

**No. 669,259.**

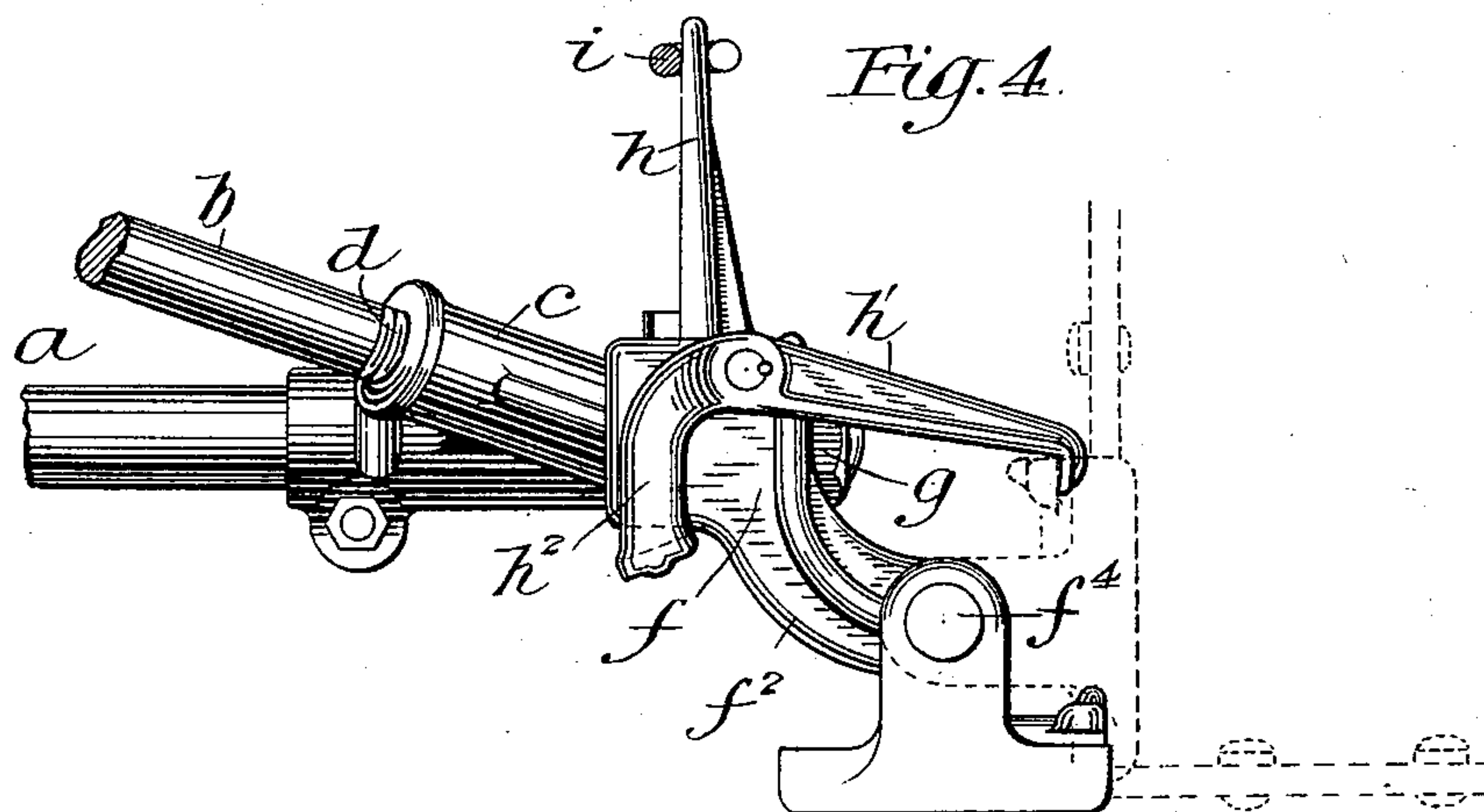
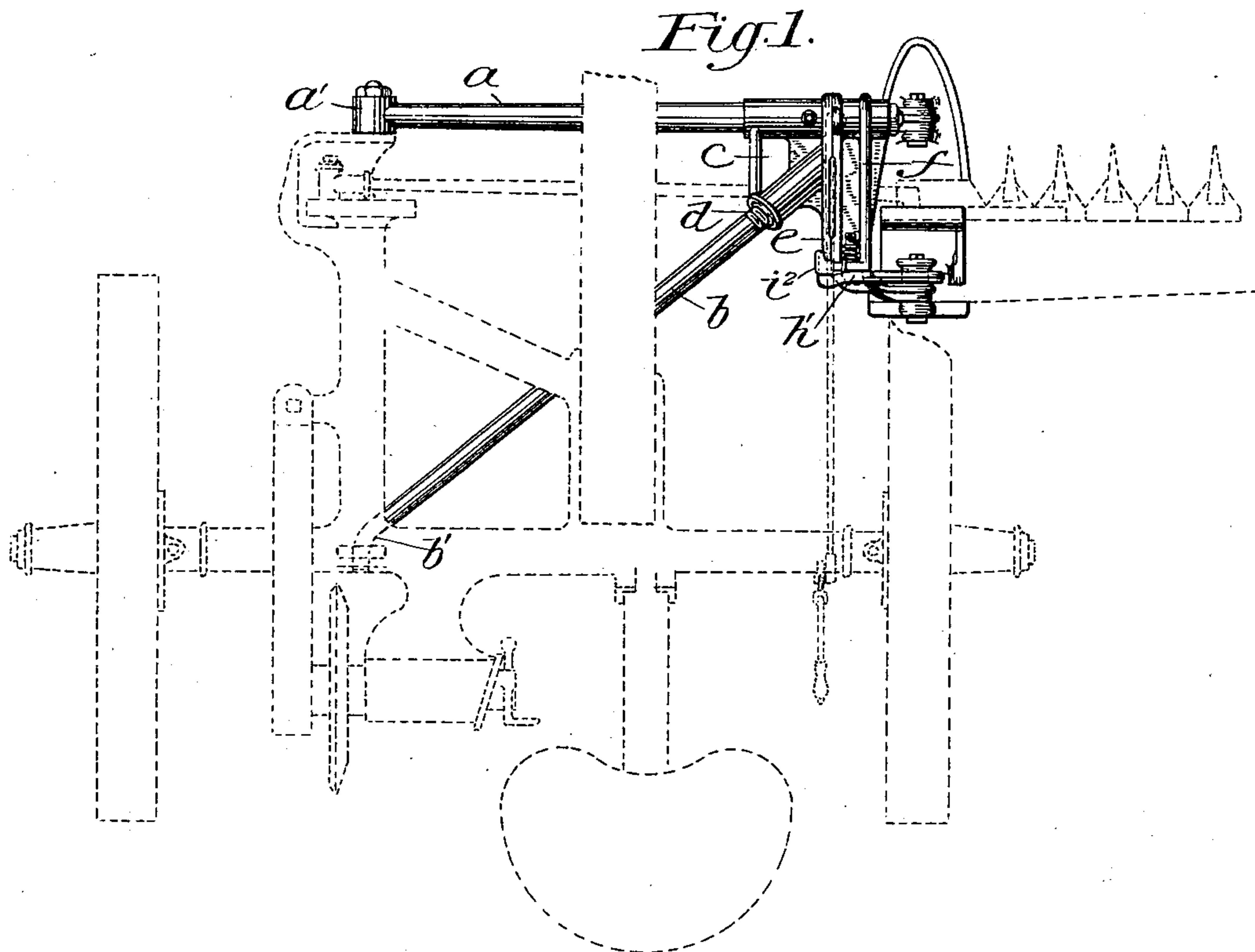
**Patented Mar. 5, 1901.**

**J. W. LATIMER.**  
**MOWING MACHINE.**

(Application filed Aug. 10, 1900.)

(No Model.)

**4 Sheets—Sheet 1**



Witnesses:  
 Wm. A. Dreyer.  
 Chas. W. Chambers.

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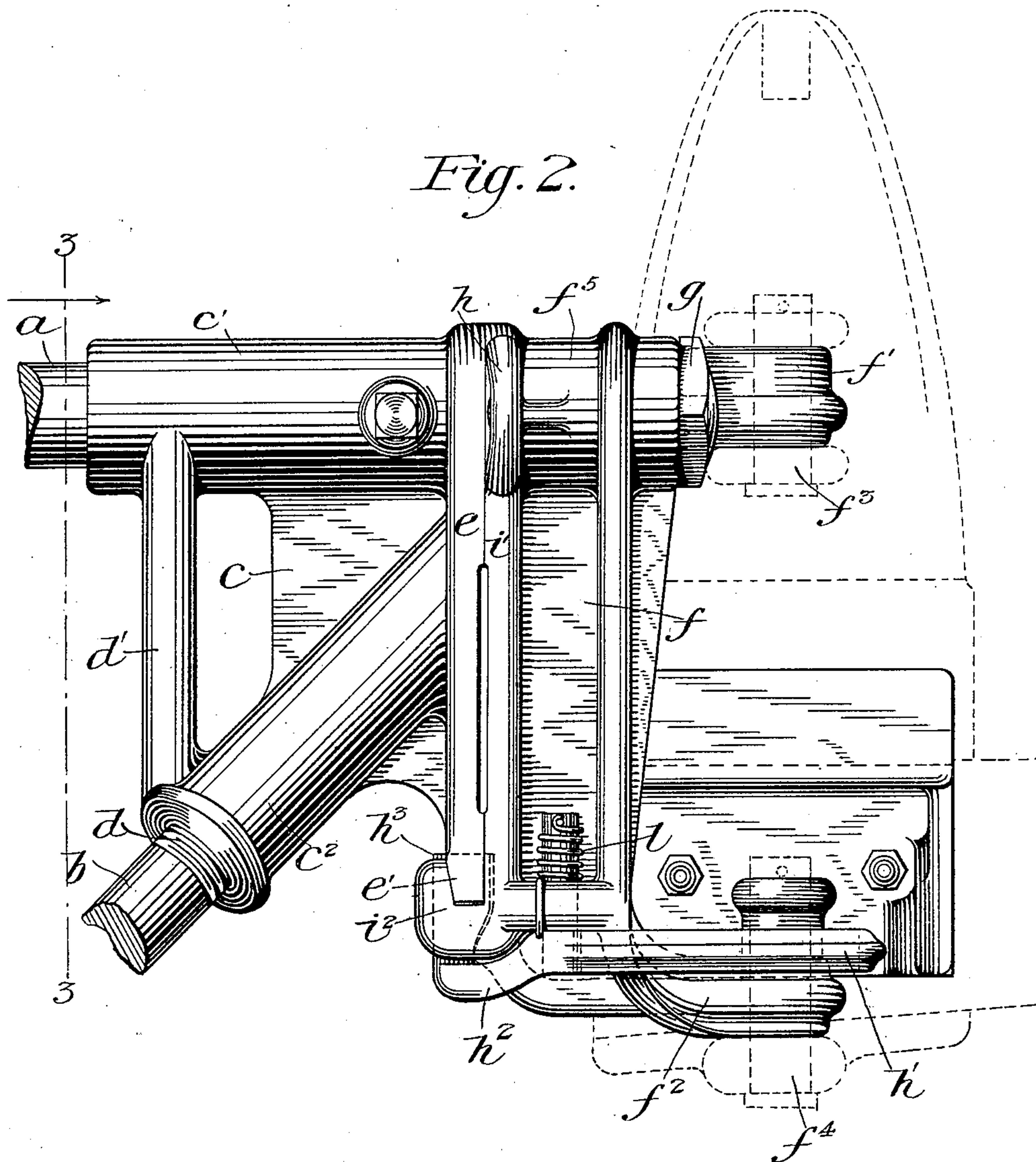
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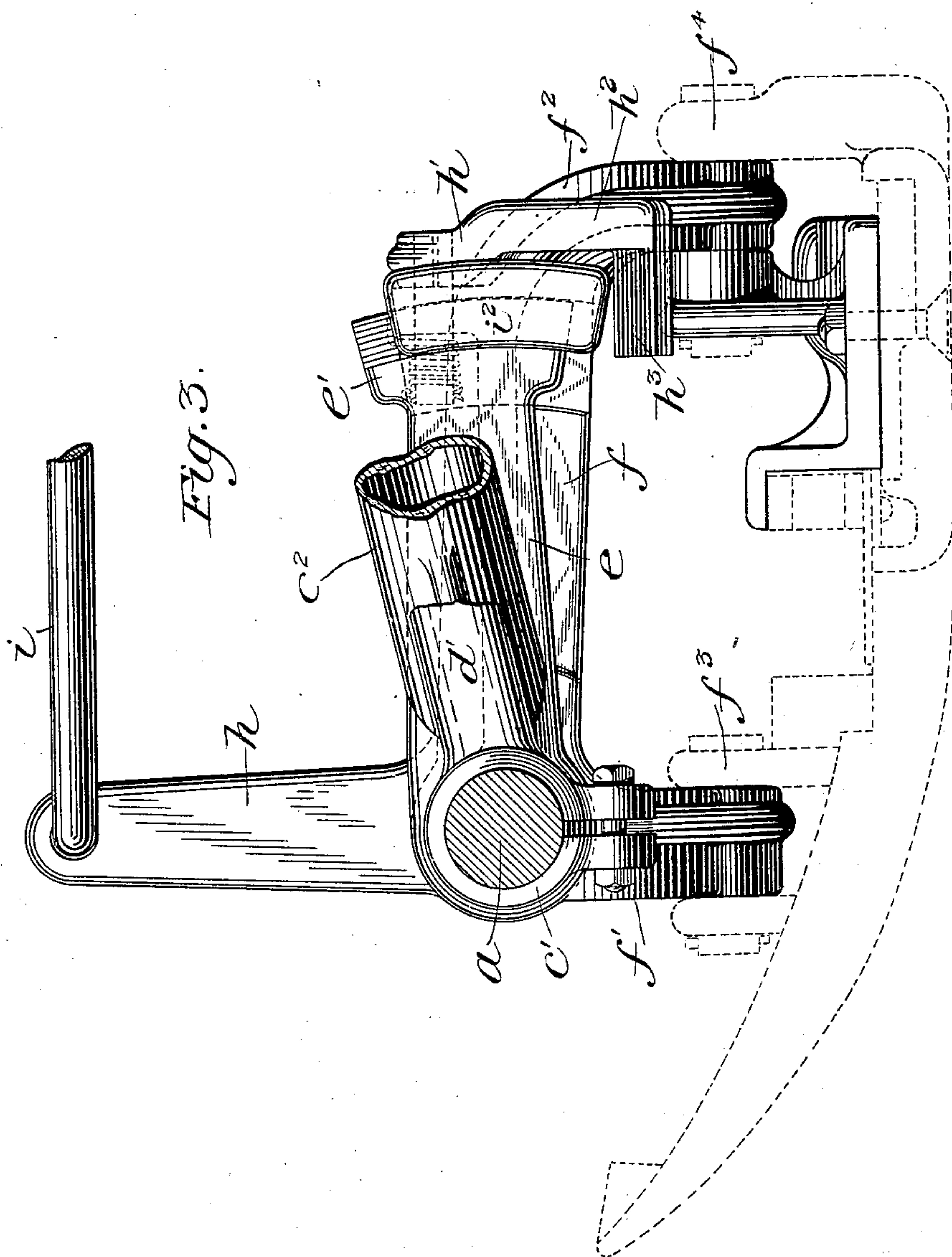
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4 Sheets—Sheet 3.



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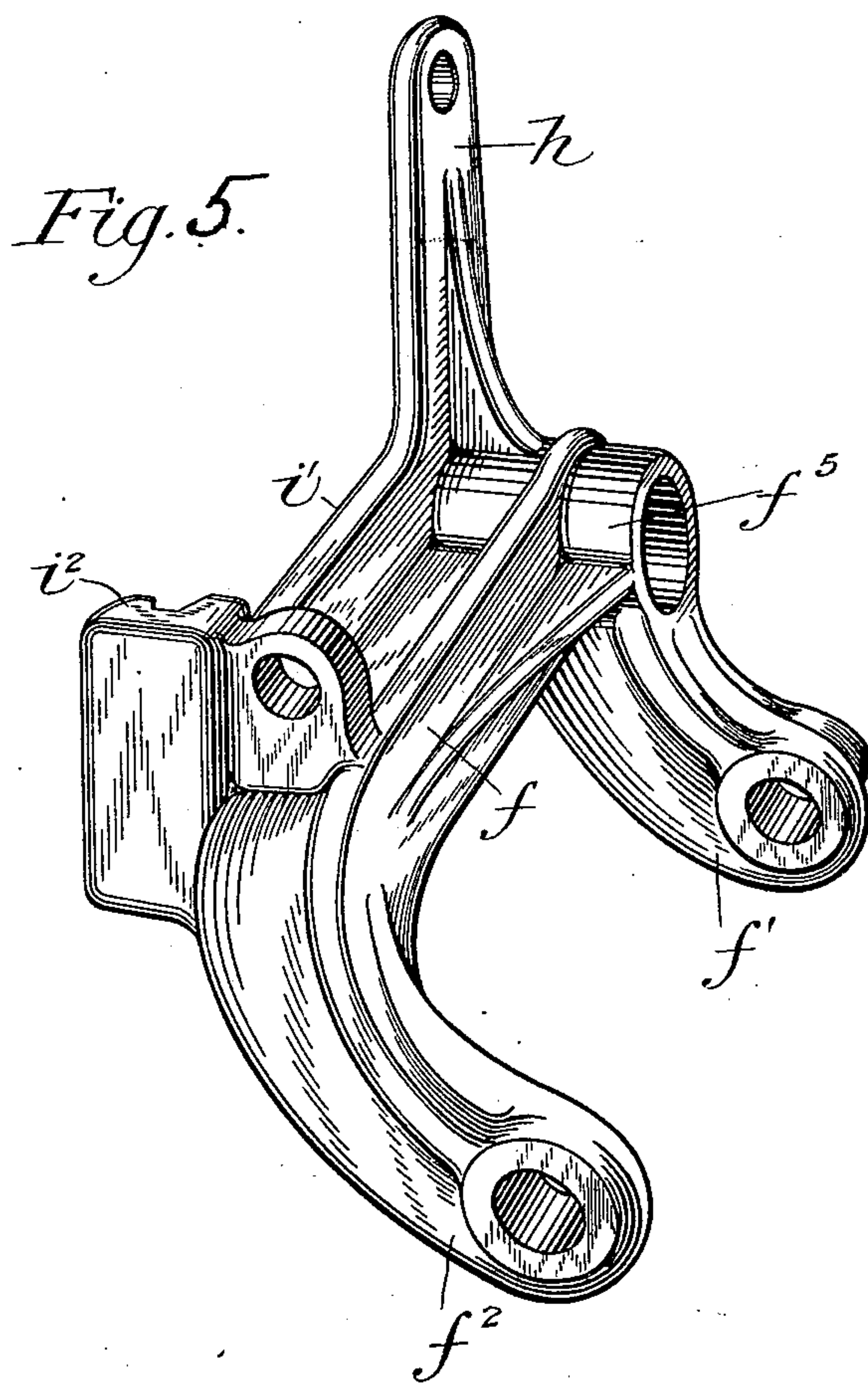
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(Application filed Aug. 10, 1900.)

(No Model.)

4 Sheets—Sheet 4.



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# UNITED STATES PATENT OFFICE.

JOHN WARDEN LATIMER, OF CHICAGO, ILLINOIS.

## MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 669,259, dated March 5, 1901.

Application filed August 10, 1900. Serial No. 26,483. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN WARDEN LATIMER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mowing-Machines; and I do hereby 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.

The invention relates particularly to that part of the machine where the connection is made between the cutting apparatus and the coupling frame or bars; and the general object is to prevent the sagging back of the outer end of the finger-bar and sickle that is due to the resistance encountered by these parts in operation and the wearing of the joints and other parts in use.

It is well known to those skilled in the art that the greatest efficiency is obtained from the cutting apparatus when it occupies a position at a right angle to the line of draft. As the machine wears, however, and the joints loosen up, the outer end of the finger-bar sags backward, so that the sickle slants to the rear of the correct position. Heretofore no thoroughly satisfactory means has been devised to prevent or correct this difficulty, and it has been common to set up the machines when new with the cutting apparatus inclining slightly forward of the correct position, so that the natural sagging of the bar would bring the cutting apparatus into the proper alinement with the tongue. This expedient is objectionable for the same reason that the rearward slanting is—viz., that the cutting apparatus is for a time at least at some other than a right angle to the line of draft. Moreover, it is impossible to secure any permanent results in this way, and there are many other objections to resorting to it.

The present invention consists, generally stated, in combining with the usual coupling-frame and inner shoe a novel yoke, to which the shoe is pivoted in the ordinary way, and a block or casting which rigidly unites the two members of the coupling-frame (the push-bar and the coupling-bar) together, the yoke having a pivotal bearing on the coupling-bar independent of the block and the latter having a guide and thrust-bearing for the yoke

as far as practicable in rear of the yoke's pivot, so as to relieve the pivot as much as possible of the thrust of the cutting apparatus. 55

The improvement is illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of a mower embodying the same, the frame of the machine being outlined in broken lines. Fig. 2 is an enlarged plan of the block and yoke connection between the coupling-frame and the cutting apparatus. Fig. 3 is a vertical section on the line 3 3 of Fig. 2 looking in the direction of the arrow. Fig. 4 is an elevation of the parts shown in Fig. 2 looking from the rear, and Fig. 5 is a detail of the yoke in perspective. 60

Referring to the views, *a* is the coupling-bar, and *b* the thrust-bar, these bars being pivotally connected at *a'* and *b'* with the frame of the machine and constituting the coupling-frame. At their outer ends the coupling and thrust bars are rigidly united by a block or casting *c*, having a tubular boss *c'* at its front end, into which the outer end of the coupling-bar *a* is received, and a similar boss *c''*, extending diagonally at the rear of the casting and to which the forward end of the thrust-bar *b* is adjustably secured by means of a screw-thread *d* upon the end of the bar taking into the correspondingly-threaded end of the boss. These tubular bosses are rigidly connected together at their stubble ends by a brace or strut *d'* and at their grassward ends by means of a plate or arm *e*, which is extended rearwardly and provided with a flange *e'*, standing vertically, as illustrated in the accompanying drawings. 70

The outer end of the thrust-bar *b* projects grassward through the boss *c'* of the coupling-block *c*, and upon its outer end is pivotally secured a yoke *f*, to which, by means of downwardly-extending lugs *f'* and *f''*, the inner shoe of the cutting apparatus is connected by means of pivots *f'''* and *f''''*, so that the outer end of the cutting apparatus may rise and fall in the operation of the machine, and so that it may be folded up out of operation and locked in vertical position. The yoke *f* is provided at its front end with a tubular boss *f''''''*, and the grassward end of the coupling-bar is provided with a headed nut *g*, which overlaps the end of the boss *f''''''* and pivotally secures the yoke *f* to the bar. 75 80 85 90 95 100



Rising from the front end of the yoke  $f$  is a standard  $h$ , to the upper end of which a link or rod  $i$  is secured which extends rearwardly and is connected with the usual tilting lever, the object of this link being to rock the cutting apparatus fore and aft on the pivotal connection of the yoke  $f$  with the coupling-bar in the manner well understood.

The stubbleward side of the yoke  $f$  is provided with a plain flat face-plate  $i'$ , which fits snugly against the extension  $e$  of the coupling-block  $c$ , and at its rear end this face-plate is provided with a reëntrant lip or keeper  $i^2$ , which embraces the edge of the guide-flange  $e'$  on the coupling-block  $c$ , these two parts forming, respectively, a way and guide, whereby the pivotal movement of the yoke necessary to accommodate the inner shoe and cutting apparatus to the inequalities of the ground is permitted and whereby the yoke itself is held by the coupling-block against lateral movement.

For the purpose of locking the cutting apparatus in its vertical position when folded up out of the way I provide upon the rear end of the yoke  $f$  a latch  $h'$ , having its grassward end provided with a hook to catch over a lug or projection on the heel end of the finger-bar, as shown in Fig. 4. A spring  $l$  is coiled around the pivot-pin of this latch and reacts between the yoke  $f$  and the pin, so as to hold the latch normally in position to engage and uphold the finger-bar. The latch is provided with a rearward extension  $h^2$ , having a forwardly-projecting foot or lug  $h^3$ , which projects underneath the rear edge of the guide-flange  $e'$  of the plate  $e$ . The latch may of course be operated by hand or by the foot of the driver; but it is desirable also to have it operated automatically, and this is the object of providing its heel end with the footpiece  $h^3$ . When the hand-lever is thrown forward for the purpose of tilting upward the rear end of the yoke, the latch is carried bodily with the yoke, and the foot  $h^3$  strikes the under side of the guide-flange  $e'$ . This immediately releases the latch without requiring the same to be unhooked by the hand or foot, and the lowering of the cutter-bar is thereupon controlled by the lifting-lever in the usual manner.

It is to be noted in respect to this construction that the yoke to which the cutting apparatus is pivoted is journaled upon the grassward end of the coupling-bar independently of the coupling-block instead of being pivoted to the block itself. It is also to be noted that the rear end of the coupling-block takes the thrust of the cutting apparatus on the guide-flange  $e'$  and this flange and guide being removed as far as possible from the pivot of the yoke the leverage of the block in resisting the yoke is sufficient to effectually resist the tendency of the cutting apparatus to sag backwardly.

The thrust-bar  $b$  may be connected at its rear end to the frame of the machine in any

suitable manner permitting its removal, so as to be screwed into or out of the socket of the boss  $c^2$ . Owing to the wear of the parts and the joints getting loose it is practically impossible to provide a connection between the cutting apparatus and the coupling-frame which will not allow some little backward sag of the finger-bar, and the object of connecting the front end of the thrust-bar with the coupling-block  $c$  by means of the screw above described is to provide for increasing or diminishing the length of the bar relative to the distance between the coupling-block and the connection of the bar with the frame, so as to take up from time to time any sagging that may require correction.

Having thus described my invention, what I claim is—

1. In a mowing-machine, the combination of the coupling-bar, the push-bar, a coupling-block rigidly uniting said bars, a yoke pivoted at its front end on the projecting end of the coupling-bar and having the cutting apparatus pivotally connected thereto so as to rise and fall in operation and be folded up out of operation, an adjustable connection between the push-bar and the coupling-block, and a connection between the rear end of the yoke and the block for guiding the vertical movement of the yoke and holding it against lateral movement.

2. In a mowing-machine, the combination of a coupling-block rigidly connected to the coupling-frame, a yoke pivoted at its forward end and having the cutting apparatus pivotally connected thereto so as to rise and fall in operation and be folded up out of operation, a latch for locking the cutting apparatus in folded-up position, and means for automatically releasing the latch on lifting the heel end of the yoke.

3. In a mowing-machine, the combination with the coupling and push bars, of a coupling-block rigidly uniting them at their grassward ends, a yoke carrying the cutting apparatus and pivoted to an end of the coupling-bar projecting beyond the block, an adjustable connection between the front end of the push-bar and the block, a guiding and holding flange on the rear end of the block, and a lip or keeper on the rear end of the yoke embracing the flange.

4. In a mowing-machine, the combination with the coupling and push bars, of a coupling-block rigidly uniting them at their grassward ends, a yoke carrying the cutting apparatus and pivoted to the coupling-bar at its front end, a guiding and holding flange on the block at the rear, a lip or keeper on the yoke embracing the flange, and a latch for holding the cutting apparatus folded up, said latch being pivoted on the yoke and having a tailpiece underlying the flange on the block so that throwing up the rear end of the yoke causes the flange to release the latch.

5. In a mowing-machine, the combination of the coupling-bar, the push-bar, a coupling-



block rigidly uniting said bars, and having the coupling-bar projecting through it, a yoke pivoted at its front end on the projecting end of the coupling-bar and having the cutting apparatus pivotally connected thereto so as to rock in operation and be raised and lowered, and a connection between the rear end of the yoke and the block for guiding the ver-

tical movement of the yoke and holding it against lateral movement.

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

JOHN WARDEN LATIMER.

Witnesses:

ARTHUR JOHNSON,  
CARL DETZER.