

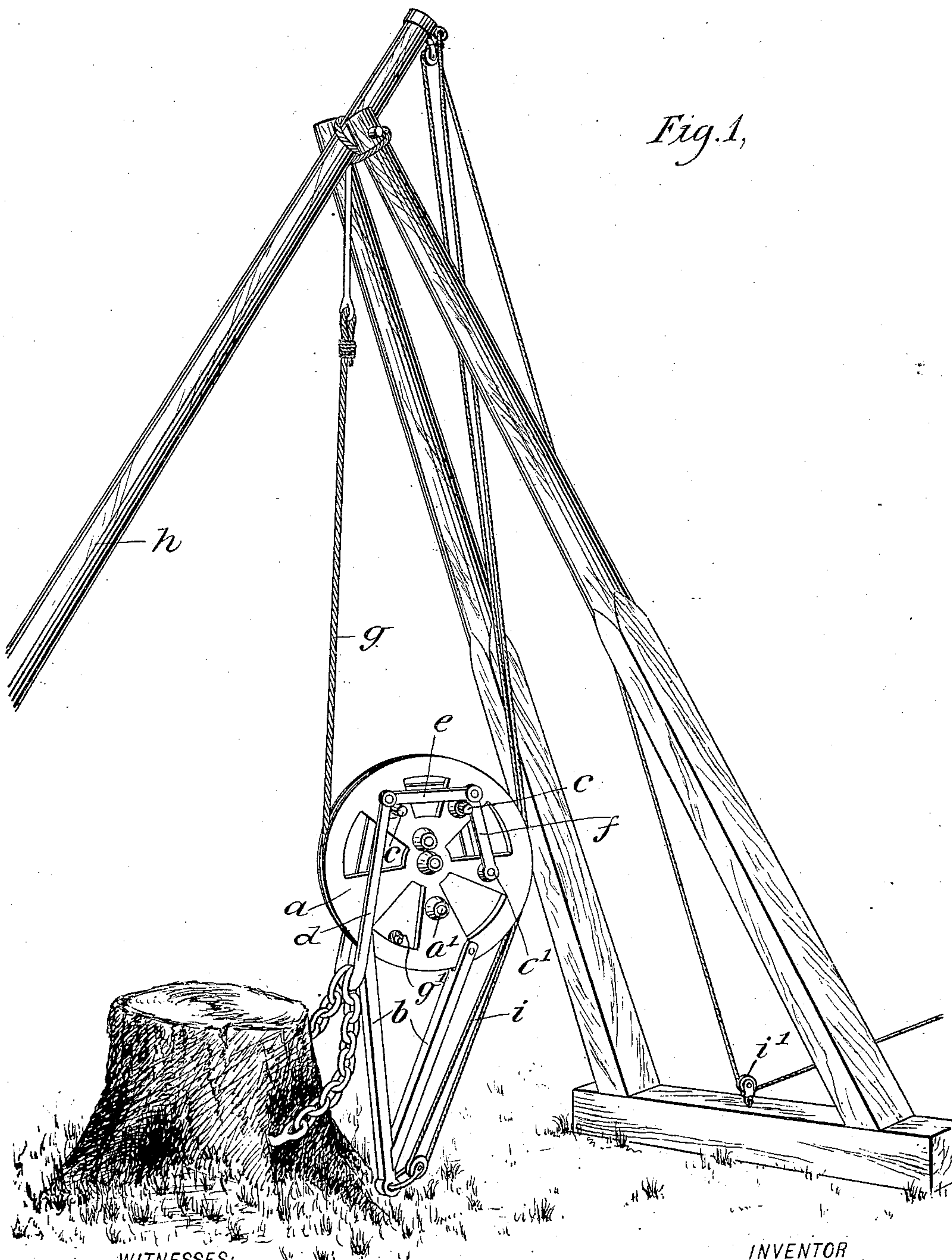
No. 840,942.

PATENTED JAN. 8, 1907.

T. W. HUCKLE.
DRAFT APPARATUS.

APPLICATION FILED DEC. 14, 1905. RENEWED NOV. 26, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

Edward Thorpe

Isaac B. Owens.

INVENTOR

Thomas W. Huckle

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ATTORNEYS.

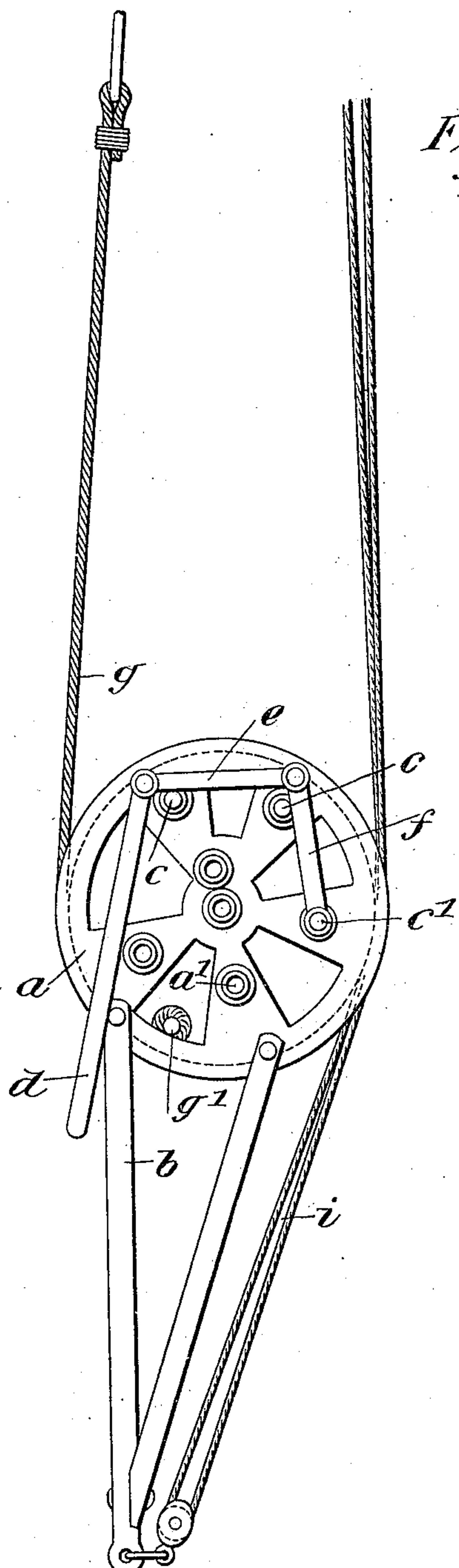
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WITNESSES:

Edward Thorpe
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Fig. 2.

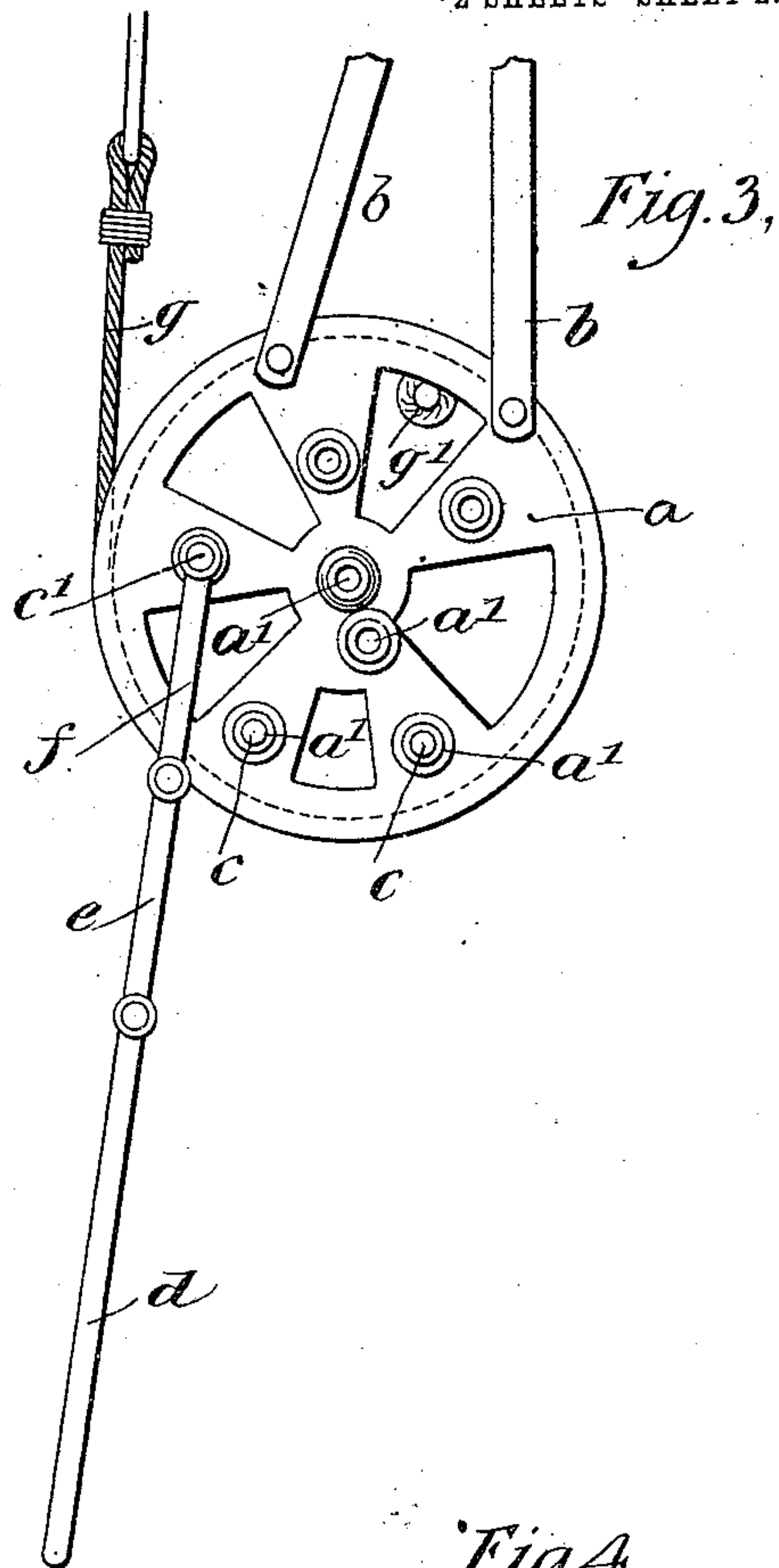
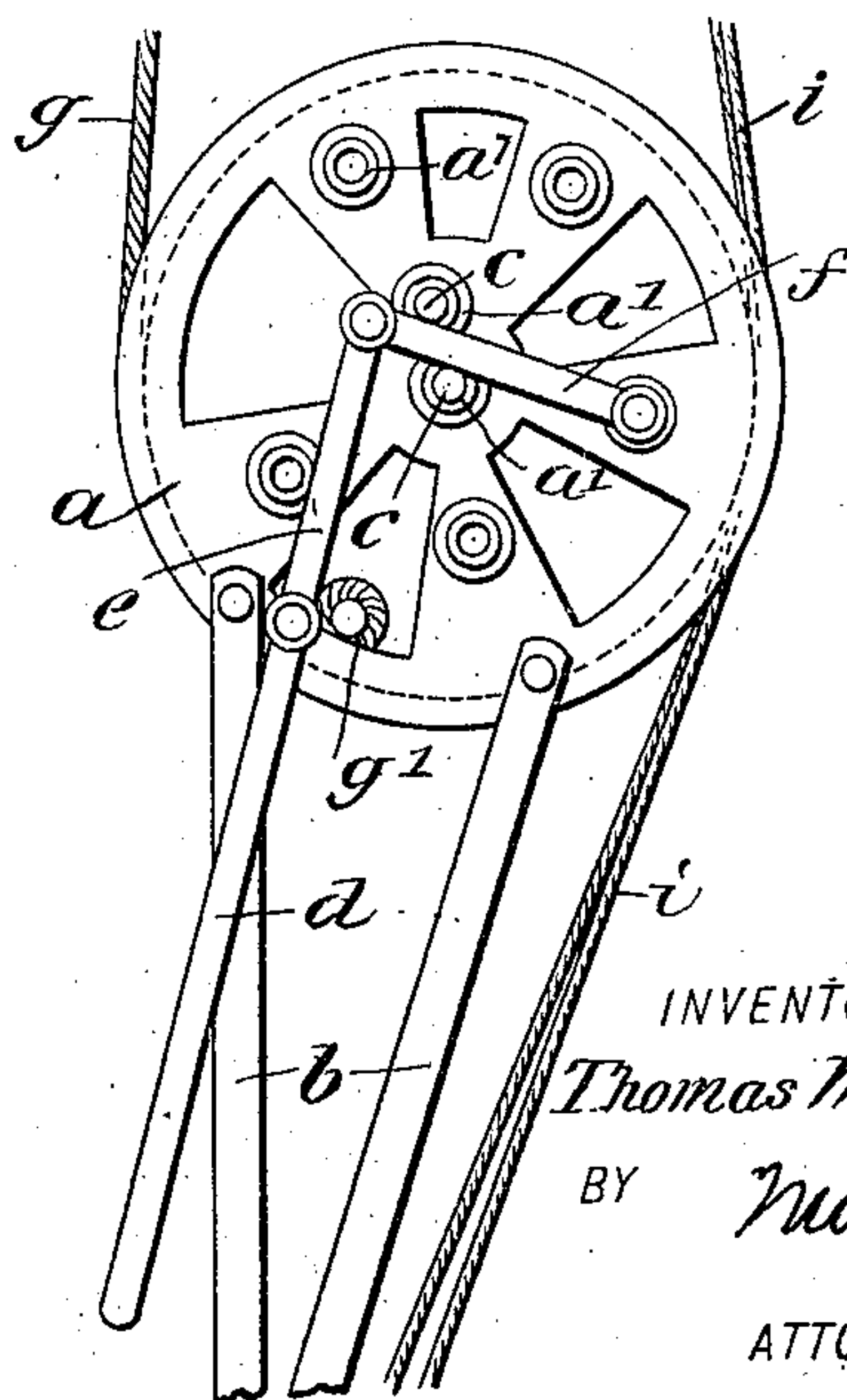


Fig. 3.



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THOMAS WILLIAM HUCKLE, OF STANDISH, MICHIGAN.

DRAFT APPARATUS.

No. 840,942.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed December 14, 1905. Renewed November 26, 1906. Serial No. 345,175.

To all whom it may concern:

Be it known that I, THOMAS WILLIAM HUCKLE, a citizen of the United States, and a resident of Standish, in the county of Arenac and State of Michigan, have invented a new and Improved Draft Apparatus, of which the following is a full, clear, and exact description.

This invention relates to a compact and universally-applicable means by which power may be multiplied many times, thus enabling heavy objects to be lifted or moved horizontally. It is here illustrated as a stump-puller; but clearly it may be employed in many other connections.

In its general form the apparatus comprises a body to which the power is applied, and which is arranged to roll or climb along a holding or sustaining element, this body having adjustably attached thereto means for connecting it with the weight, so that as the body is moved along said holding or sustaining element power is applied to the weight. By adjusting said means for connecting the body with the weight the power of the apparatus may be increased or diminished at will.

This specification is an exact description of one example of my invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view showing the invention in use as a stump-puller. Fig. 2 is a side elevation showing the parts at the beginning of the lifting operation. Fig. 3 is a view showing the parts at the end of the said operation, and Fig. 4 is a view showing an adjustment of the sling differing from that shown in the other views.

The said body of the device is in the form of a sheave *a*, having a grooved periphery, and an arm *b* projecting radially therefrom. Said body *a* is formed with a number of bossed orifices *a'*, in which pins *c* are intended to be removably placed. Two of such pins are illustrated in the drawings. The orifices *a'* are located at varying distances from the center of the sheave or body *a*, and the purpose of this will be fully explained hereinafter.

The sling or connecting device comprises a sling proper, *d*, which straddles the sheave *a* and has its limbs pivoted, respectively, to

links *e*, in turn pivoted to arms *f*, which are mounted to swing around a pin *c'*, removably placed in one of the bossed openings *a'*. The pin *c'* being removable, as explained, the point of connection between the arms *f* and the sheave *a* may be changed at will, so as to mount the arms *f* on any part of the sheave in which one of the aforesaid openings *a'* occur.

The sustaining or holding device is here shown in the form of a stout cable *g*, which is hung from a suitable support *h* and fastened to the periphery of the sheave *a*, as indicated at *g'*. The power is applied to the arm *b*, and according to the construction here shown this is effected by means of a suitable tackle *i*, the standing block of which is fastened to the upper part of the aforesaid support *h* and the fall of which is run through a horizontal block *i'*, fastened to the base of the support *h*. According to the adjustment of parts shown in Figs. 1, 2, and 3 the sheave or body *a* is dropped, with the arm *b* extending downward, as in Figs. 1 and 2, and the arms *f* and links *e* are laid against the pins *c*, which are placed at what is then the upper portion of the sheave *a*. Upon swinging upward the arm *b* by means of the tackle *i* the body or sheave *a* is caused to climb up the cable *g*, the parts moving from the position shown in Fig. 2 to that shown in Fig. 3 and the sling or connector simultaneously unwinding from the position shown in Fig. 2, where it is engaged with the pins *c*, to the position shown in Fig. 3, in which the connector hangs downward from the body, its sole support being then the pin *c'*. The difference between the rising or climbing movement of the body or sheave and the unwinding movement of the connector or sleeve will be equal to the net raising movement of the apparatus, and by this means great power may be obtained without involving the use of heavy and cumbersome levers or complicated devices, my improved apparatus moving vertically and taking up but a very slight space as compared with the power obtained.

By adjusting the pins *c* and *c'* with respect to the sling or connecting device it is clear that the lift exerted may be varied at will, each degree in the leverage or lifting power being varied by a corresponding increase in the length of the lift. For example, the pins *c* may be removed from the position shown in Figs. 1, 2, and 3 and placed at the center

of the sheave, as in Fig. 4, and the arms *f* may then be placed between these pins to leave the links *e* and sling proper, *d*, free to swing. The sling or connecting device will
 5 then be moved for a distance almost equal to the distance of the total movement of the sheave, thus increasing the lift of the apparatus upon the decrease in the power thereof. During these operations the cable *g* is
 10 wound around the channeled periphery of the sheave and the tackle *i* touches said periphery, thus guiding and holding the parts in their proper positions.

The use of the device is not confined to
 15 lifting; but it may be used as a sweep for drawing weights horizontally and for doing various other works, as will be apparent to skilled mechanics. In each case, however, the principle of operation is essentially the
 20 same as that outlined above.

Various changes in the form, proportions, and minor details of my invention may be resorted to at will without departing from the spirit and scope thereof. Hence I con-
 25 sider myself entitled to all such variations as may lie within the intent of my claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

30 1. A draft apparatus, comprising the combination of the body, a holding device along which the body is arranged to roll, and a flexible connecting device attached to the body.

35 2. A draft apparatus, comprising a body, a holding device along which the body is arranged to roll, a connector, and means for adjustably mounting the connector on the body.

40 3. A draft apparatus, comprising a body, a holding device along which the body is arranged to roll, a flexible connector, and means for adjustably mounting the connector on the body.

45 4. A draft apparatus, comprising a body, a holding device along which the body is arranged to roll, a flexible connector, and means for adjustably mounting the connector on the body, said means effecting an
 50 engagement between the connector and the body at two different points on the body.

55 5. A draft apparatus, comprising the combination of a body, a holding device along which the body is arranged to roll, a connecting device attached to the body, and an arm attached to the body and projecting outward therefrom, said arm serving to have the power applied thereto.

6. A draft apparatus, comprising a body, a holding device along which the body is ar- 60 ranged to roll, a jointed connector attached to the body, and pins adjustably held in the body and adapted to be engaged by the connector.

7. A draft apparatus, comprising a body 65 in the form of a sheave, a holding device along which the body is arranged to roll, and a connector attached to the body.

8. A draft apparatus, comprising a body in the form of a sheave, a holding device 70 along which the said sheave is arranged to roll, a jointed connector, and means for mounting the connector on the sheave, said means engaging the connector at two points.

9. A draft apparatus, comprising a body 75 in the form of a sheave, a holding device along which the sheave is arranged to roll, a jointed connector attached at one end to the body, and pins adjustably mounted on the body and adapted to be engaged by said con- 80 nector.

10. A draft apparatus, comprising a body in the form of a sheave, a holding-cable at- 85 tached to the periphery thereof, and a connector mounted on the body.

11. A draft apparatus, comprising a body in the form of a sheave, a holding-cable at- 90 tached to the periphery thereof, a jointed connector attached at one end to the sheave, and pins adjustably mounted on the sheave and adapted to be engaged by the connector.

12. A draft apparatus, comprising a body in the form of a sheave, a holding device along which the sheave is arranged to climb, a flexible connector attached at one end to 95 the body, and means located on the body and adapted to be engaged by the connector.

13. A draft apparatus, comprising a body in the form of a sheave, a holding device along which the sheave is arranged to roll, a 100 flexible connector attached at one end to the sheave, said sheave having a plurality of orifices therein, and a pin capable of fitting a plurality of said orifices.

14. A draft appliance, comprising a body, 105 a holding device along which the body is arranged to roll, a connector attached to the body, and means for varying the effective length of the connector.

In testimony whereof I have signed my 110 name to this specification in the presence of two subscribing witnesses.

THOMAS WILLIAM HUCKLE.

Witnesses:

S. E. HAYES,
 R. H. HAYES.