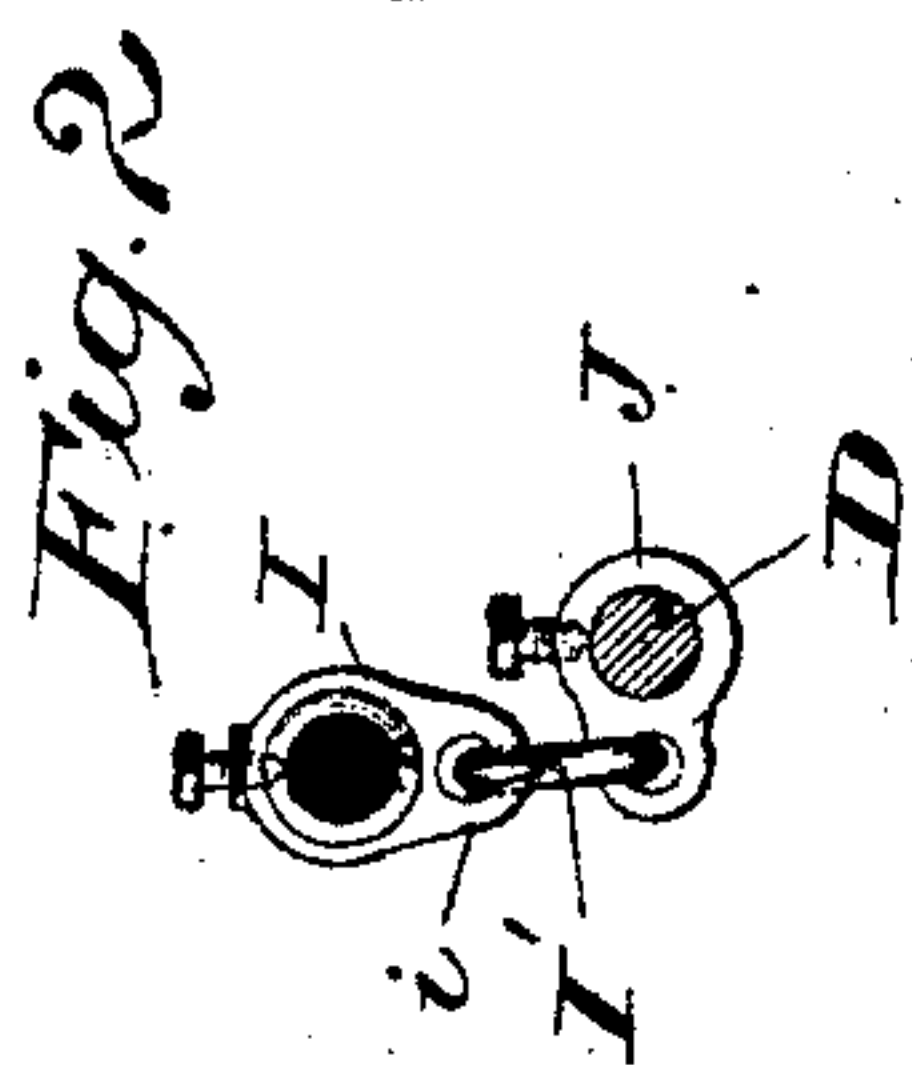
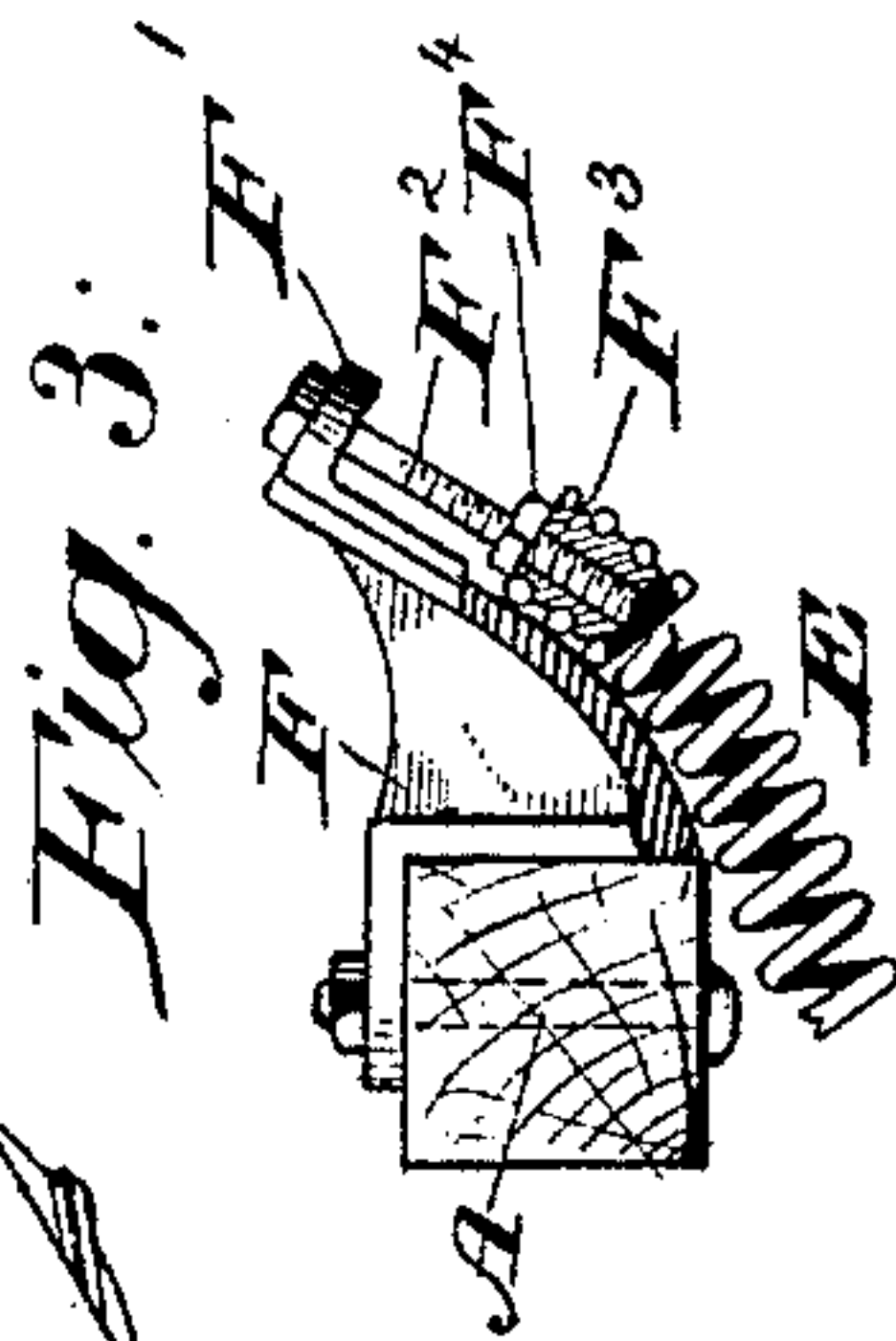
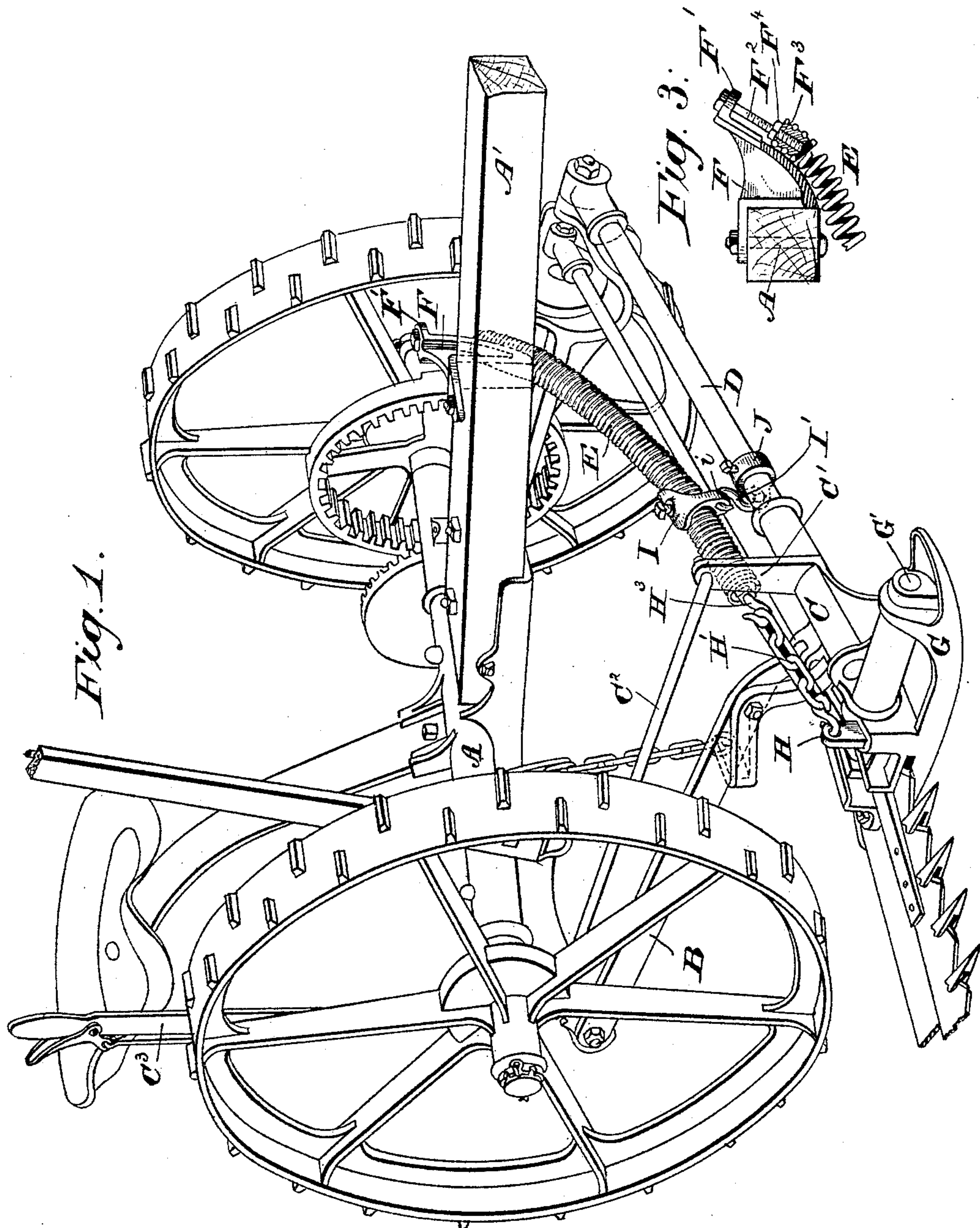


(No Model.)

S. V. KENNEDY.  
MOWING MACHINE.

No. 437,696.

Patented Oct. 7, 1890.



Witnesses.  
Arthur Johnson.  
Fred S. Pond

Inventor.  
Samuel N. Kennedy  
By J. F. Steward his Atty.



# UNITED STATES PATENT OFFICE.

SAMUEL V. KENNEDY, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WILLIAM DEERING & COMPANY, OF SAME PLACE.

## MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 437,696, dated October 7, 1890.

Application filed June 28, 1890. Serial No. 357,033. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL V. KENNEDY, of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Mowing-Machines, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the machine so far as necessary to show in order to illustrate my improvements. Figs. 2 and 3 are details.

The object of my invention is to provide means whereby the cutting apparatus may be caused to run lightly over the ground and the weight of the same counterbalanced to such an extent that the operator of the machine may easily lift it in passing obstructions.

A is the gearing-carriage, mounted upon suitable wheels and adapted to receive the gearing for imparting motion to the knife.

B is the push-bar, pivoted at its rear end to a lug on the main frame and at its front end to the coupling-piece C.

D is the hinge-bar, pivoted to the main frame, preferably at a point immediately in front of the crank-wheel. Upon the said hinge-bar the coupling-piece C is adapted to rock, and in order that it may be so rocked an arm C' is carried upward, and connected thereto is the tilting rod C, which at its rear end is also connected to the tilting lever C<sup>3</sup>.

Devices of the usual form are provided for raising the cutting apparatus when required. So far as described the machine does not differ from those of ordinary construction; but I have applied a balancing-spring E, attaching one end of same to a support F upon the tongue and the other to the finger-bar and its attachments, the construction and arrangement of which spring and its parts constitute my invention. This support may be secured to any portion of the machine which is fixed relative to the main frame and in the proper position. Hence I do not limit myself to supporting it on the tongue A', but shall consider the said tongue simply as any suitable part of the main supporting-frame of the machine to which to attach it.

G is the main shoe, jointed by means of the pivot-pin G' to the coupling-piece C. To this,

in the usual manner, the finger-bar is secured.

H is a lug projecting from the shoe to a point some distance above the axis G'. Connected to this lug by means of the chain H' or other suitable linking device is the spring E. Upon the bracket F, I cast a lug F', and through this pass the bolt F<sup>2</sup>, which is adapted to be secured to the spring by means of the nut F<sup>3</sup>, into which it screws. This nut is cylindrical and threaded on its outer surface, so that it may be screwed into the end of the spring, as in a nut. A similar nut is screwed into the other end of the spring, and the hook H<sup>3</sup> in turn screwed thereinto. I make the bolt F<sup>2</sup> of considerable length, so that by turning it the tension of the said spring may be varied, and to prevent it from turning while the machine is working I provide the jam-nut F<sup>4</sup>.

It will be observed that so far as the spring has been explained its effect would only be such as to tend to raise the outer end of the bar as well as lift the inner end and the coupling-frame by direct action. As it is desirable to provide means whereby the stress of the spring may be divided between the inner and outer ends of the cutting apparatus and each part of said stress adjustable, so as to be increased or decreased to proportion it to the weight to be poised, I have applied a supplemental attachment to the spring, consisting of the saddle I, which surrounds it, and which is provided with the perforated lug i. Into this a link I' is hooked, and also into a collar J, secured to the hinge or coupling-bar D. The saddle I and the collar J may be moved along the respective parts which support them and there secured by set-screws. The object of this adjustment is to apply more or less of the stress of the spring to the inner end of the cutting apparatus. By moving the saddle upon the spring the stress thereby applied to the hinge-bar may be varied.

I do not limit myself to the specific means whereby the stress of the spring is divided, and shall claim the same broadly, and consider any mechanical construction competent to perform the same offices the equivalent thereof.

It is often required to apply to a machine of



given size a long or a short cutting apparatus as special occasions require. In case a long finger-bar and cutter are used the tension of the spring may be increased, so as to lift the outer shoe, by turning the bolt  $F^2$ , and if it is wished to increase the lifting action at the inner end the saddle I may be moved substantially as described.

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

1. The combination of the gearing-carriage, coupling-frame, finger-bar, and the spring secured at one end to the main frame and the other end to the finger-bar attachments in such a position as to tend to raise the outer end of the same, and the said spring connected between its ends to the coupling-frame, whereby a part of the stress of said spring is adapted to tend to raise the said hinge-bar, substantially as described.

2. The combination of the main gearing-carriage, coupling-frame, finger-bar, and the spring secured to the main frame at one end and adjustably secured to the finger-bar at-

tachments, as by the chain or other suitable connection, in such a position as to tend to raise its outer end, and the said spring connected between its ends to the coupling-frame, whereby a part of its stress is adapted to tend to sustain the weight of the latter and the inner end of the cutting apparatus, substantially as described.

3. The combination of the gearing-carriage, coupling-frame, finger-bar, and the spring secured at one end to the main frame and the other end to the finger-bar attachments in such a position as to tend to raise the outer end of the same, and the said spring adjustably connected at a point between its ends to the coupling-frame, whereby a part of the stress of said spring is adapted to tend in a greater or less degree, as required, to raise the said hinge-bar, substantially as described.

SAMUEL V. KENNEDY.

Witnesses:

B. A. KENNEDY,  
A. L. UPTON.