

No. 611,978.

Patented Oct. 4, 1898.

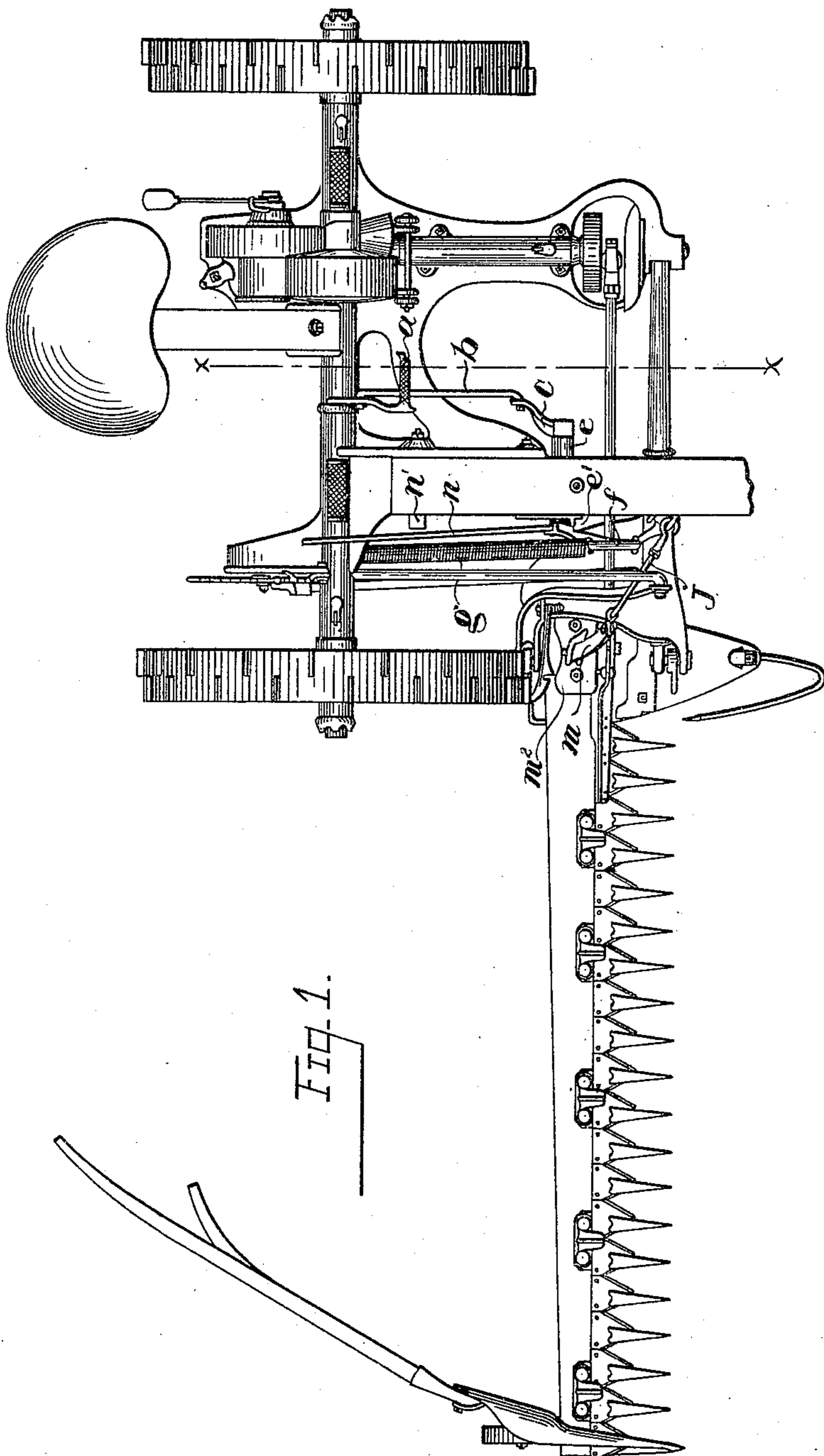
C. S. SHARP.

BAR LIFTING MECHANISM FOR MOWING MACHINES.

(Application filed June 4, 1896.)

(No Model.)

4 Sheets—Sheet 1.



Witnesses:
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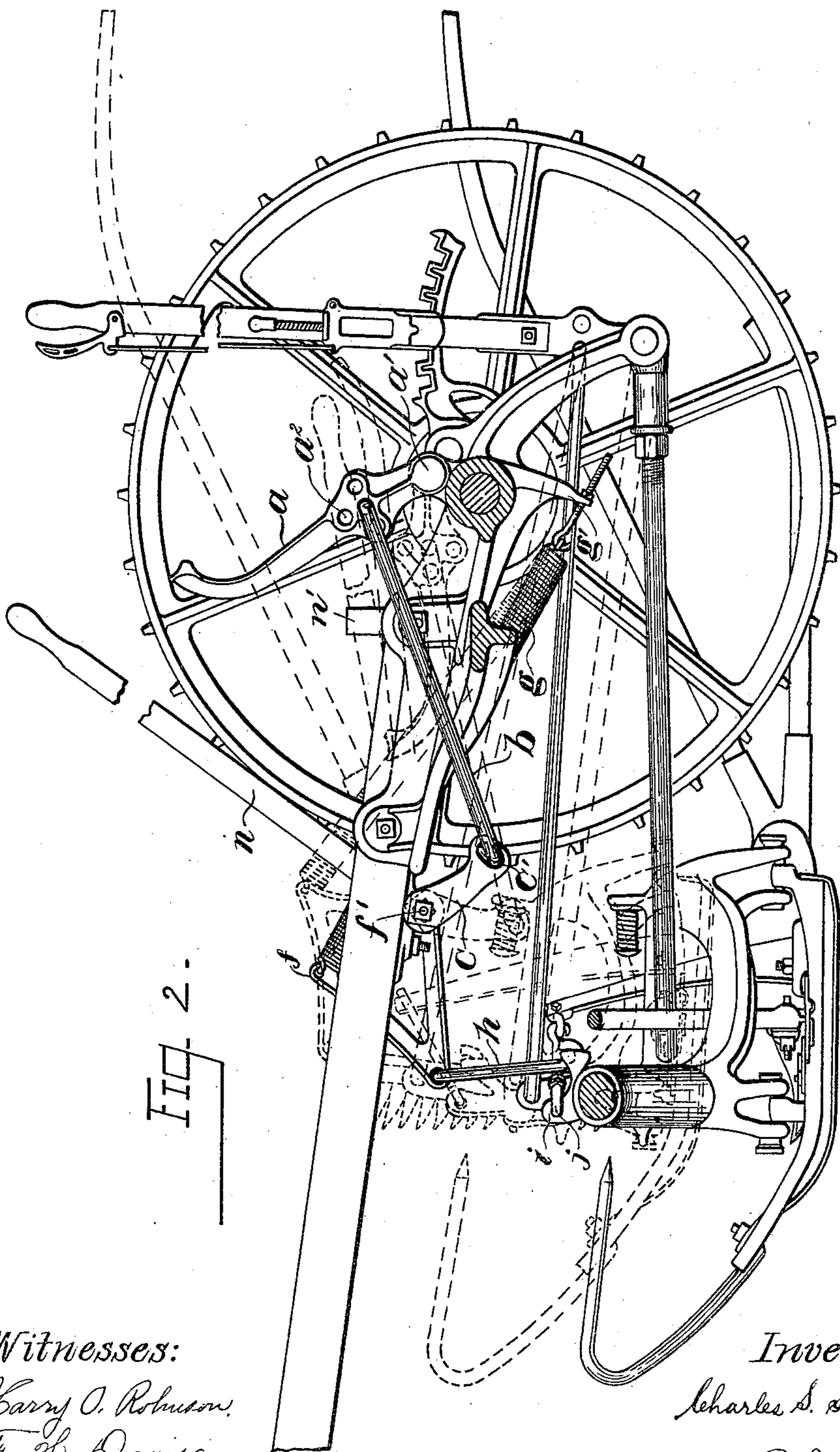


FIG. 2.

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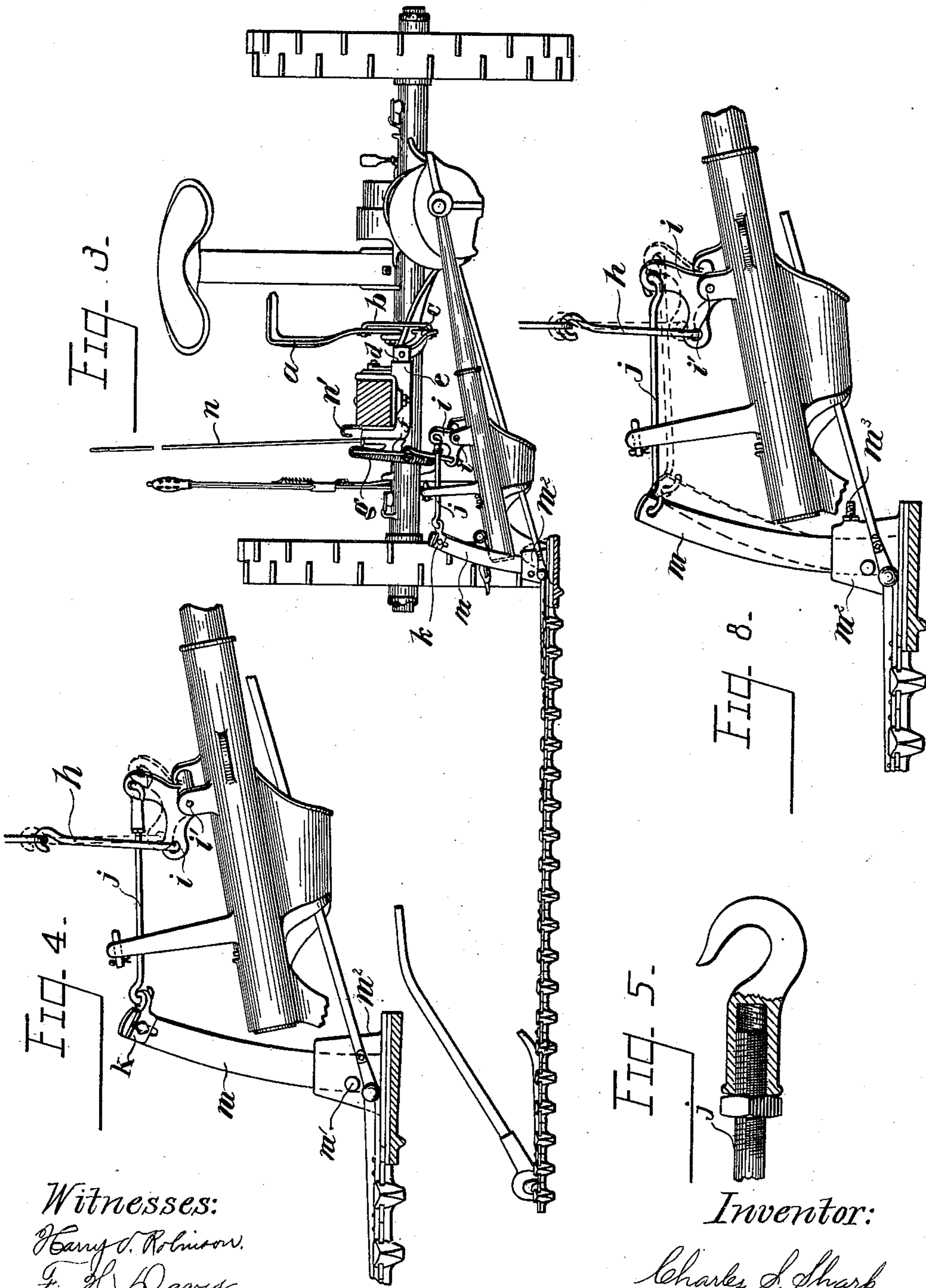
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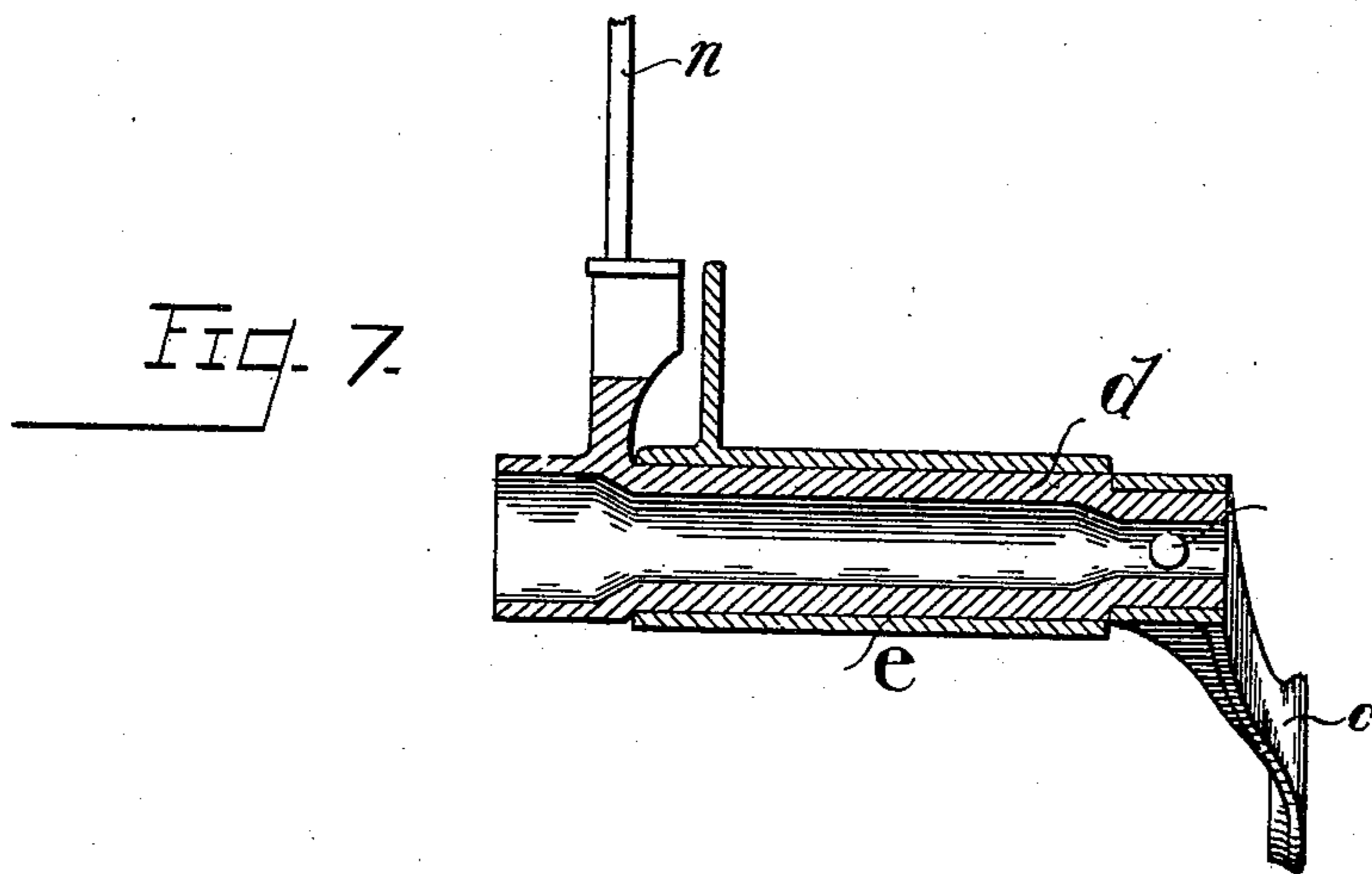
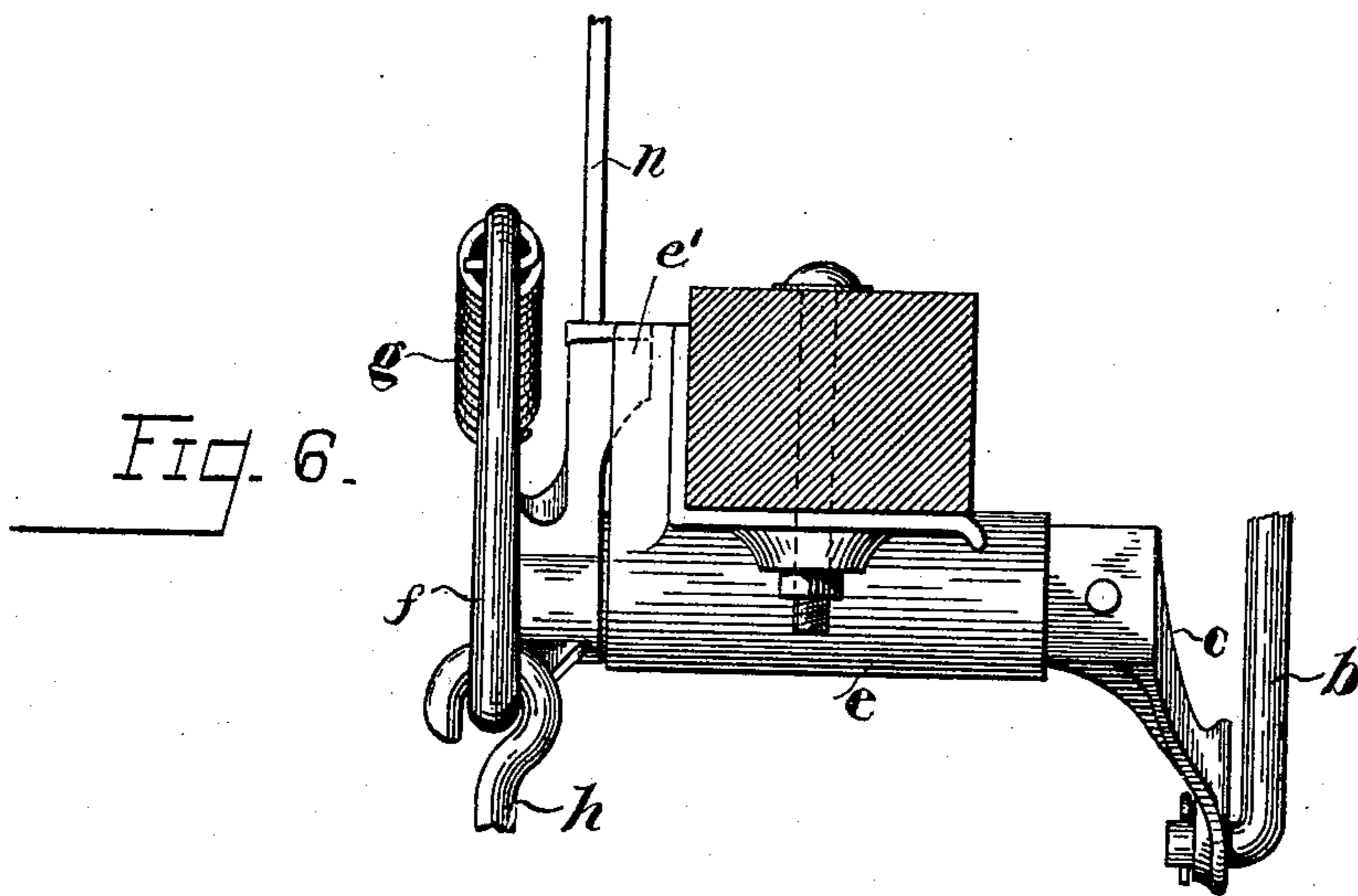
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UNITED STATES PATENT OFFICE.

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BAR-LIFTING MECHANISM FOR MOWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 611,978, dated October 4, 1898.

Application filed June 4, 1896. Serial No. 594,261. (No model.)

To all whom it may concern.

Be it known that I, CHARLES S. SHARP, of Auburn, county of Cayuga, State of New York, have invented an Improvement in Bar-Lifting Mechanism for Mowing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention relates to bar-lifting mechanism for mowing-machines, wherein both a hand-lever and a foot-lever are employed as the operating members; and it has for its object to improve and simplify the construction of such mechanism.

The invention therefore consists in certain details of construction of the bar-lifting mechanism, substantially as will be hereinafter described.

20 Figure 1 shows a plan view of a mowing-machine having bar-lifting mechanism embodying this invention; Fig. 2, an enlarged section of the machine shown in Fig. 1, taken on the dotted line $x x$; Fig. 3, a front elevation of the machine shown in Fig. 1; Figs. 4, 5, 6, and 7, details to be referred to, and Fig. 8 a modification to be referred to.

The foot-lever a , pivoted to the frame of the machine at a' , projects upwardly in front of the operator and has several perforations a^2 at different points, into any one of which one end of a link b may be hooked, the opposite end of said link entering a slot or hole c' , formed at the outer end of a crank-arm c , which is secured to and projects downwardly from one end of a transverse rock-shaft d , having its bearings in a suitable bearing-box e , secured to the under side of the pole of the machine.

40 The transverse rock-shaft d (see Fig. 7) is made hollow for lightness and is made of a length to project beyond its bearing-box, at each end thereof, and it has placed upon and secured to its end opposite said crank-arm c a bell-crank lever f , or said rock-shaft d and lever f may be cast integral. A lifting-spring g is connected at one end to the upper angle of the bell-crank lever f and at its opposite end to an arm g' on the frame of the machine.

50 The upper end of a link h is connected to the

forward end of said bell-crank lever f , and the lower end of said link h is connected to one arm of a bell-crank lever i , pivoted at i' to the frame of the machine, and a link j is connected to the other arm of said bell-crank lever i , which extends laterally and is hooked into an eyepiece k , adjustably secured to the upper end of an upright arm m , pivotally connected at its lower end, as at m' , to a boss m^2 on the bar to be lifted, said boss being located close to the fulcrum of said bar and constructed to present an abutment at its inner side for said arm m . The adjustable connection of the eyepiece k to the upper end of said upright arm m is made by providing said arm with a slot and passing the pin which secures the eyepiece to the arm through said slot.

Instead of adjustably connecting the outer end of the link j to an eyepiece attached to the upper end of the upright arm, as shown in Fig. 4, it may be connected directly to said arm—as, for instance, it may engage an eye formed in the arm, as shown in Fig. 8.

The outer side wall of the boss m^2 , to which the upright arm m is pivoted, is cut away, as shown in Fig. 1, to permit ample movement or play of the bar independently of the upright arm m and parts connected with it, and, if desired, an adjustable stop m^3 (see Fig. 8) may be screwed into and through the opposite or abutting side wall of said boss to serve as a limiting-stop against which the upright arm m bears, thus varying the relative positions of the bar and upright arm.

85 An upwardly-projecting hand-lever n is rigidly secured to the transverse rock-shaft d , which may be used as an operating-lever for said rock-shaft when desired, and said hand-lever is secured to that end of said rock-shaft opposite the crank-arm c to which the foot-lever is connected.

95 It will be observed that the hand-lever and foot-lever connect with the opposite ends of the transverse rock-shaft at opposite sides of the pole, and a long bearing for said rock-shaft is thus provided.

In raising the cutter-bar—as, for instance, to pass an obstacle—the foot-lever a is pushed forward in a direction away from the operator

to its limit of motion, actuating the various parts above described, and if further movement of the cutter-bar is desired the hand-lever n will be operated by being turned on its pivot toward the operator and depressed, at which time the arm c will be moved with the shaft d , to which it is attached, independent of the link b , owing to the slot c' . When the hand-lever n is thus moved toward the operator and depressed, it may be caught under a snub or hook n' , attached to the draft-pole. The shoulder e' on the bearing-box e limits the forward movement of said hand-lever n .

The perforations a^2 in the foot-lever a adapt it to accommodate short and long legged men, and, furthermore, when the link b is connected in the forward hole it will cause the slotted arm when operated by said foot-lever to be thrown just as far forward as it can be carried by the hand-lever.

The link j , connecting one arm of the bell-crank lever i with the upper end of the arm m , is made longitudinally adjustable, so that the points of attachment of said link may be brought nearer together or farther apart, as desired. When the distance between said points of attachment is shortened, the upper end of the upright arm m will be correspondingly drawn nearer to the vertical arm of the bell-crank lever i , and consequently the outer end of the bar will be held at an elevation and when responding to the operation of the hand-lever or foot-lever will rise higher than when said link j is lengthened, and the balance of the bar may thus be changed. I do not desire, however, to limit my invention to the

employment of this particular form of adjusting device for accomplishing this result.

It will be observed that an essential feature of this invention is the transverse rock-shaft d and hand-lever and foot-lever connected therewith at the opposite ends in such manner that the hand-lever may be operated to rock the shaft and lift the bar by the operator drawing it toward him and that the foot-lever may be operated to rock said shaft and lift the bar by the operator pushing it away from him and toward the hand-lever, and also that said levers may be operated separately or conjunctively, as desired.

I claim—

The bar-lifting mechanism for mowing-machines herein described consisting of a rock-shaft, a crank-arm and a bell-crank lever secured thereto, a pivoted foot-lever connected by a link with said crank-arm a hand-lever secured to said rock-shaft close to said bell-crank lever, said foot and hand levers being movable toward and from each other to rock said shaft, a lifting-spring attached to the upper angle of said bell-crank lever, another bell-crank lever connected with the aforesaid bell-crank lever by a link, and an arm on the bar to be lifted, the upper end of which is connected by a link with said last-named bell-crank lever, substantially as described.

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

CHARLES S. SHARP.

Witnesses:

FRED M. EVERETT,
RAYMOND M. ATHERLY.