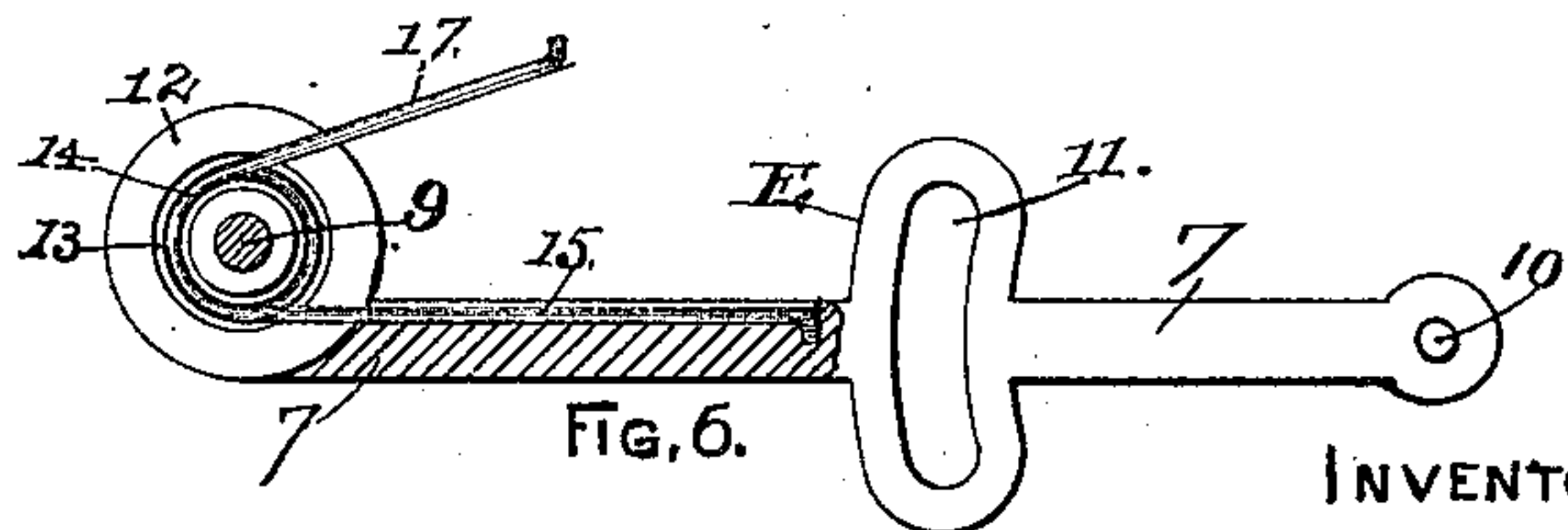
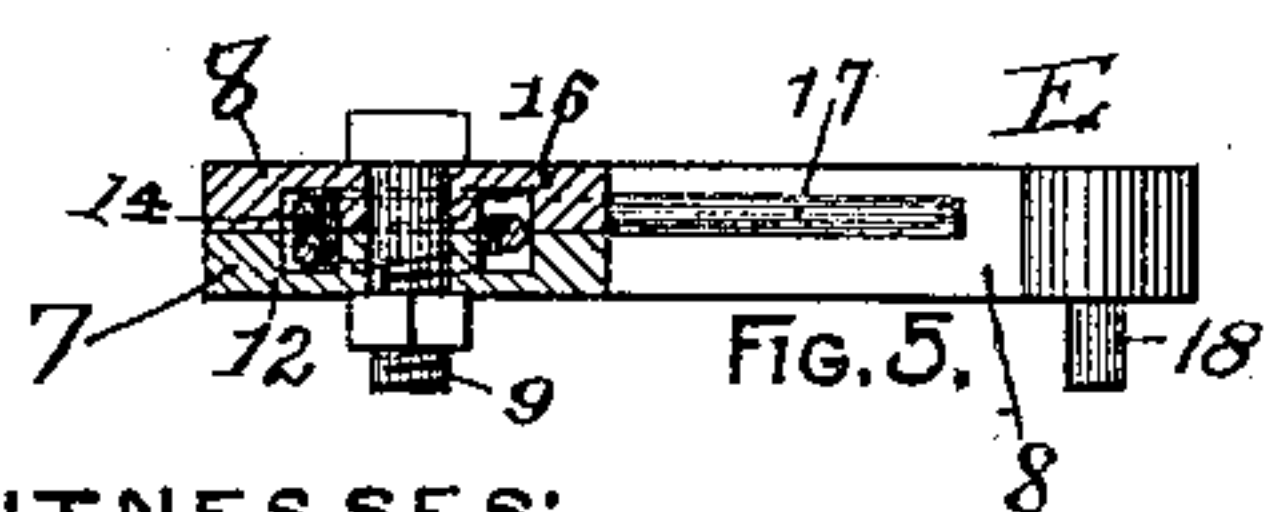
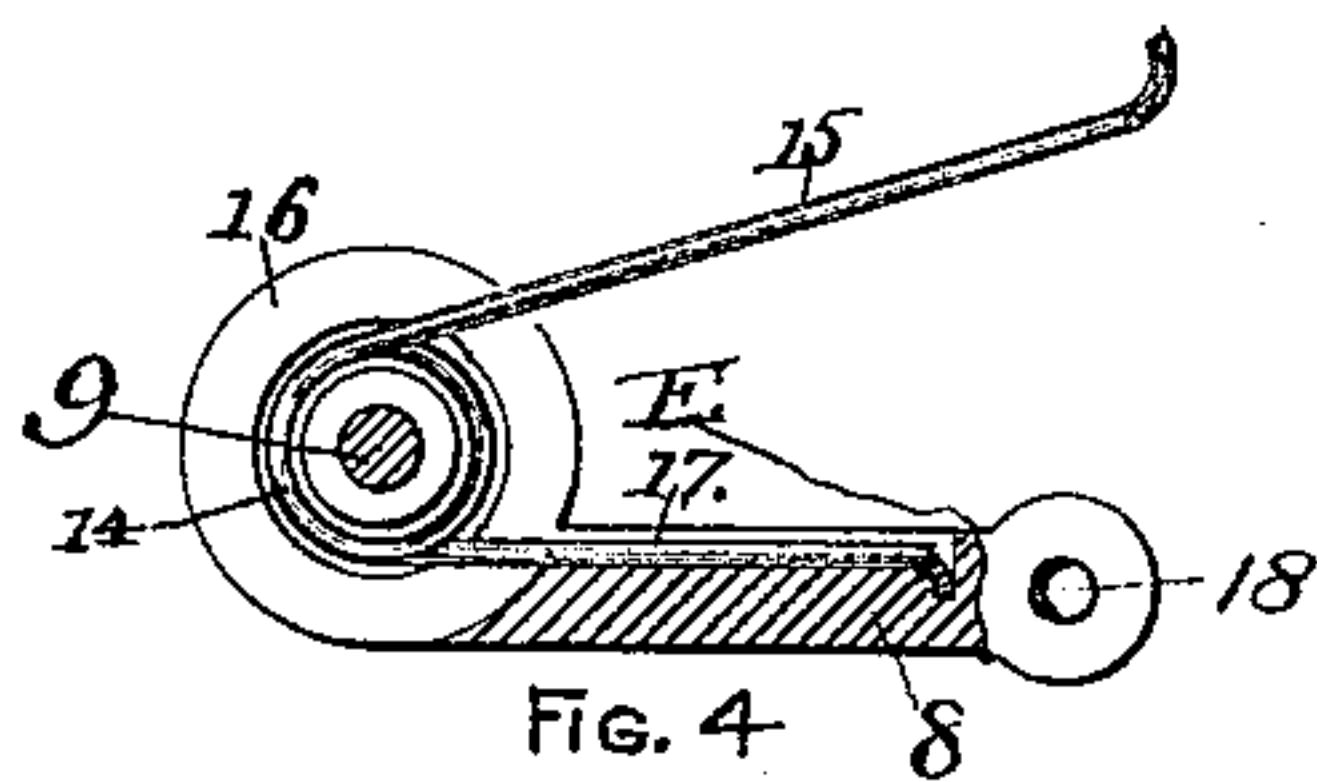
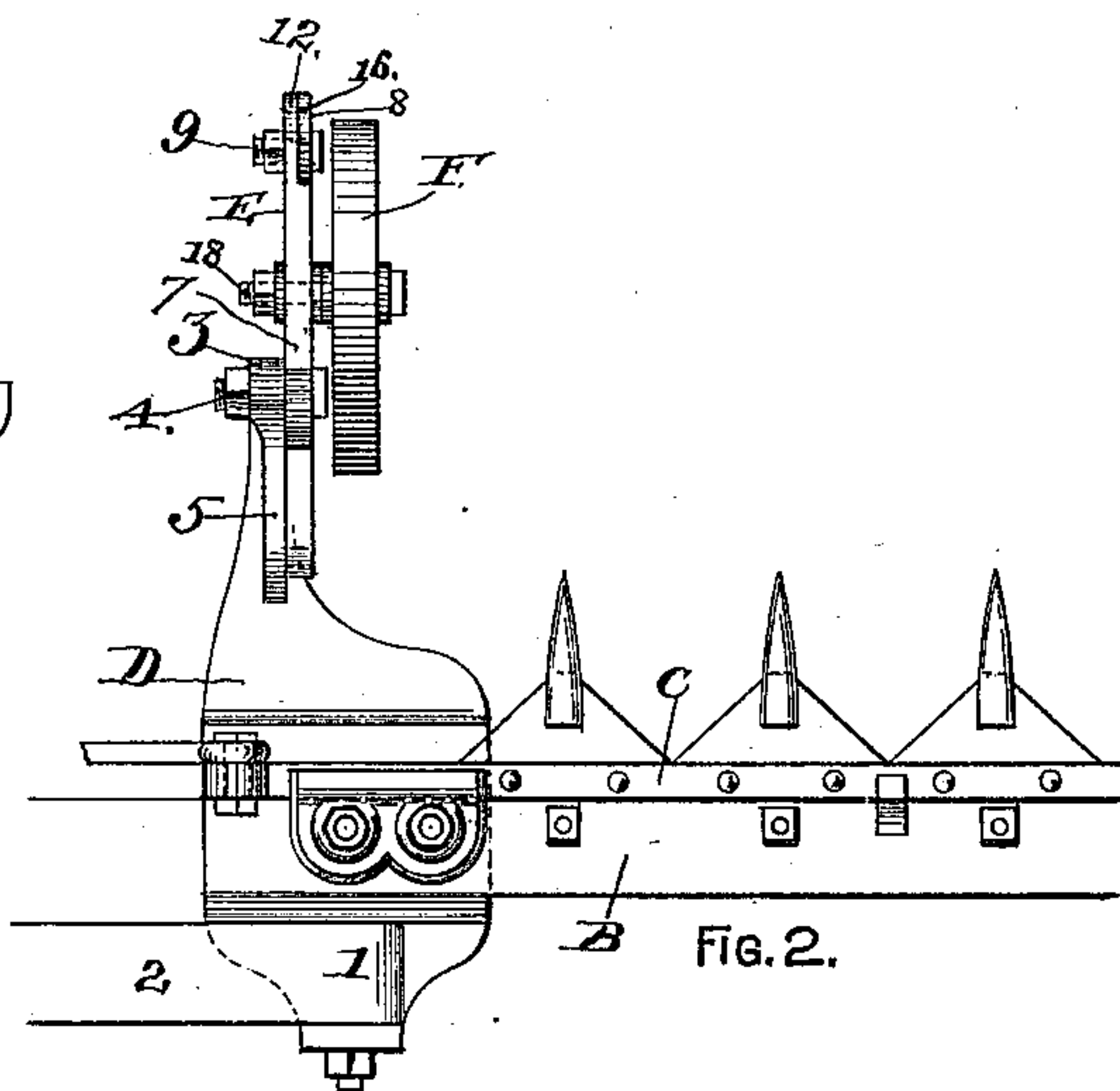
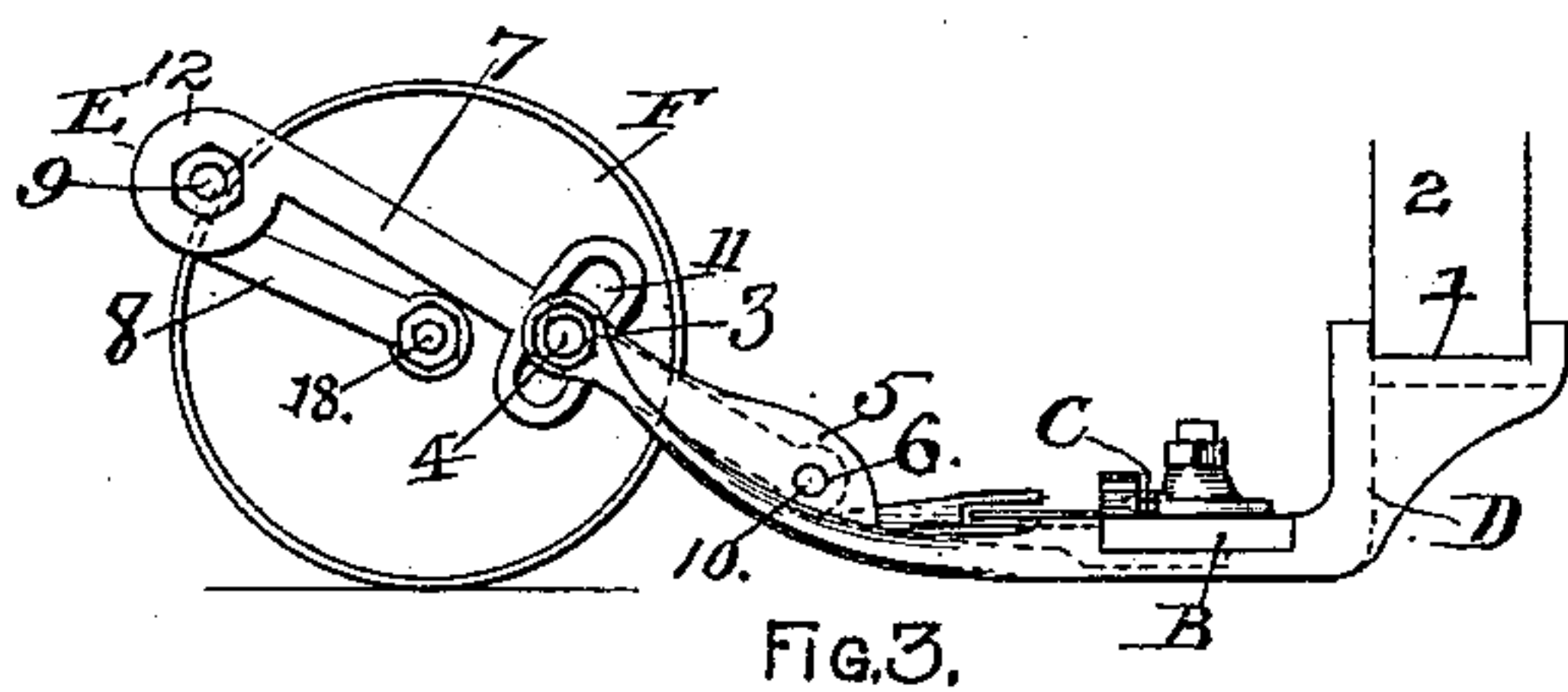
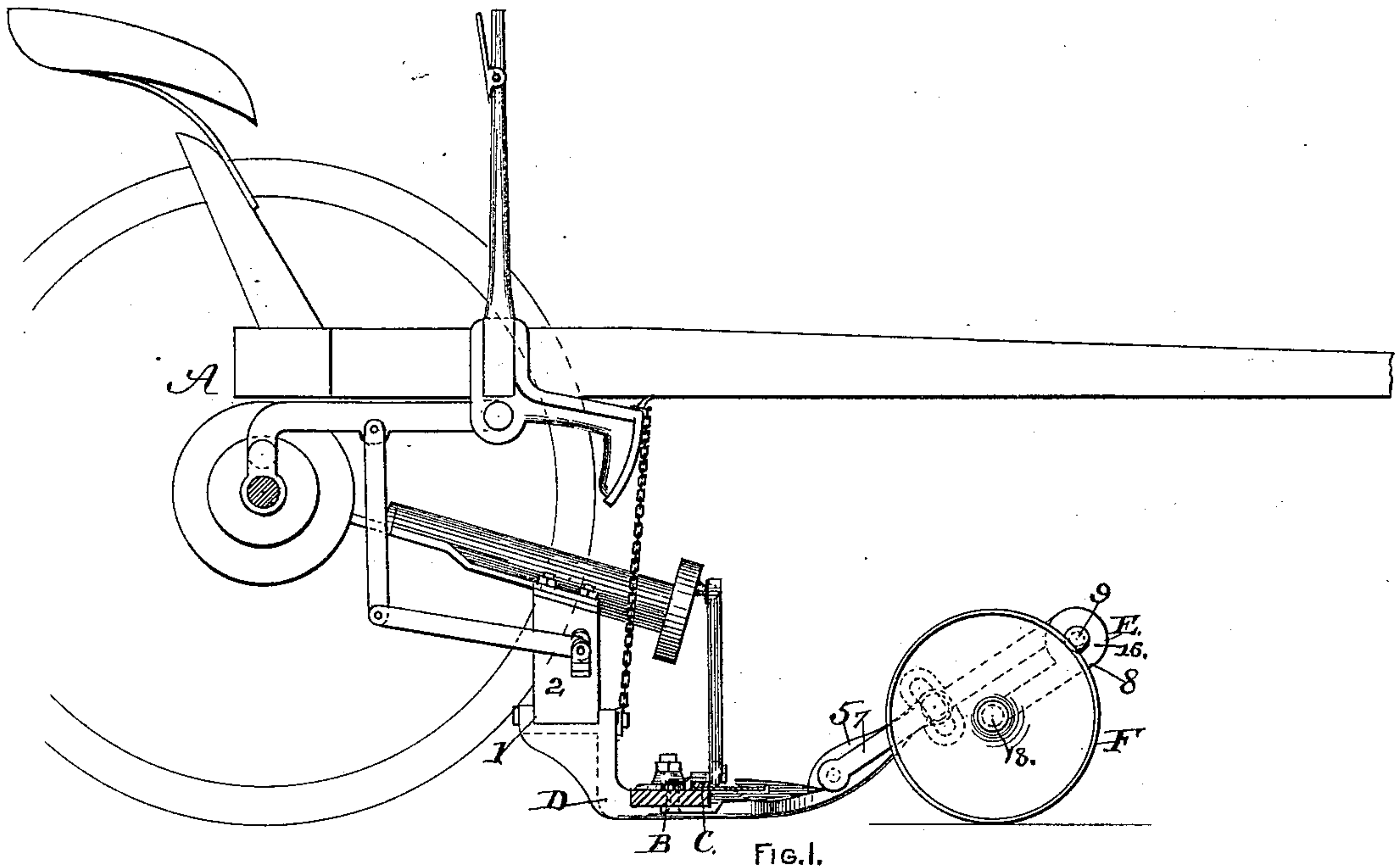


(No Model.)

C. LA GRANGE.  
MOWING MACHINE.

No. 403,679.

Patented May 21 1889.



WITNESSES:

*S. B. Brewer.*  
*J. H. Gibson*

INVENTOR:

CLINTON LAGRANGE

by

*William H. Low*  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

CLINTON LA GRANGE, OF GUILDERLAND CENTRE, NEW YORK.

## MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 403,679, dated May 21, 1889.

Application filed January 28, 1889. Serial No. 297,794. (No model.)

*To all whom it may concern:*

Be it known that I, CLINTON LA GRANGE, of Guilderland Centre, in the county of Albany and State of New York, have invented new and useful Improvements in Mowing-Machines, of which the following is a specification.

My invention relates to improvements in mowing-machines; and it consists in providing the carrying-wheel at the inner end of the finger-bar with a spring-supported bearing.

The object of my improvement is to relieve the machine from a jolting or jarring motion while it is passing over a field of stony ground or one having a broken and uneven surface.

In the accompanying drawings, which are herein referred to and form part of this specification, Figure 1 is a vertical section of a mowing-machine provided with my invention, some of the parts of said machine—being those that are not affected by my invention—being omitted from said figure. Fig. 2 is a plan view of the inner part of the finger-bar, main or inner shoe, and carrying-wheel. Fig. 3 is a side elevation of the inner shoe and carrying-wheel, showing the reversed side of said parts from that shown in Fig. 1; and Figs. 4, 5, and 6 are enlarged details (shown partially in section) of the spring-supported bearing for the carrying-wheel.

As represented in the drawings, A designates the frame-work of an ordinary mowing-machine of any preferred construction; B, the finger-bar, and C the cutter-bar, neither of which forms any part of my invention.

D is the main shoe, to which the inner end of the finger-bar B is secured, and which is hinged, as at 1, to an arm, 2, of the frame-work A. The forward projection of said shoe is curved upwardly, and has at its forward end an eye, 3, in which a binding-bolt, 4, is fitted. A standing flange, 5, extends rearwardly from said eye, and is provided with an opening, 6, for a purpose hereinafter explained.

E is the spring-bearing attachment for the carrying-wheel F. Said attachment consists of a stationary arm, 7, and a movable arm, 8, which is pivoted to said stationary arm by a center bolt, 9, so that said movable arm will be free to swing in a vertical plane. The stationary arm 7 is provided at its inner end with

a pivot-pin, 10, that is fitted to engage in the opening 6 in the shoe D, so as to always bring the inner end of said arm to the same place on said shoe and to afford a pivotal center on which said arm can be swung. Between the opposite ends of said arm a segmental opening, 11, is formed to a radius that is equal to the distance between the opening 6 and the bolt-hole in the eye 3 of the shoe D, said segmental opening being for the purpose of affording facilities for adjusting the outer end of the stationary arm 7 to different heights, as occasion may require. At the outer end of the stationary arm 7 a circular head, 12, is formed, and the flat face of said head is on a plane parallel to the sides of the arm. Said head is provided with a recess, 13, for containing a coiled spring, 14, one arm, 15, of which is retained in a groove in the edge of the arm 7. The movable arm 8 has on its outer end a head, 16, which forms a counterpart of the head 12 of the stationary arm 7. Said movable arm is grooved to receive an arm, 17, of the spring 14, and the inner end of said movable arm is provided with a stud, 18, which forms a bearing on which the carrying-wheel F is fitted to revolve.

The spring-bearing E is attached to the shoe D, so that the movable arm 8 will be lowest, and thereby the portion of the weight of the machine that is borne on the carrying-wheel F will tend to normally retain the two arms of said spring-bearing closely together, as shown in Fig. 3, and thereby more closely coiling the turns of the spring 14. Then, when the machine is passing over a rough and uneven portion of a field, if the shoe D encounters a stone or other obstruction, whereby said shoe will be thrown suddenly upward to raise the finger-bar, the resilience of the spring 14 will maintain the carrying-wheel F on the ground, and will assist the finger-bar in rising to pass over the obstacle, and then permit the machine to settle down gradually to its bearing on said wheel without shock.

The spring 14 should be made of sufficient strength to suit the weight of the machine on which my device is used, the essential feature required being to proportion the spring so that when the machine is thrown upward by a sudden jolt the resilience of said spring will

allow the machine to settle down easily to its place.

I claim as my invention—

In a mowing-machine, the combination of  
5 the finger-bar, the main shoe for said finger-  
bar, a carrying-wheel for said main shoe, and  
a spring-bearing for said carrying-wheel, said  
spring-bearing consisting of a stationary up-  
per arm which is adjustably attached to said  
10 main shoe, a movable lower arm which is

jointed to the outer end of said stationary arm,  
and a spring interposed between said arms to  
force them apart, the inner end of said mov-  
able arm being provided with a stud on which  
said carrying-wheel is fitted to rotate, as and 15  
for the purpose herein specified.

CLINTON LA GRANGE.

Witnesses:

WM. H. LOW,  
S. B. BREWER.