

No. 843,470.

PATENTED FEB. 5, 1907.

C. A. LINDEMAN.

HARP ACTION.

APPLICATION FILED APR. 25, 1906.

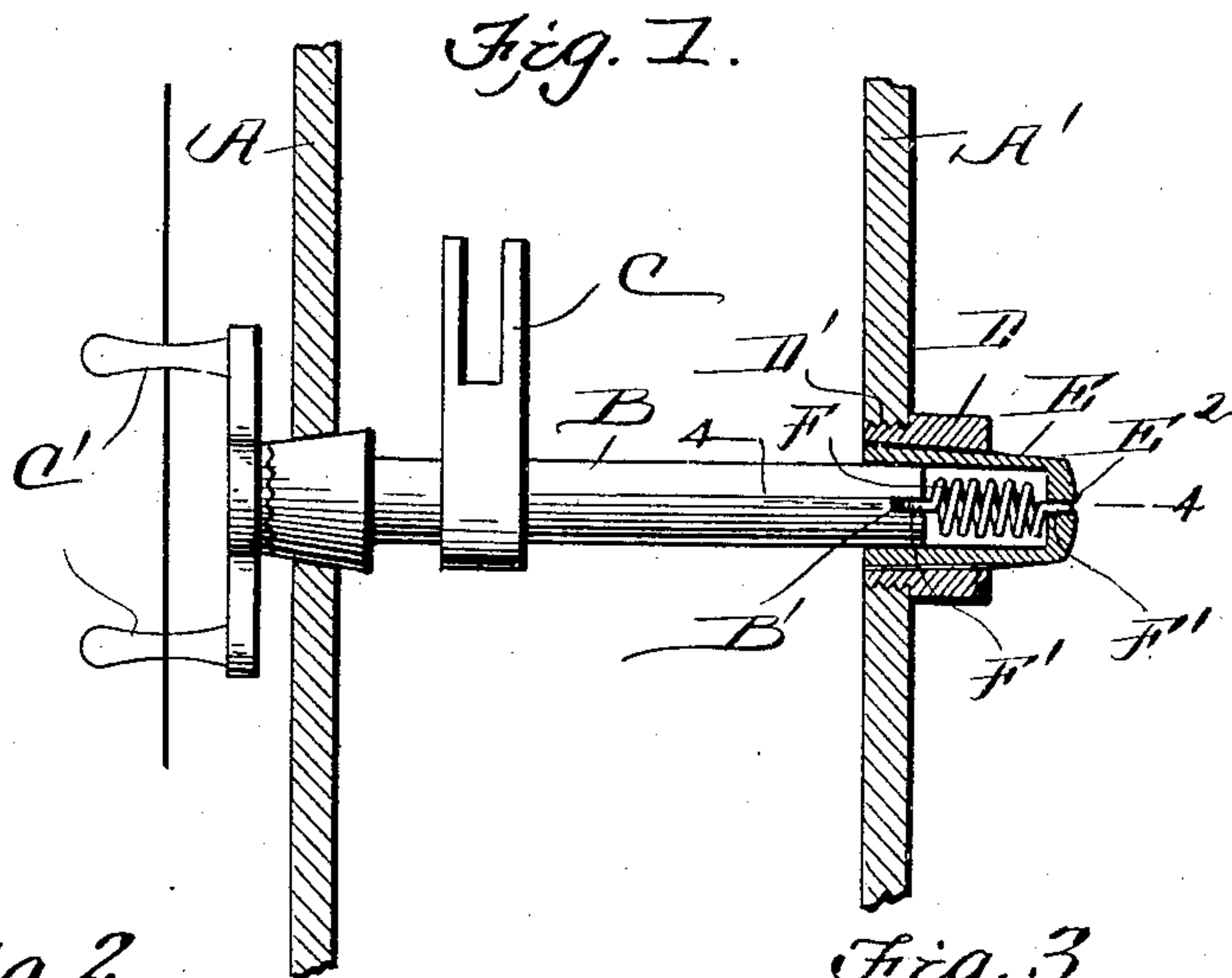


Fig. 2

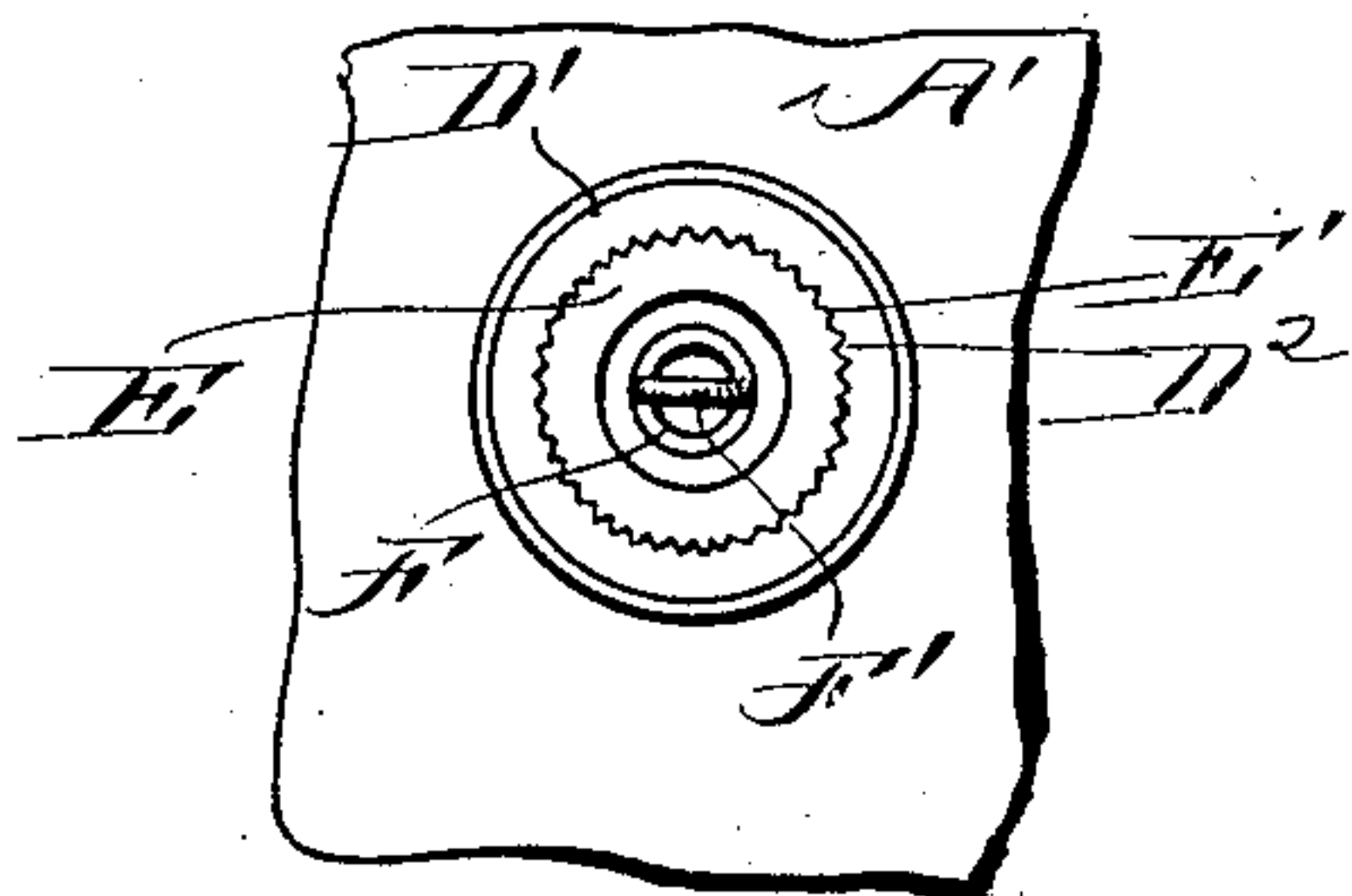


Fig. 3

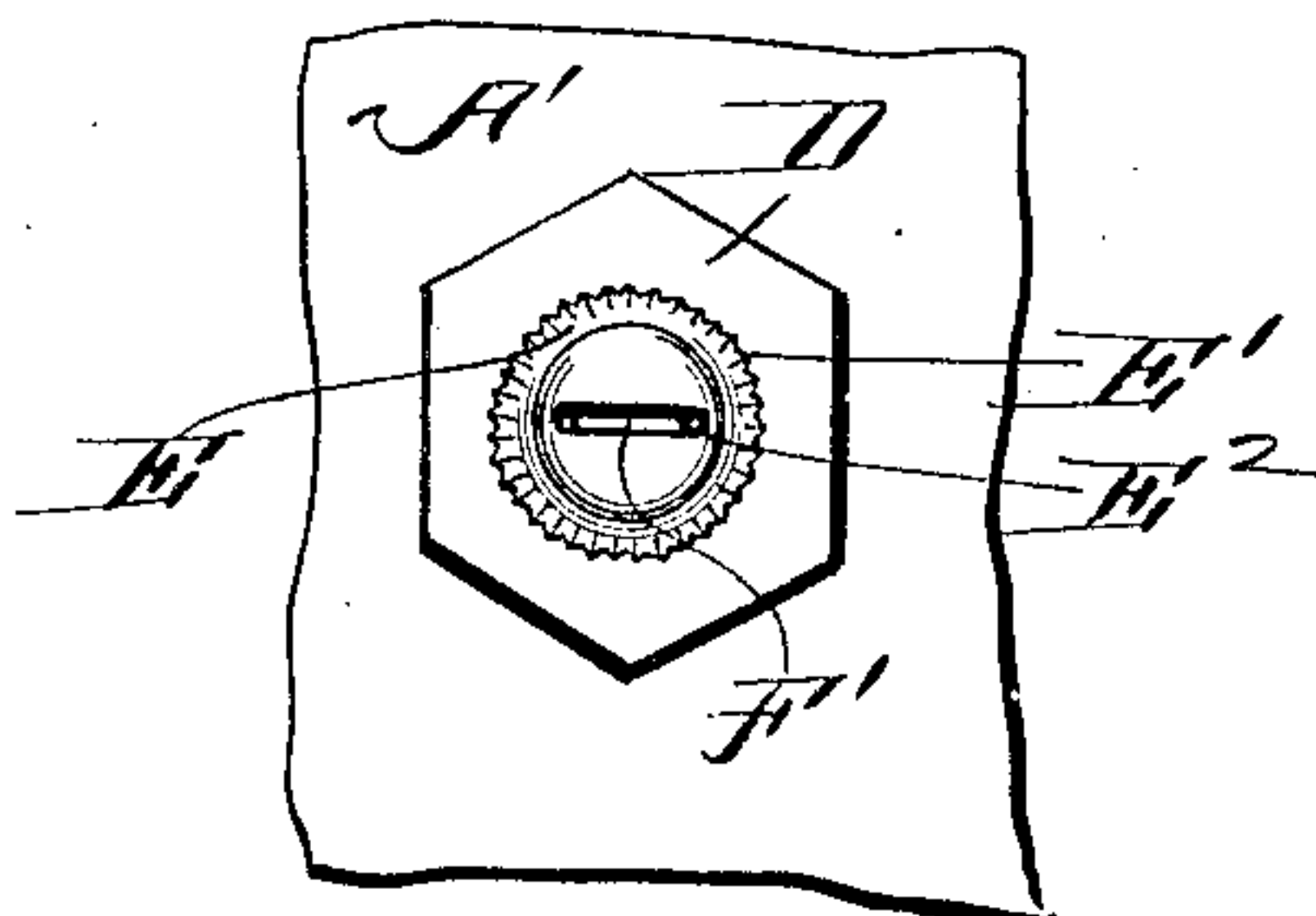


Fig. 4.

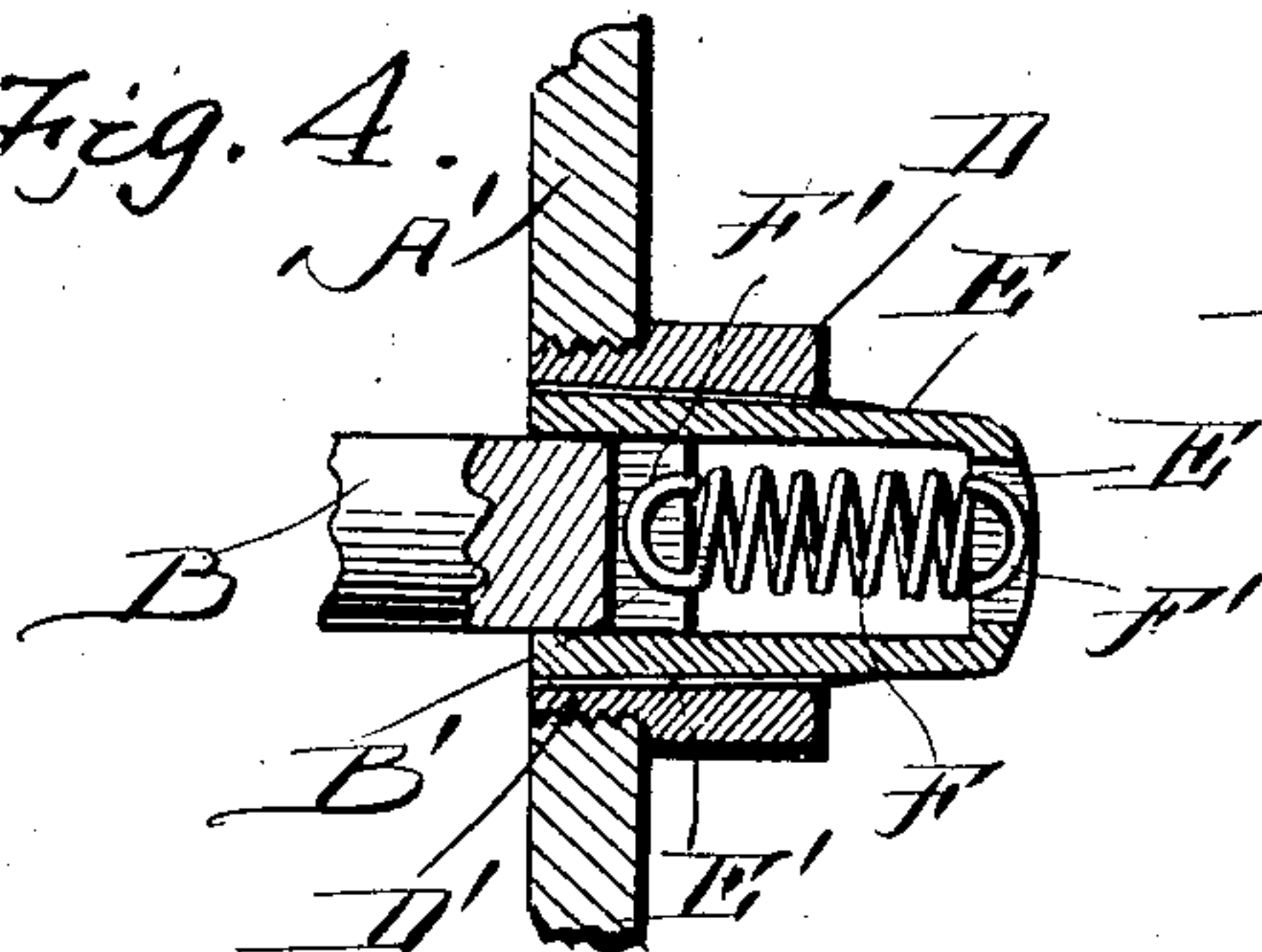


Fig. 5

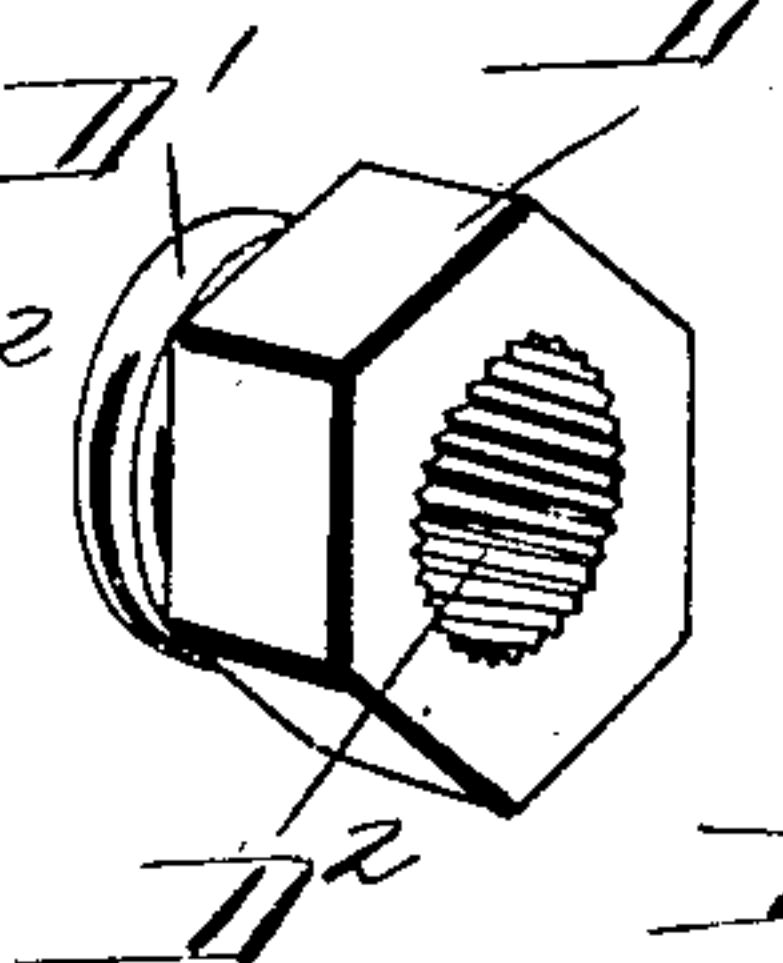
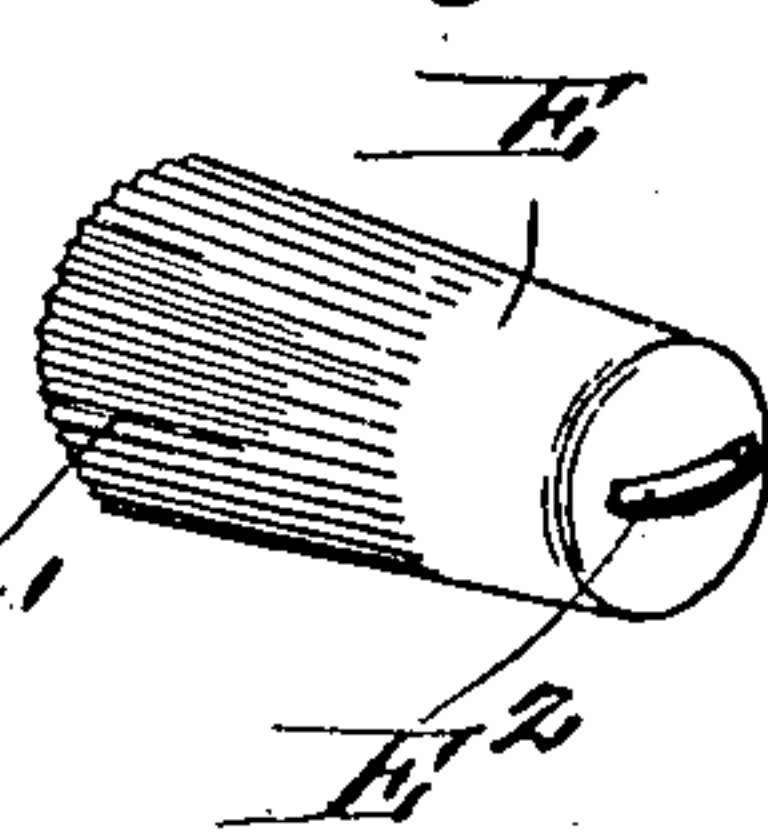


Fig. 6.



WITNESSES:

E. B. McBeth
Res. O. Albright.

INVENTOR

C. A. Lindeman

BY

O'Leary & Brock
ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES A. LINDEMAN, OF CHICAGO, ILLINOIS.

HARP-ACTION.

No. 843,470.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed April 25, 1906. Serial No. 313,669.

To all whom it may concern:

Be it known that I, CHARLES A. LINDEMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Harp-Actions, of which the following is a specification.

This invention relates to an attachment for harp-actions; and the object of the invention is to provide means for holding the spindles tightly against the front plate, thereby avoiding any rattling when the strings are vibrated.

The invention consists of the novel features hereinafter fully described, pointed out in the claims, and shown in the accompanying drawings, in which—

Figure 1 is a detail sectional view through a part of the front and back action-plates of a harp, showing my attachment in place. Fig. 2 is a view of the inner face of the back action-plate, showing my attachment in position. Fig. 3 is a similar view of the opposite side of the back action-plate. Fig. 4 is a section on the line 4-4 of Fig. 1. Fig. 5 is a perspective view of the nut. Fig. 6 is a perspective view of a knurled nut adapted to fit within the nut shown in Fig. 5.

In these drawings, A and A' represent, respectively, front and back action-plates of a harp.

B is a spindle slotted at its rear end, as shown at B'. This spindle carries the usual mandrel C and also the sharpening and flattening regulator C'. The tubular butt D has an exteriorly-threaded portion D', which is threaded into a suitable opening in the back plate A', and the nut D is interiorly and longitudinally fluted, as shown at D². A slightly conical sleeve E has a knurled portion E', adapted to fit within the tubular nut D, the smaller and outer end of the sleeve E being closed and diametrically slotted, as shown at E². The slotted end portion of the spindle B projects within the sleeve E, and within the sleeve is arranged a coil-spring F, which has its end portions bent semicircularly and transversely with respect to the body portion of the spring, as shown at F'. One of these end portions F' of the spring F fits

within the slot E² of the sleeve E, while the other end portion F' is secured in the slot B' of the spindle B. The action of this spring is to hold this spindle tightly against the plate A, and the pressure of the spring can be adjusted by simply adjusting the position of the sleeve E within the nut D, so that by means of my attachment adjustment of the spring F and of the pressure of the spindle B upon the action-plate A can be regulated without in any way disturbing the regulator C'.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a harp-action the combination with a spindle, and an action-plate, of a nut threaded into said action-plate, said nut being tubular, a sleeve adjustably secured within the nut, an end of the spindle resting in said sleeve and a spring arranged within the sleeve and bearing at one end upon the end of the sleeve and at its opposite end upon the end of the spindle.

2. In a harp-action the combination with a spindle, an action-plate, of a sleeve adjustably secured in said action-plate and open at one end, the said sleeve being slotted at its outer end, the said spindle being slotted at one end and the slotted end of the spindle resting in the sleeve and a spring arranged in said sleeve and having one end secured in the slot of the sleeve and the other end in the slot of the spindle.

3. A device of the kind described comprising an action-plate, a tubular nut threaded into said action-plate, said nut being interiorly and longitudinally fluted, a conical knurled sleeve fitting within the said nut and projecting outwardly therefrom, said sleeve being adjustable within the nut, a slotted spindle projecting within the sleeve, and a spring bearing at one end upon an end of the sleeve and having its other end secured in the slot of the spindle, as and for the purpose set forth.

CHARLES A. LINDEMAN.

Witnesses:

ARNOLD J. HAMROCK,
JOE ZIDOREK.