

No. 625,924.

Patented May 30, 1899.

J. H. BURKHOLDER.  
SELF LOCKING SLING PULLEY.

(Application filed July 25, 1898.)

(No Model.)

2 Sheets—Sheet 1.

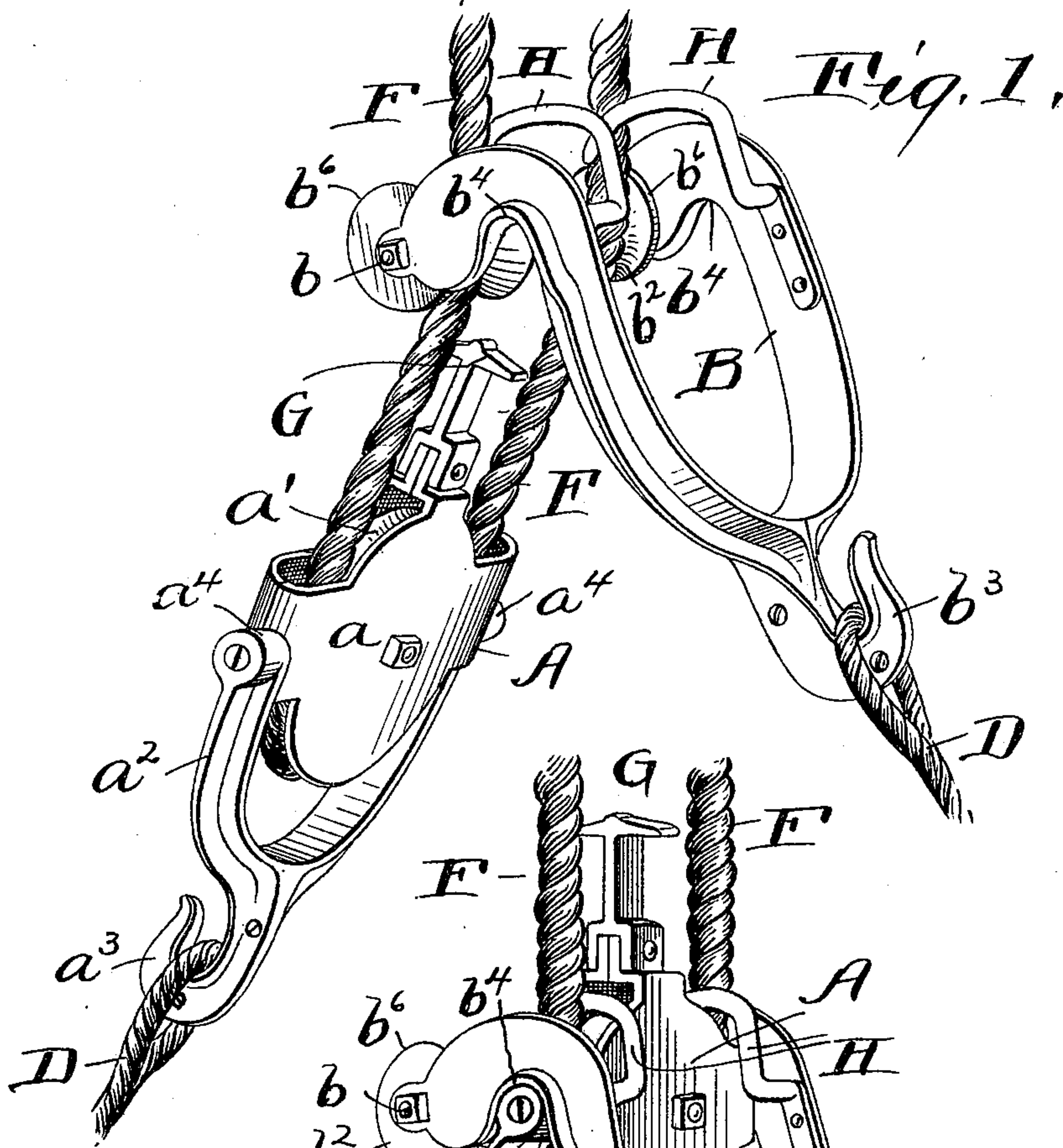


Fig. 1,

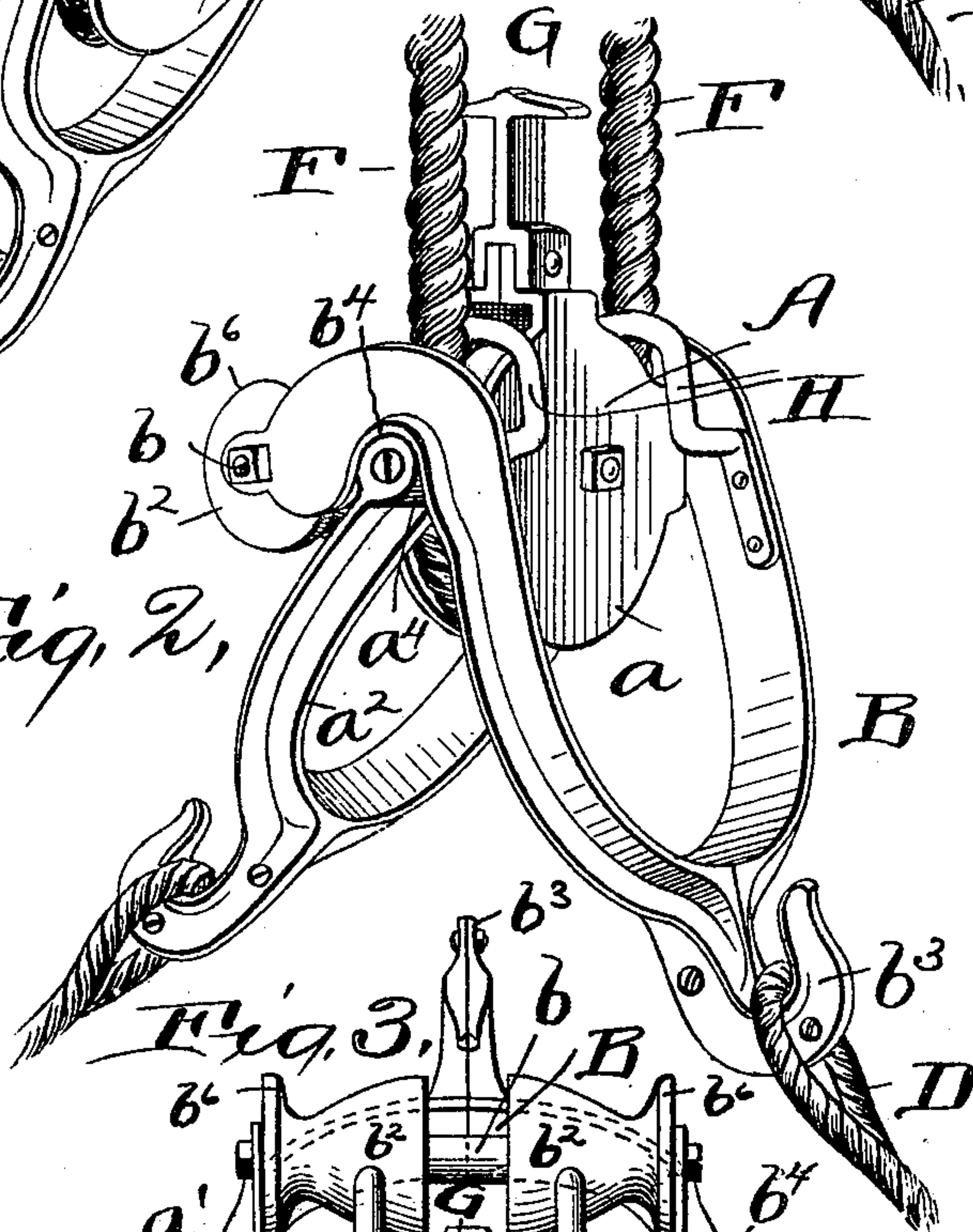


Fig. 2,

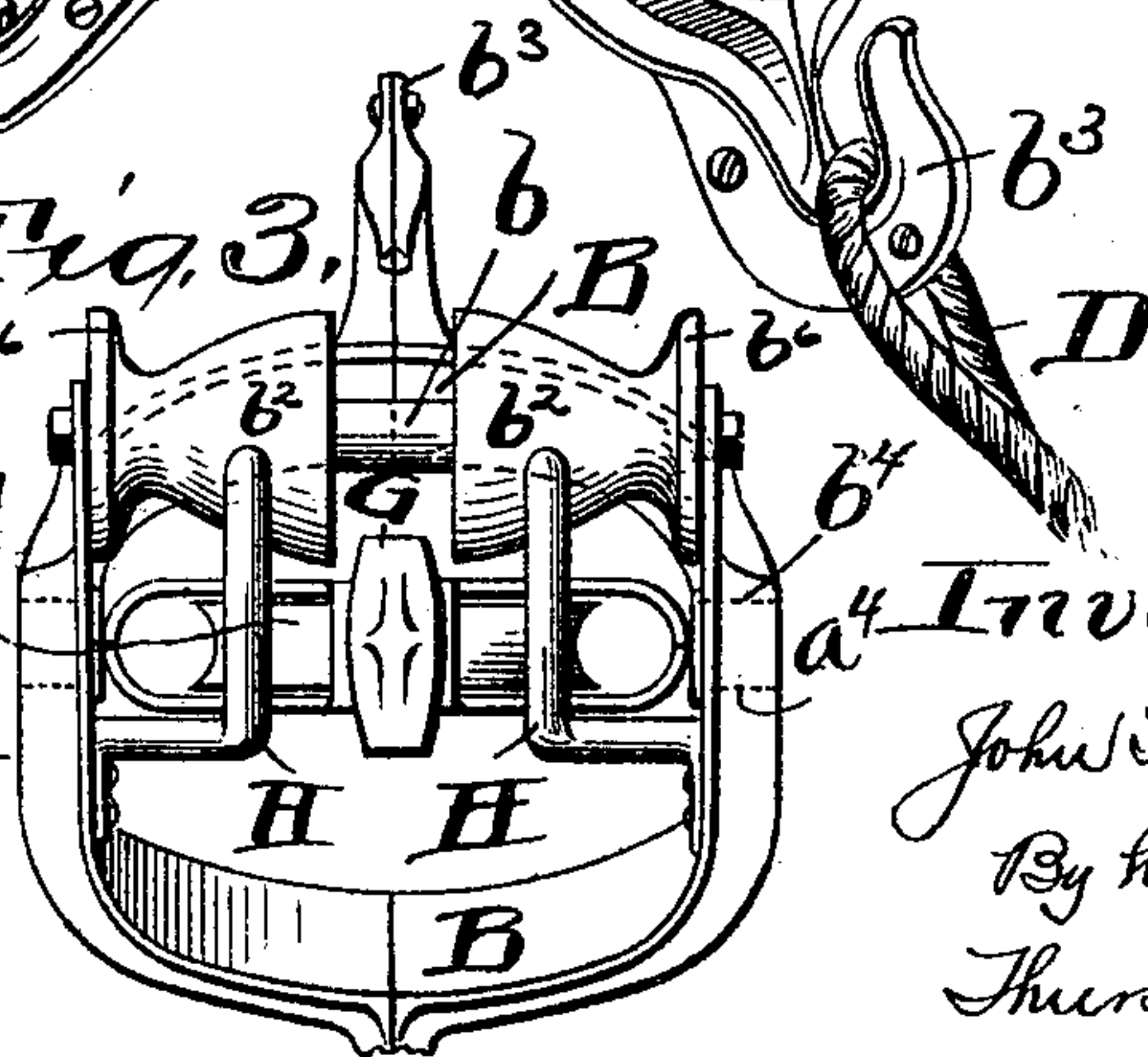


Fig. 3,

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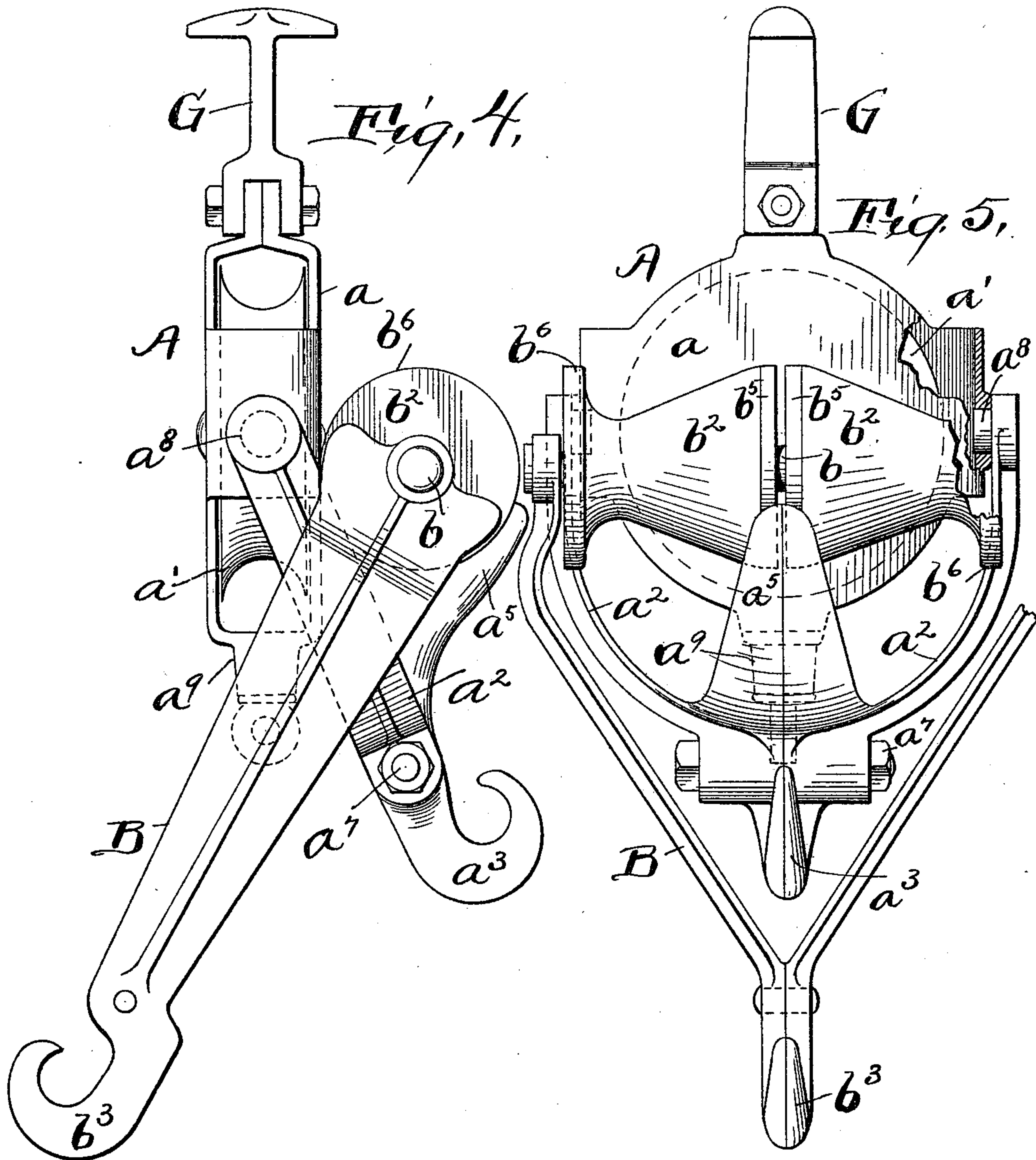
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# UNITED STATES PATENT OFFICE.

JOHN H. BURKHOLDER, OF ASHLAND, OHIO.

## SELF-LOCKING SLING-PULLEY.

SPECIFICATION forming part of Letters Patent No. 625,924, dated May 30, 1899.

Application filed July 25, 1898. Serial No. 686,790. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. BURKHOLDER, residing at Ashland, in the county of Ashland and State of Ohio, have invented a certain  
5 new and useful Improvement in Self-Locking Sling-Pulleys, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

The invention relates to improvements in  
10 what are commonly known as "self-locking" pulleys for hay-carrying machinery.

The principal object of the invention is to so construct the members that when the pull of the draft-rope has drawn them into inter-  
15 locking positions one member supports the other, the sheave in the supporting member being at that time in a vertical position, while the parts of said members with which the ends of the sling are intended to engage occupy  
20 such positions angular to the vertical as is best suited for holding the bundle in the sling.

The invention consists in the construction and combination of parts hereinafter described and claimed.

25 In the drawings, Figure 1 is a perspective view of an interlocking sling embodying my invention, which view shows the relative position of the parts before the hoisting of the load begins. Fig. 2 is a perspective view of  
30 the same mechanism when the parts are interlocked. Fig. 3 is a plan view. Fig. 4 is an edge view of a modified construction embodying the invention. Fig. 5 is a side elevation of the same.

35 Referring to the parts by letters, A represents the fork-pulley member, which includes the sheave-frame  $a$ , the sheave  $a'$ , which is mounted in the frame, and a bail  $a^2$ , which is pivoted at its ends to the edges of the sheave-  
40 frame and extends below said frame, whereby it may be swung into different angular positions relative thereto.

B represents the yoke member, which is wide enough for the sheave-frame to pass wholly  
45 or partly through it. Extending between the ends of the yoke-arms and fastened to them is a rod  $b$ , upon which are mounted the two pulleys  $b^2$   $b^2$ . At the lower ends of the bail  $a^2$  and of the yoke B are the hooks  $a^3$   $b^3$  or some  
50 analogous device adapted for the convenient attachment of the ends of the sling D.

On the fork-pulley member and on the yoke member are respectively the projections  $a^4$  and hooks  $b^4$ , which are adapted to automat-  
ically engage with each other after the fork- 55 pulley has been drawn as far as necessary through the yoke, whereby the yoke and its load will be supported by the fork-pulley member A, which member is supported by the draft-ropes or by a carriage with which the  
60 registering head G engages. This registering head is removably secured to the sheave-frame and is the part of the device which engages with and is locked to a carriage when such a carriage is used. If the interlocking  
65 pulleys are used with a device having no such carriage, the registering head may be omitted.

Returning now to a consideration of the hooks and projections referred to, it will be seen by examining Figs. 1 to 3 that the hooks  
70  $b^4$  are formed on the ends of the arms of the yoke B and that the projections  $a^4$  are the ends of the bail-arms, which are pivoted to the edges of the sheave-frame. In Fig. 1 the parts are shown in the relative position they  
75 occupy when beginning to draw up on the sling. The draft-rope passes down vertically under the yoke-pulleys  $b^2$   $b^2$  and then at an angle down to the sheave  $a'$ , around which it passes. As the draft-rope F is taken in the  
80 member A is drawn up through the yoke until the projections  $a^4$  come into engagement with the hook  $b^4$ , whereby the yoke member is supported upon the member A. The sheave-frame and sheave at that time assume a ver-  
85 tical position, while the bail  $a^2$  and the yoke B extend in opposite directions and at such angles to the vertical as they are naturally drawn into by the sling-ropes. This is the preferred construction, mainly because when  
90 the members are interlocked, as described and as shown in Fig. 2, the yoke and bail are in effect pivoted independently upon the same axis, and each is free to move so as to inde-  
95 pendently adjust itself to the existing conditions. In Figs. 4 and 5 a hook  $a^5$  is formed on the bail, and the projections  $b^5$  are on the yoke, being the ends of the yoke-pulleys  $b^2$ . The member A is drawn up through the yoke until the hook  $a^5$  engages beneath the pro-  
100 jections  $b^5$ , whereby the yoke and its load are supported.



In the construction shown in Figs. 4 and 5 the bail is made in two parts, which are connected together by a bolt  $a^7$ . The pivots for the bail are the cylindrical lugs  $a^8$  on the bail-arms, which lugs enter holes in the edges of the sheave-frame.

The yoke-pulleys  $b^2b^2$  have a peculiar form, the object of which is to prevent the draft-ropes from running off the pulleys or from crossing each other when the rope is more or less slack or when the pull is not exactly in the proper line to keep the rope in engagement with said pulleys. These pulleys are tapered, having the form of truncated cones or conoids, placed, preferably, with their small ends outward—that is to say, nearest the yoke-arms—and on said small ends are the annular flanges  $b^6$ . In addition to the peculiar form of these yoke-pulleys guide-arms H may be secured to the yoke in the position substantially as shown in Figs. 1 to 3, where they will engage with the ropes, and thus prevent them from running off the inner ends of the pulleys. These arms, however, are not necessary to the device and may be omitted. The principal object of the invention, however, is independent of any means for keeping the rope on the pulleys or of any particular form of yoke-pulleys.

Having described my invention, I claim—

1. The combination of a fork-pulley, consisting of a sheave-frame, a sheave mounted therein, and a bail pivoted at its ends to the edges of the sheave-frame, with a yoke having pulleys mounted in its upper end, said yoke and fork-pulley member being adapted to automatically engage with each other, whereby the yoke will be supported by the fork-pulley member, substantially as specified.

2. The combination of a fork-pulley member, consisting of a sheave-frame, a sheave mounted therein, and a bail pivoted at its ends to the edges of the sheave-frame, with a yoke having pulleys mounted in its upper end, said yoke and fork-pulley member having projections and hooks adapted to engage with each other, whereby the yoke is supported by the fork-pulley member when the load is raised, substantially as specified.

3. A fork-pulley device, consisting of a sheave-frame, a sheave mounted therein, and a bail pivoted at its ends to the sheave-frame and having at its closed lower end a device for engagement with the load, substantially as specified.

4. The combination of a sheave-frame, a sheave mounted therein, and a bail pivoted at its ends to the edges of the sheave-frame, with a yoke having at the end of its arms hooks adapted for engagement with the upper ends of the bail, said yoke and bail having at their lower ends devices for engagement with the load, substantially as specified.

5. The combination of a fork-pulley device, consisting of a sheave-frame, a sheave mounted therein, and means for connecting the load with the sheave-frame, with a yoke having pulleys mounted between its ends, said pulleys having annular flanges at their small ends, substantially as specified.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JOHN H. BURKHOLDER.

Witnesses:

GEO. A. NICOL,  
S. H. BOFFENMYER.