the end *l* of the bracket *b* and serves to hold the bar C in elevated position, as shown in Figs. 1 and 3.

D is a rack-locking bar provided on one face with teeth *m*, which engage with teeth *n*,

with which the rack-bar B is also provided on one face. The links *o* connect the gripping and lock bars C D, to which they are pivoted at their respective ends and pass on either side of the rack-bar. Pin *p* is located immediately above the lower link on the grip-bar, and by engaging with said link acts as a stop to prevent the said bar, when the slot *k* is not engaged with the end *l* of the upper bracket, from dropping below said lock-bar, as it otherwise would do. This would cause the faces of the rack-bar and gripping-bar to engage with one another and prevent the easy upward adjustment of the device. The distance from the periphery of the hole *d* to the sides *l'* of the bracket *b* is less than the distance from the said periphery to the end *l*, and is also less than the distance from the end *f* of the rack-bar to the smooth face *q* of the said bar. The rack-bar is loosely pivoted at top and bottom in the respective openings of the upper and lower brackets, and, as has been said, the pin *j* fits in the slot *h* and prevents the bar from turning; but the bar may be slightly raised, freeing the pin from said slot and turned in either direction. As it turns it carries with it the boom-grip bar. As the distance from *d* to *l'* is less than the distance from *d* to *l*, and the distance from *f* to *q* is greater when the bar has turned, so that the links are parallel to the face of the staff, the slot *h* is freed from engagement with the brackets, and permits the grip and locking-bars to drop downward by force of gravity.

The operation of the device is as follows: The several bars being in fixed position, with the pin *j* fitting in slot *h*, and the slot *k* of the boom-grip bar engaging with end *l* of the bracket *b*, the wagon having been loaded with hay, the boom is placed lengthwise of the load, with ends near the front and rear staffs. The rack-bar is slightly raised, releasing the pin from engagement with the bracket-slot. It is then turned, carrying with it in its movement the boom-grip bar and the locking-bar. As it turns the slot *h* becomes freed from contact with the bracket, and the hook E drops and grips the boom. Any upward movement of the latter is prevented by the teeth on the locking-bar engaging with the teeth of the rack-bar, which automatically lock together as soon

as any upward pressure is brought to bear on the hook E. To loosen the grip the boom is pressed slightly down and the locking-bar D is grasped and drawn away from the rack-bar.

5 This frees the rack-faces of the two bars from contact with each other, when the locking-bar may be easily raised, carrying with it the grip-bar, which is prevented from dropping below the locking-bar by the stop-pin *p*. When the
10 grip-bar is raised sufficiently, it is turned, causing the slot *k* to engage with the end *l*, and the pin *j* drops into slot *h*, locking the rack-bar in elevated position. If a load of hay becomes
15 packed down so that the grip and boom become loose and fail to bind tightly, the grip may be easily tightened by crowding down on the boom. The hook will then drop down by force of gravity and the locking-bar automatically engage with the rack-bar, preventing any
20 upward movement of the hook. This is one of the important advantages of my boom grip, as it requires but one person to bind on the load, while by ordinary means the services of two persons are necessary.

25 What I claim is this:

1. The combination, with a vertical rack-bar, of two parallel bars located, respectively, on opposite sides thereof, and transverse links connecting the two, said links inclosing the
30 vertical rack-bar, one of said link-connecting bars being a boom-locking bar, the other a rack-locking bar, substantially as set forth.

2. The combination of a vertical rack-bar, a bracket in which it has a pivotal bearing, a
35 boom-grip bar having sliding bearing on said rack-bar and having a slot adapted to engage with said bracket and lock it against vertical

movement, a rack-locking bar engaging with the rack-face of said bar, and links connecting said boom-grip and rack-locking bar, substantially as set forth. 40

3. The combination of a staff provided at its upper and lower extremities with brackets, a vertical rack-bar having its upper and lower extremities respectively journaled in said
45 brackets, two parallel bars located, respectively, on opposite sides thereof, and transverse links connecting the two, substantially as set forth.

4. The combination, with a vertical rack-bar, 50 of two parallel bars located, respectively, on opposite sides thereof, and transverse links connecting the two, said links inclosing the vertical rack-bar, one of said bars being provided with a stop, *p*, adapted to limit the ver- 55 tical position of said bars relative to one another, substantially as set forth.

5. The combination, with a staff provided at its upper and lower extremities with brackets *b* *c*, said bracket *b* being provided with a slot, *h*, 60 of a rack-bar, B, having pivotal bearings in said brackets at both extremities, and provided with a pin, *j*, fitting in said slot, and the bars D C, secured on either side of said rack and connected together by links *o*, sub- 65 stantially as set forth.

In testimony that I claim the foregoing to be my invention I have hereunto set my hand this 25th day of March, A. D. 1887.

JAMES MASTEN.

Witnesses:

D. E. PIDGEON,
B. S. AMBLER.