(No Model.)

A. C. McKENDREE.

LIFTING ATTACHMENT FOR MOWERS.

No. 335,764. Patented Feb. 9, 1886.

Fig. 1

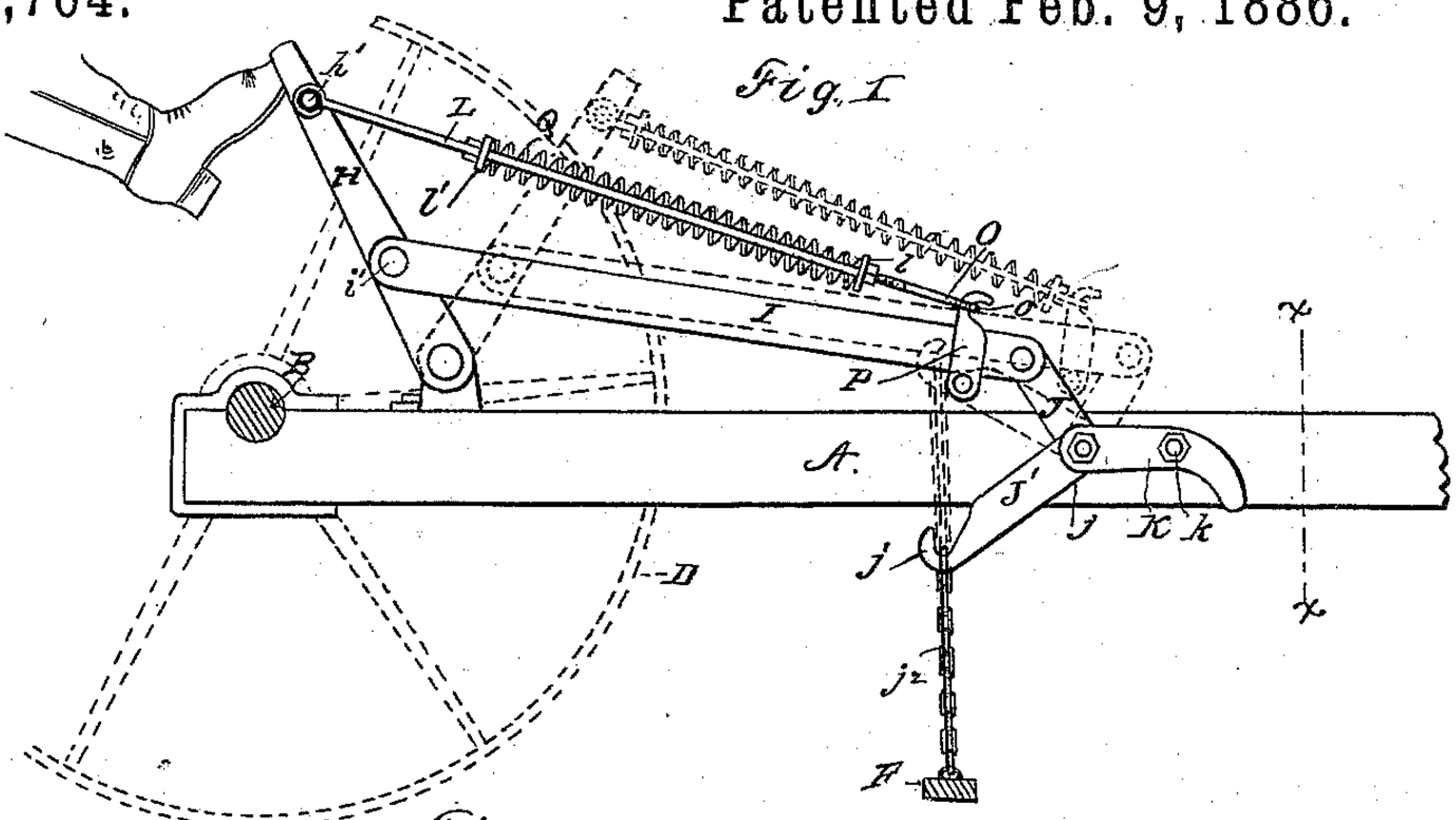


Fig. 4.

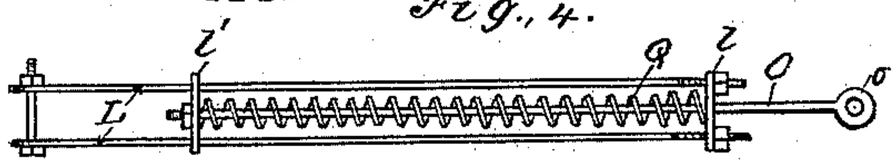


Fig. 3.

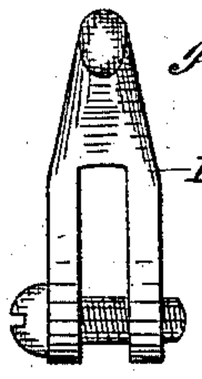
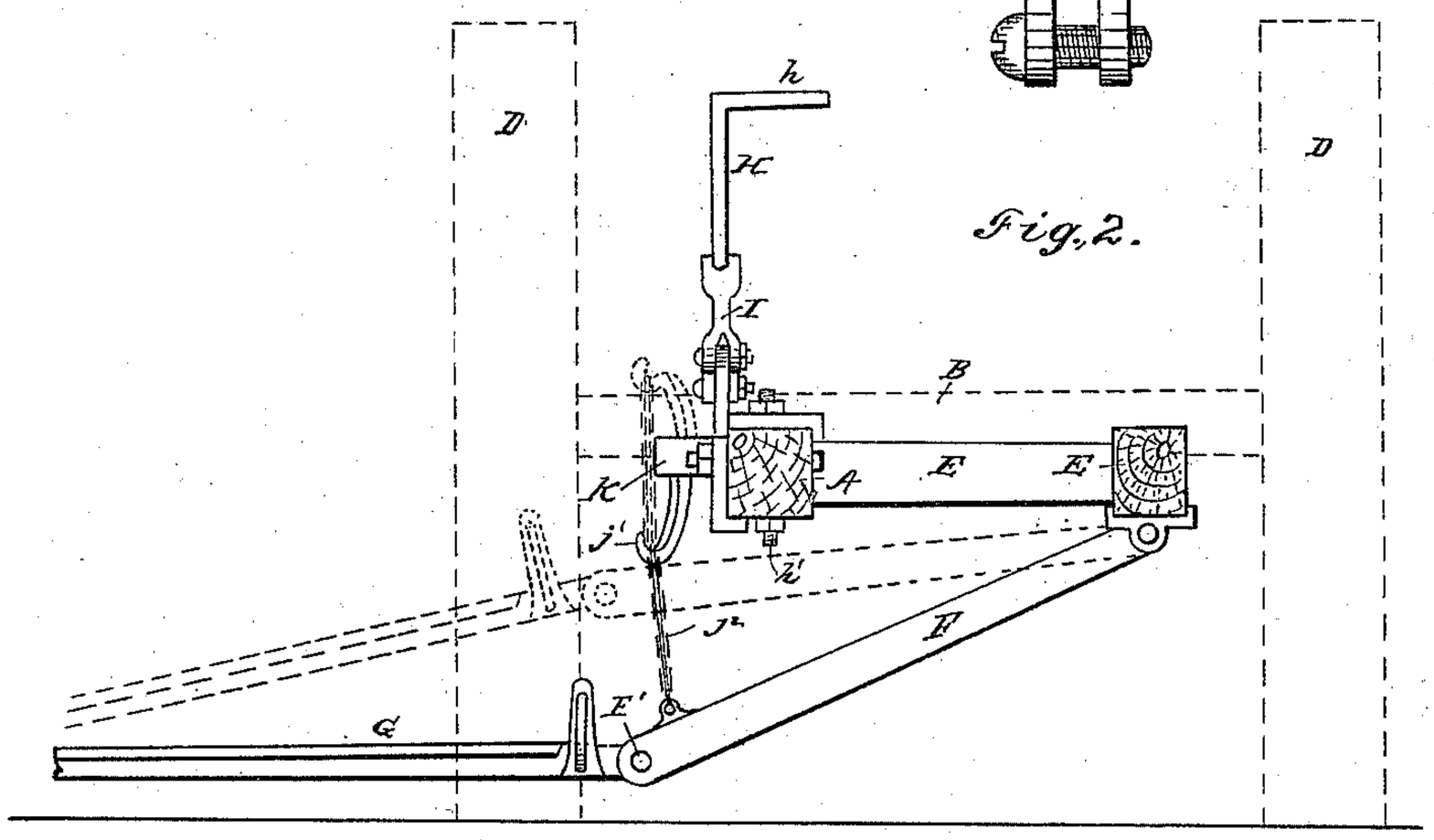


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

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LIFTING ATTACHMENT FOR MOWERS.

SPECIFICATION forming part of Letters Patent No. 335,764, dated February 9, 1886.

Application filed January 30, 1885. Serial No. 154,466. (No model.)

To all whom it may concern:

Be it known that I, ALBERT C. McKENDREE, a citizen of the United States, residing at Conneaut, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Finger-Bar-Lifting Attachments for 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention relates to improvements in mowing-machine attachments; and it consists of devices for raising the coupling-bar and the inner end of the cutter-bar of a mowing-machine by means of the foot of the operator without using the hand therefor or interfering with the outer end of the cutter-bar.

The features and objects of my invention are explained hereinafter in the specification and claims.

Figure 1 is a side elevation of my device and that portion of a mowing-machine to which it is adapted to be attached, its operation being shown in dotted lines thereon. Fig. 2 is a front end view of the same on the line *x x* in Fig. 1, with the spring mechanism thereof left off, illustrating in dotted lines the coupling-bar and inner end of the cutter-bar of a mowing-machine operated thereby. Fig. 3 is an enlarged view of the adjustable hook used to attach the lower end of the spring mechanism to the push-bar detached therefrom. Fig. 4 is a top view of the spring mechanism of my device detached therefrom.

Like letters refer to like parts in all the figures.

In Fig. 1, A represents the tongue; B, the main shaft; D D, the wheels; E E, the frame of a mowing-machine, (the mechanism of the machine not being shown;) F, the coupling-bar, and G the cutter-bar, these parts being common to all front-cut mowing-machines of ordinary construction.

My device consists of the upright foot-lever H, which is hinged to the support attached to the tongue of a mowing-machine, near the main axle thereof. On the top of this lever H is a foot-piece, *h*, suitable to receive the foot of the operator. To this lever is hinged (preferably about one-third of the distance from the lower end thereof) a horizontal push-bar, I, which extends forward to a point over and slightly beyond the coupling-bar of the machine, where it is attached by means of a pivoted or hinged joint, *i*, to the arm J of the bell-crank lever J J′. This bell-crank lever J J′ is preferably attached to the side of the tongue of the machine by means of a bolt, *j*, passing through the tongue and through the ear K, secured thereto, so that it swings freely thereon.

The push-bar I is provided, near the lower end thereof, with a hook, P, which is constructed with the lower end thereof forked, so as to slip over the push-bar I like a clevis, and has a screw-bolt through the ends thereof, so that after being slipped over the bar I it may be secured in place by screwing up the screw-bolt, thereby clamping it to the bar I, and by loosing the screw-bolt it may be moved to and secured at any point on the push-bar I for increasing or diminishing the tension of the spring Q, as desired.

To the upper end of the foot-lever H, I connect the stirrup L by means of a bolt, *h′*, this stirrup L being provided with a cross-piece, *l*, on the end thereof. Upon the stirrup L is also a sliding cross-piece, *l′*, which slides freely upon the arms of the stirrup L. This cross-piece *l′* is securely attached to the end of a rod, O, which passes through an opening in the center of the cross-piece *l*, and is provided with an eye, *o*, on the end thereof, adapted to engage with the adjustable hook P, secured to the push-bar I. Around the rod O, between the cross-pieces *l l′*, I place a strong spiral spring, Q, the operation of which spring is to force the cross-pieces *l l′* apart, the construction of the stirrup L, rod O, and spring Q being illustrated in Fig. 4.

It will be seen that when in place the foot-lever H, push-bar I, and spring mechanism L O Q form the sides of a triangle, the spring mechanism being the hypotenuse thereof. In this position the spring Q is compressed by the cross-pieces *l l′* being drawn toward each other, as shown in Fig. 1. Weight being applied to the hook *j* of the bell-crank lever J J′ tends to force the foot-lever H back by means of the push-bar I, and in so doing forces the upper end of the foot-lever H back to a greater

distance at h' than at i', where the push-bar I is connected thereto, which operates to bring the strain upon and compress the spring Q, so that the greater the weight applied to the hook j on the bell-crank lever J J′ the more the spring Q is compressed thereby. When, however, the foot-lever H is pushed forward, as illustrated by dotted lines in Fig. 1, the cross-pieces $l\ l'$ are forced apart, relaxing the spring Q. Thus when the foot-lever H is being pushed forward to raise the coupling-bar F, the tension of the compressed spring Q operates to assist in the operation, while when the coupling-bar F is suspended from the hook j the compressed spring Q operates as an elastic cushion, upon which the weight is suspended, thus reducing the friction of the coupling-bar F and inner end of the cutter G upon the ground over which it is passing.

The lower arm, J′, of the bell-crank lever J J′ is provided with a hook, j', to which is attached a short chain, j^2, which is attached to the coupling-bar F of the machine near the hinged joint F′, for securing the cutter-bar of the machine thereto.

The mechanism herein described is entirely independent of the ordinary mechanism attached to mowing-machines for raising the coupling-bar or cutter-bar thereof by hand-power, the mechanism ordinarily used for raising the cutter and drag bars being only adapted for raising the entire cutter-bar by the use of the hand of the operator, while this mechanism acts entirely independent thereof by means of the foot of the operator, or, if desired, as auxiliary thereto, as it may be used independently for the purpose of raising the coupling-bar and inner end of the cutter-bar, in order to clear obstructions encountered by the inner portion of the cutter-bar or the coupling-bar, and it being constructed to be operated by the foot can be readily operated without interfering with the hands of the operator, leaving them free to manage the team drawing the machine; or, when desired, it serves as an auxiliary device for raising the cutter-bar mechanism, enabling the operator to use the force of both his hand and foot therefor when it is desired to raise the cutter-bar throughout its entire length.

This device is so arranged that it may be readily adapted to be attached to any ordinary front-cut machine. I ordinarily attach it to a machine by putting a bolt, h', through the tongue of the machine at or near its connection with the main axle of the machine, and the axis-bolt j and bolt K through the tongue, substantially as shown in Fig, 1, this being readily accomplished without any alteration in the construction or arrangement of other portions of the machine.

I am aware that the form and arrangement of many of the parts of my device may be varied by those skilled in the art to which this invention appertains without departing from the spirit of my invention. Therefore I do not confine myself to the particular form and arrangement of parts shown; but

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, in a mowing-machine, of a foot-lever and a bell-crank lever with a push-bar connecting the foot and bell-crank levers and spring mechanism operating between the foot-lever and bell-crank lever, substantially as set forth.

2. The combination, with the coupling-bar of a mowing-machine, of a bell-crank lever, J J′, and connecting-chain, j^2, a push-bar, I, a foot-lever, H, and a retracting-spring mechanism, substantially as and for the purpose set forth.

3. The combination, in a mowing-machine, of the bell-crank lever J J′, the push-bar I, and hook P thereon, and the spring mechanism L O Q with the foot-lever H, all operating together substantially as and for the purpose set forth.

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

ALBERT C. McKENDREE.

Witnesses:

LOREN GOULD,

W. W. KINNEY.