

No. 723,397.

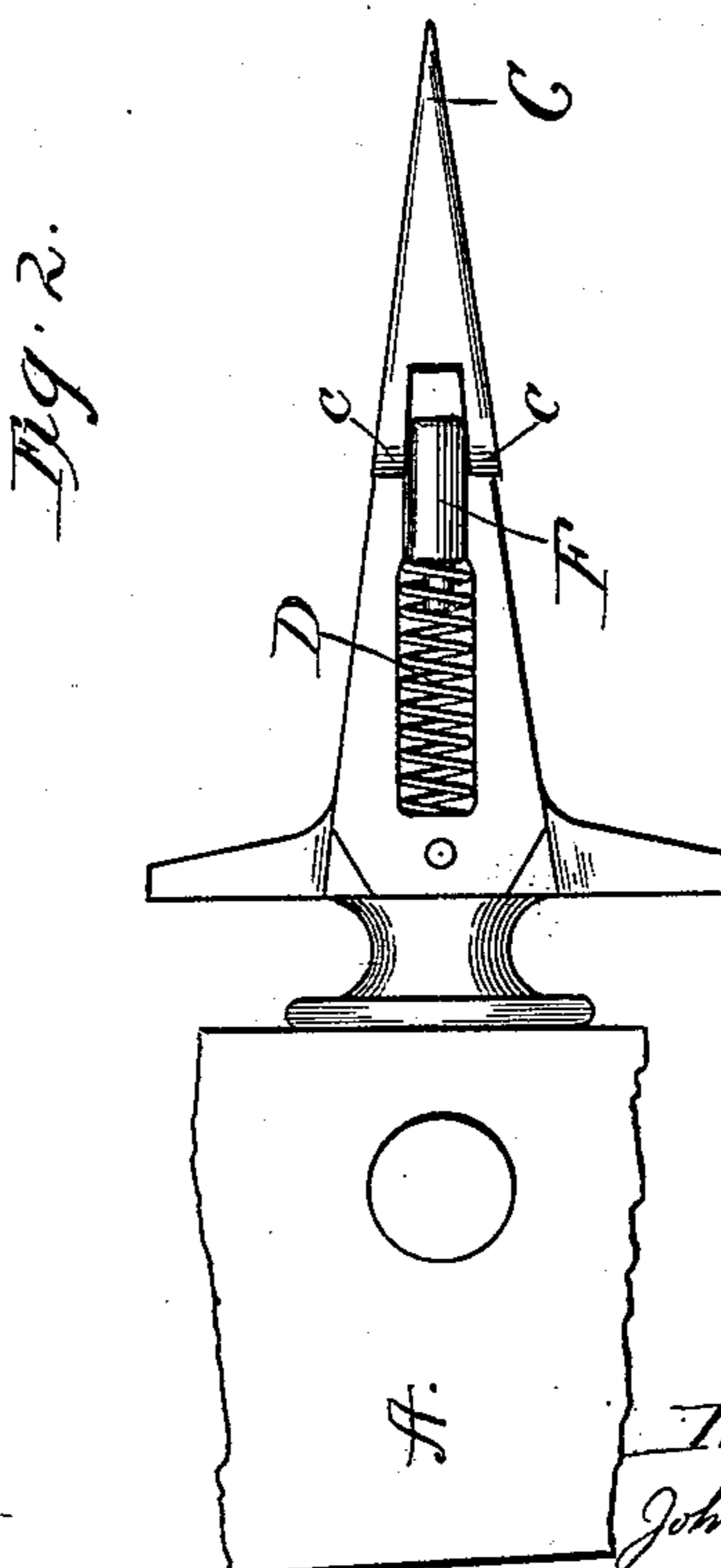
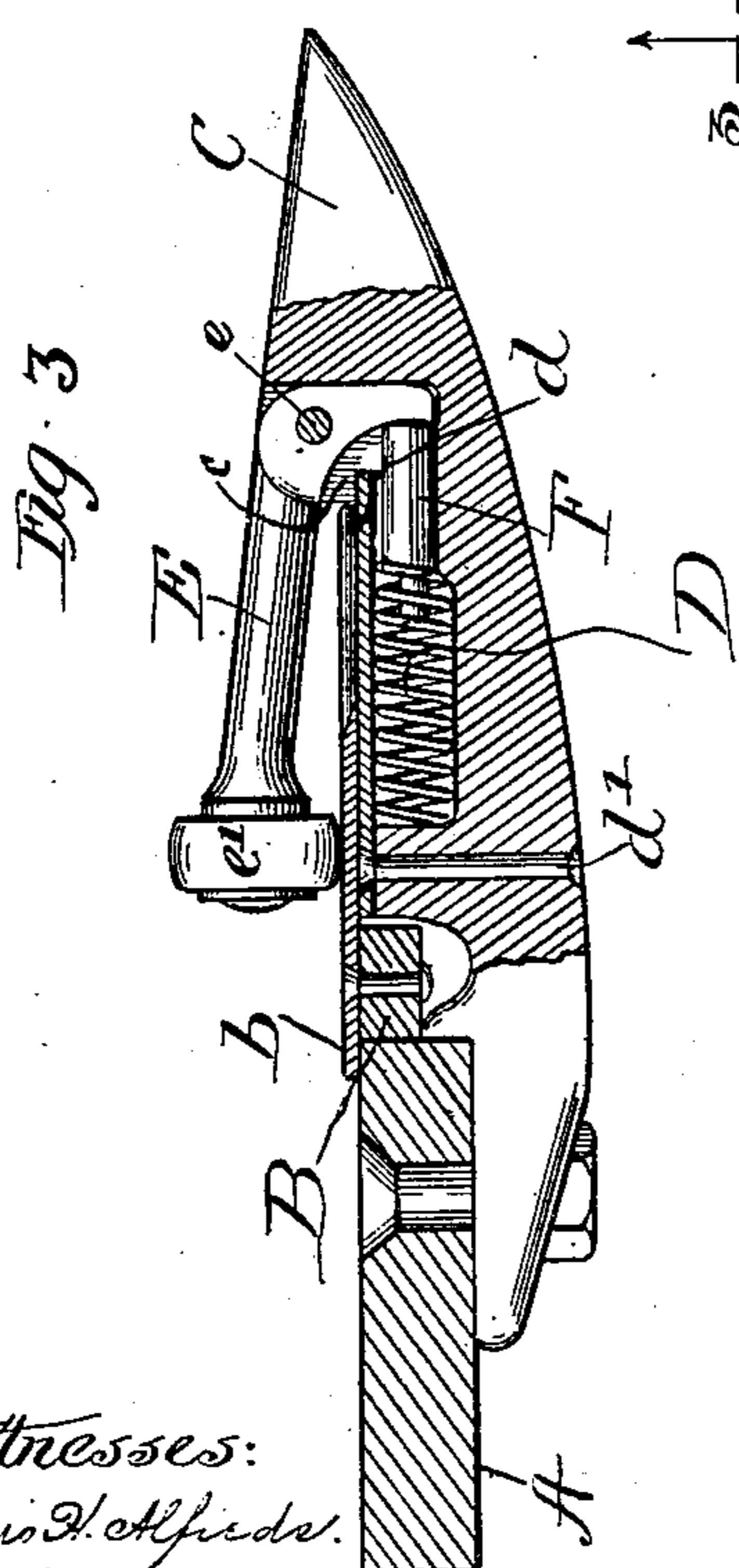
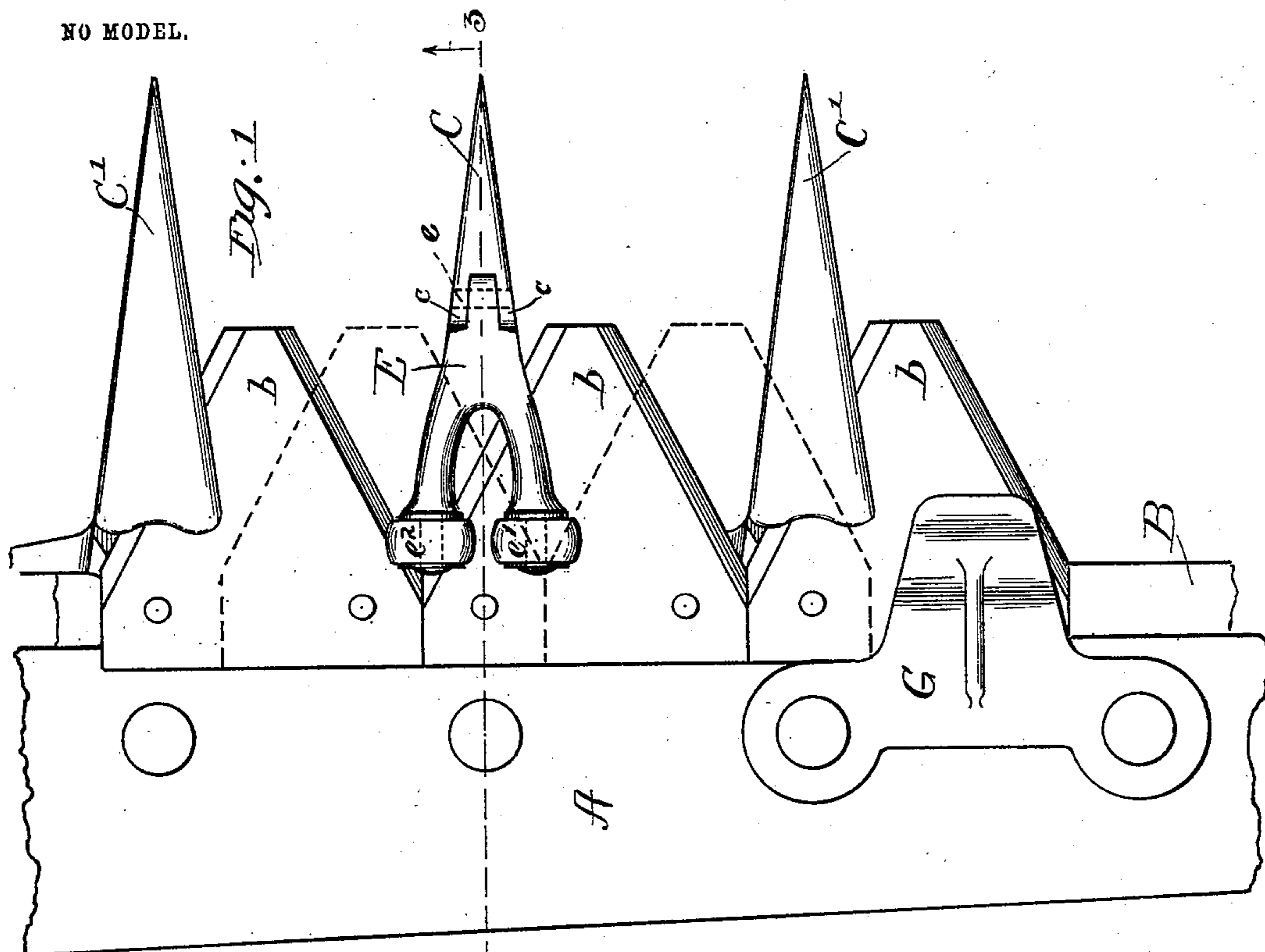
PATENTED MAR. 24, 1903.

J. W. LATIMER.

# CUTTING DEVICE FOR MOWING MACHINES.

APPLICATION FILED JAN. 2, 1903.

NO MODEL.



Witnesses:  
 Thos. H. Alfieds.  
 J. C. Warnes.

Inventor.  
John W. Latimer

# UNITED STATES PATENT OFFICE.

JOHN W. LATIMER, OF CHICAGO, ILLINOIS.

## CUTTING DEVICE FOR MOWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 723,397, dated March 24, 1903.

Application filed January 2, 1903. Serial No. 137,455. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. LATIMER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cutting Devices for Mowing-Machines, of which the following is a complete specification.

This invention relates to the cutting mechanism of mowing-machines, the end in view being to provide improved means for holding the reciprocating knives in constant contact with the fingers or ledger-plates thereof with any desired degree of pressure, thus making the knife-sections self-sharpening in effect and resulting in a clean shear cut. I also secure simplicity of construction and compactness in design by inclosing the spring and one arm of the lever, which it actuates, within the body of the guard, thus avoiding obstructions in the rear of the cutting-knives. Undue friction is avoided by antifriction-rollers. The pressure of the roller-bearing arm upon the sections of the reciprocating knives is constant and at a point sufficiently forward to be effective.

In the drawings, Figure 1 is a fragmentary plan of the cutting apparatus of a mower, the central finger shown therein embodying my improvement. Fig. 2 is plan of the central finger described with the roller-bearing lever and the ledger-plate removed, and Fig. 3 is a partial section on the line 3 3 of Fig. 1.

Referring to the drawings, A represents the finger-bar of a mower, B the cutter-bar, and b the sections secured thereto. C' represents the guards or fingers secured to the said finger-bar A and are of the ordinary type usually used on mowers.

C is a modified form of finger embodying my improvement. Instead of having the rearwardly-extending lip immediately above the sections of the cutter-bar the finger is provided with the shoulders c c, substantially in line with the points of the said reciprocating knives. The finger is also provided with a recess or chamber beneath the ledger-plate d, adapted to receive the coil-spring D. This is, however, by preference, as it is to be understood that the coil-spring is placed within the body of the guard as a matter of convenience and design. Its function evidently would remain the same were it

above or without the body of the said finger and a flat spring could be substituted for the said coil-spring D. The ledger-plate d is secured to the finger by the rivet d' at its rearward end and forwardly by the recess at the base of the shoulders c c. E is a bell-crank lever journaled between the said shoulders c c by a pin e. This bell-crank lever is actuated by the spring D, which bears against the short arm, extending downwardly from the pivotal bearing thereof. A plunger F is preferably interposed between the end of said short arm and the spring D, so that the forward end of the spring-chamber can be reduced in size, thus better enabling the said spring-chamber to be formed in the body of a finger of normal size. The horizontally-extending arm of the bell-crank lever E is preferably bifurcated and provided on its free end with the antifriction-rollers e' and e<sup>2</sup>. These antifriction-rollers e' and e<sup>2</sup> are adapted to contact the upper surface of the reciprocating knives, and when they are subjected to a downward pressure the effect will be to cause them to hold the said reciprocating knives in contact with the wearing-surface of the fingers. The plunger F, inclosed with the spring D within the recess beneath the ledger-plate, is so guided by the walls of the recess that its forward end will be held in contact by the pressure of the said spring with the lower end of the downwardly-extending arm of the bell-crank lever E. The spring D thus acting through the plunger F and the bell-crank lever E will exert a downward pressure upon the antifriction-rollers e' and e<sup>2</sup>, as is clearly shown in Fig. 3. The amount of this downward pressure will of course be determined by the strength of the said spring D, and should be sufficient to hold the knife-sections in constant contact with the cooperating surface of the fingers when in operation. The bell-crank lever being constructed with its horizontal arm bifurcated and receiving two rollers instead of one thus brings the contact-points of the rollers and sections some distance laterally from the central line of the fingers. This offset or lateral securing of the rollers is sufficient to insure by their joint operation a continuous contact with the upper surface of the knife-sections and in this way prevent the rollers from dropping be-

tween adjacent sections when they are made to reciprocate under the said rollers. This is clearly indicated in Fig. 1, where the inner roller  $e^2$  is shown above the space between two sections and the outer roller  $e'$  alone contacts the section. In this figure the sections in moving to the position indicated by the dotted lines will cause the outer roller  $e'$  to cease contact and the inner roller  $e^2$  to again engage, thus preventing vibration of the arm E and also insuring a continuous contact and pressure between the said arm E and the reciprocating knives. G is the usual clip for guiding and holding down the rear portion of the cutter-bar. As many of these fingers C, provided with spring-held rollers, may be secured to the finger-bar as are found necessary to hold the said reciprocating knives in contact with the cooperating elements with the desired degree of pressure.

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

1. In a mowing and harvesting machine, the combination of the finger-bar, fingers secured thereto, reciprocating knives, and a spring-actuated bell-crank lever pivotally secured to said fingers and adapted to hold the reciprocating knives in yielding contact with the said fingers, substantially as described.
2. In a mowing and harvesting machine, the combination of the finger-bar, fingers secured thereto, reciprocating knives, and a spring-actuated bell-crank lever pivotally connected to one of said fingers at a point in advance of the reciprocating knives, one arm of the said lever extending rearwardly and adapted to hold in yielding contact the said reciprocating knives with the said fingers, substantially as described.

3. In a mowing and harvesting machine, the combination of the finger-bar, fingers secured thereto, reciprocating knives, a spring inclosed in the body of one of said fingers, a bell-crank lever pivotally secured to such finger, actuated by said spring and adapted to hold the reciprocating knives in proper position relative to said fingers, substantially as described.

4. In a mowing and harvesting machine, the combination of the finger-bar, fingers secured thereto, reciprocating knives, a spring inclosed in the body of one of said fingers, a bell-crank lever pivotally secured to such finger and actuated by said spring, the free end of the horizontally-extending arm of the said bell-crank lever being provided with an antifriction device which bears against the said reciprocating knives and holds them in the proper position relative to the said fingers, substantially as described.

5. In a mowing and harvesting machine, the combination of the finger-bar, fingers secured thereto, reciprocating knives, a spring inclosed in the body of one of said fingers, a bell-crank lever pivotally secured to such finger and actuated by said spring, the free end of the said horizontally-extending arm of the said bell-crank lever being bifurcated and provided with two antifriction-rollers contacting the reciprocating knives at positions laterally disposed relative to the center line of the finger and adapted to hold the said reciprocating knives against the said fingers, substantially as described.

JOHN W. LATIMER.

In presence of—

T. H. ALFREDS,  
J. C. WARNER.