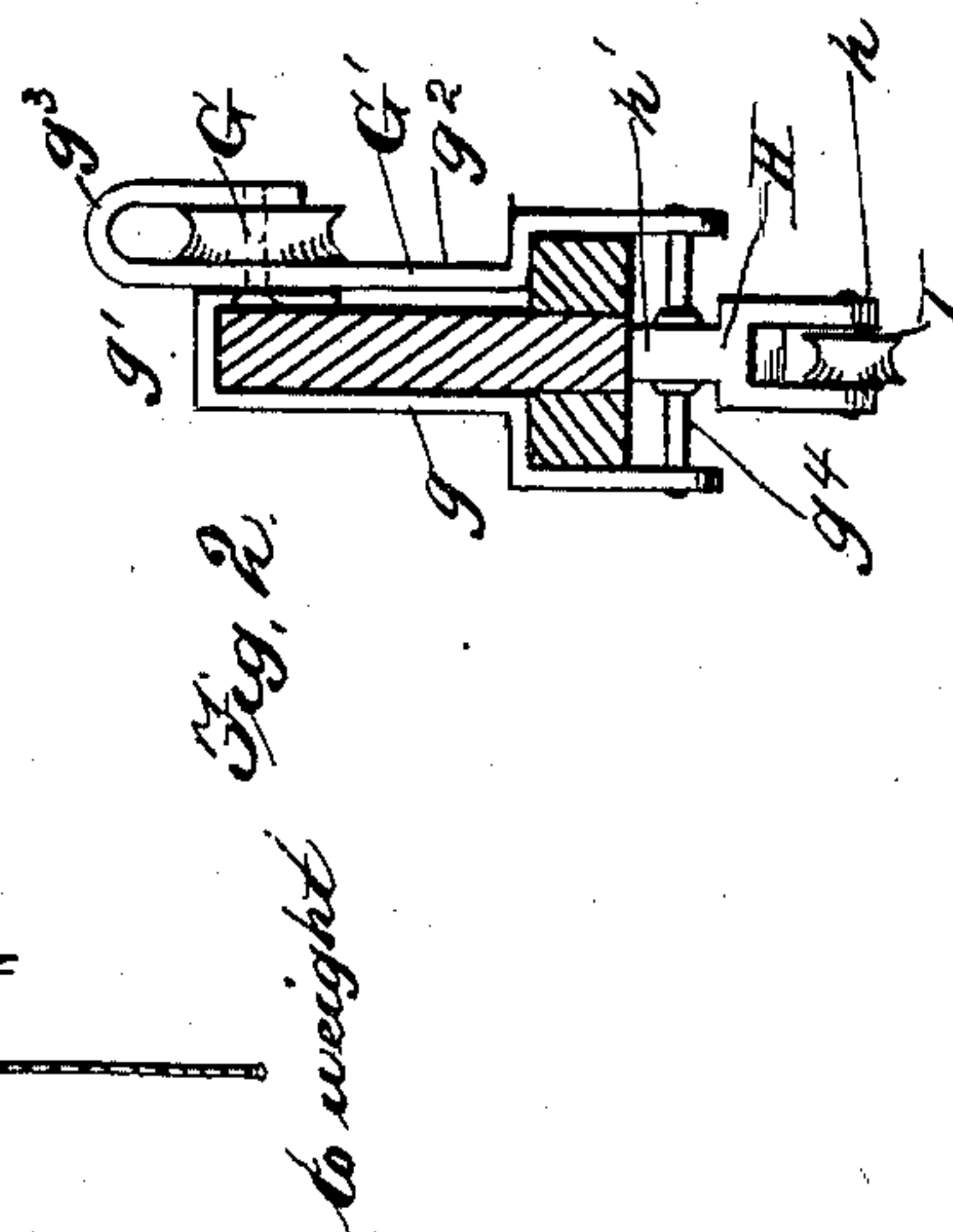
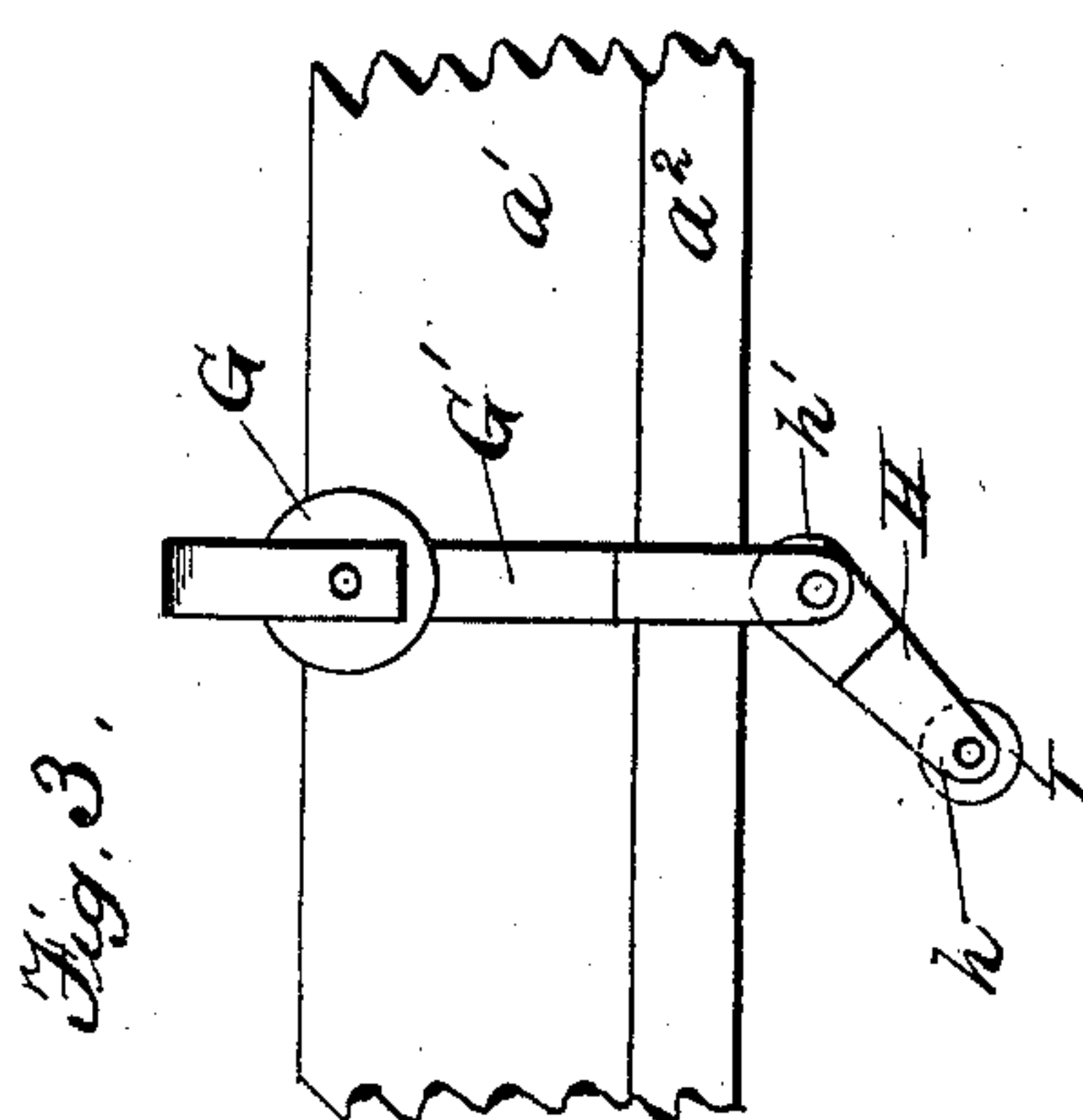
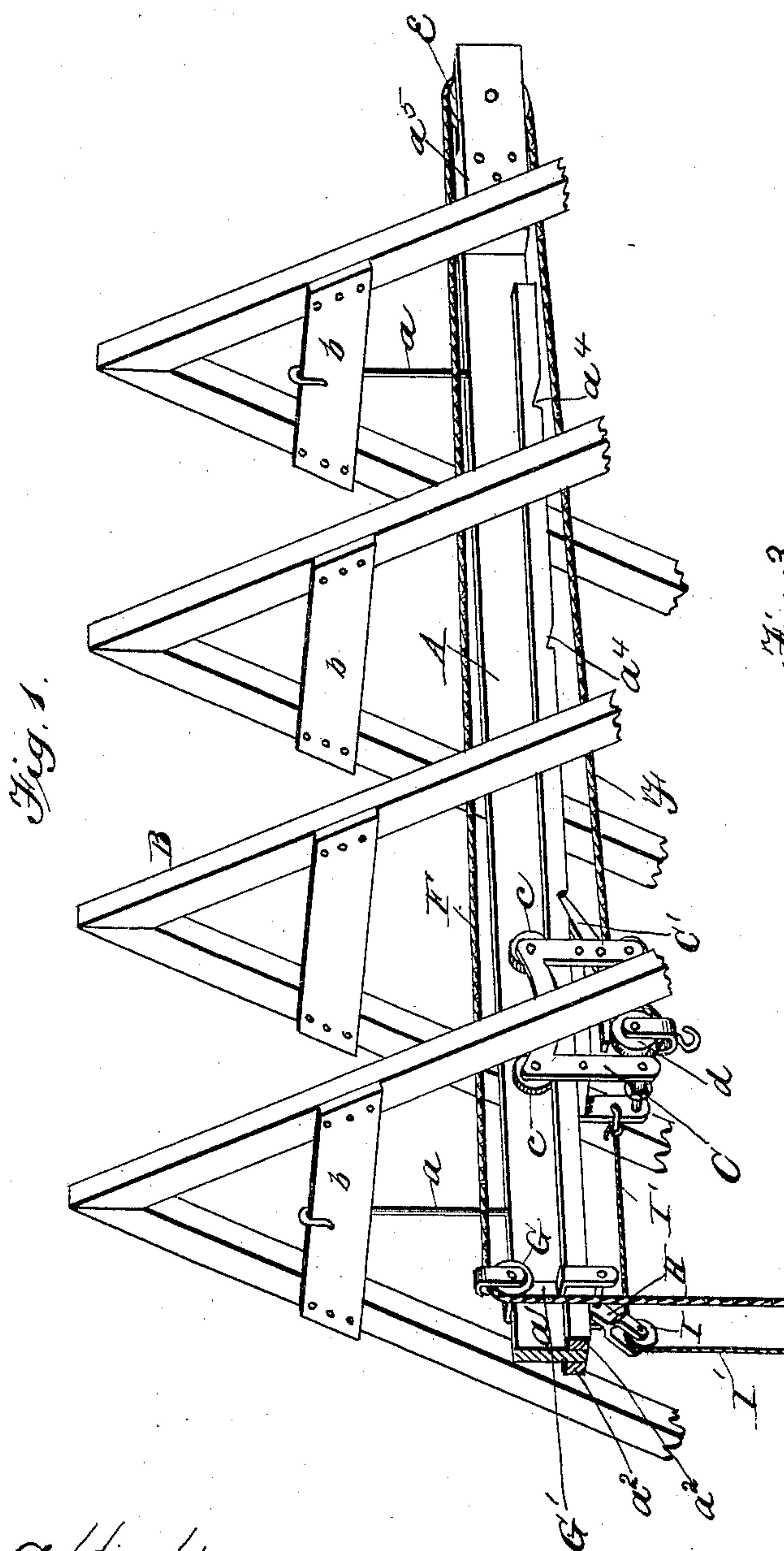


(No Model.)

P. WERUM.
HAY ELEVATOR.

No. 307,693.

Patented Nov. 4, 1884.



attest:
W. H. H. Knight,
W. D. Bernhard

Inventor:
Phillip Keum
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Attorneys.

UNITED STATES PATENT OFFICE.

PHILLIP WERUM, OF STRYKER, OHIO.

HAY-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 307,693, dated November 4, 1884.

Application filed April 24, 1884. (No model.)

To all whom it may concern:

Be it known that I, PHILLIP WERUM, a citizen of the United States, residing at Stryker, in the county of Williams and State of Ohio, have invented certain new and useful Improvements in Hay-Elevators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to hay-elevators, and has for its object the provision of an elevator having a track or way whereon the carriage rides, the track being suspended from the rafters of a barn, and adapted to swing in a longitudinal or lateral direction, whereby the rafters are relieved from lateral strains. It further has for its object the provision of a suspended track having the pulleys and rope for operating the carriage secured thereto, whereby longitudinal strains caused by the operation of raising the load shall come upon the track in the direction of its longitudinal axis, the rafters only bearing the weight of the track and its load.

To the accomplishment of the above my invention consists in the construction and arrangement of parts substantially as hereinafter more fully set forth, and pointed out in the claims.

In the drawings, which form a part of this specification, Figure 1 is a perspective view of my improved hay-elevator in position for use. Figs. 2 and 3 are detail views of parts thereof.

Referring to the drawings, in which like letters of reference indicate like parts, A designates the track suspended by rods a from cross-ties b , secured to the rafters B of the building. The track A consists of the central timber, a' , to which, at each side near the bottom thereof, are secured narrow strips a^2 , that form ways upon which the rollers c of the carriage C rest and ride, as shown in the drawings, and also my former patent, No. 291,822, upon which patent the present application is an improvement. The strips or ways a^2 extend nearly the entire length of the timber a' , and are provided upon their lower surfaces with notches a^4 , to receive

the end of the detaining pawl or lever C', fulcrumed to the carriage, and operated alternately by gravity and the upward movement of the pulley d , to which the fork containing the hay is attached, as described and claimed in the patent above referred to.

E designates a pulley journaled in the end a^5 of the track A, (the opposite end of the track is provided with a similar pulley, not shown,) around which the rope F from the carriage passes, and thence over a pulley, G, journaled in an adjustable strap, G', attached to the track. From the pulley G the rope F extends to a "snatch-block" secured in any suitable manner, and thence to any suitable motor. The adjustable strap G' is made in two parts, one of which, g , is provided with a loop, g' , that embraces the timber a' at its top, and thence extends downward across the timber and strip a^2 , and is provided at its lower end with an aperture, the part g^2 of the strap being provided at its top with a loop, g^3 , within which the pulley G is journaled. The part g^2 extends across the timber a' and strips a^2 , and is provided at its lower end with an aperture, through which a bolt, g^4 , extends to and into the aperture of the part g . The bolt g^4 serves as a fulcrum of a short lever, H, the outer end, h , of which is bifurcated, and provided with a pulley, I, over which passes a cord, I', from the carriage C to a weight, (not shown,) for the purpose of drawing the carriage backward after its load has been discharged.

It will be observed that the upper end, h' , of the lever H bears against the lower surface of the track and serves as a cam to prevent the movement of the strap when the weight is attached to the cord I'. By raising the outer end of the lever H the strap G' may be moved and secured to any desired point of the track without the use of screws or bolts.

From the foregoing description it will be seen that all strains exerted upon the track in the operation of raising the hay bear directly downward upon the rafters, and do not in any way operate to draw them in a lateral direction. It will also be seen that the operating-pulleys E G, about which the cord passes when the load is being raised, are located at different points upon the same timber, whereby all longitudinal strains are transmitted to

said timber in the direction of its longitudinal axis.

I am aware that modifications in details of construction may be made without departing
5 from the spirit of my invention—as, for instance, the rods *a*, by which the track is suspended, may be dispensed with, and cords or ropes used in lieu thereof, and, if desired, said
10 cords may pass over pulleys attached to the cross-timbers *b*, and the track thereby adapted to be raised or lowered at will.

In view of the above I hold myself at liberty to make such modifications as fairly fall within the scope of my invention.

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

1. A rigid hay-elevator track suspended from the rafters of a building and free to swing in either a longitudinal or lateral direction,
20 substantially as described.

2. A rigid hay-elevator track suspended from the rafters of a building, said track being provided at its ends with pulleys, and free to swing in either a longitudinal or a lateral
25 direction, substantially as herein described, and for the purpose set forth.

3. A rigid hay-elevator track suspended from the rafters of a building, and provided at its ends with fixed pulleys, and upon its body
30 with an adjustable pulley, said track being free to swing in either a longitudinal or a lateral direction, substantially as described.

4. In a hay-elevator, a track suspended from the rafters of a building, free to move in either
35 a longitudinal or a lateral direction, and provided at its ends with fixed pulleys, and upon its body with an adjustable pulley, and having a series of notches cut in its lower edge, in combination with a traveling carriage, a detain-

ing-pawl, and operating cord or rope, substantially as described. 40

5. In a hay-elevator, a rigid track suspended from the rafters of a building, free to swing in either a longitudinal or a lateral direction, provided at its ends with fixed pulleys and movable carriage, in combination with an adjustable pulley, and means, substantially as described, for holding the adjustable pulley in any position and returning the carriage to its normal position, as herein shown and described. 50

6. In a hay-elevator, an adjustable pulley-strap, *G'*, having the side pieces, *g g'*, pulley *G*, and means for holding said strap in position, in combination with the track *A*, suspended from the rafters of a building, and free to move in either a longitudinal or a lateral direction, and having fixed pulleys and movable carriage, substantially as described. 55

7. In a hay-elevator, the adjustable strap *G'* of the pulley *G*, said strap having side pieces, *g g'*, connected together at their bottoms by bolt *g'*, and held in position by lever *H* and cord *I'*, in combination with the movable carriage *C* and suspended track *A*, substantially as described. 60

8. In a hay-elevator, and in combination with an adjustable pulley-strap upon the track thereof, a lever, *H*, provided at its lower end with a pulley, said lever serving to hold the strap in any desired position, substantially as described. 65

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

PHILLIP WERUM.

Witnesses:

W. B. KITZMILLER,
F. F. SMITH.