

(No Model.)

G. A. BRACHHAUSEN.
WINDING MECHANISM.

No. 538,033.

Patented Apr. 23, 1895.

Fig. 1.

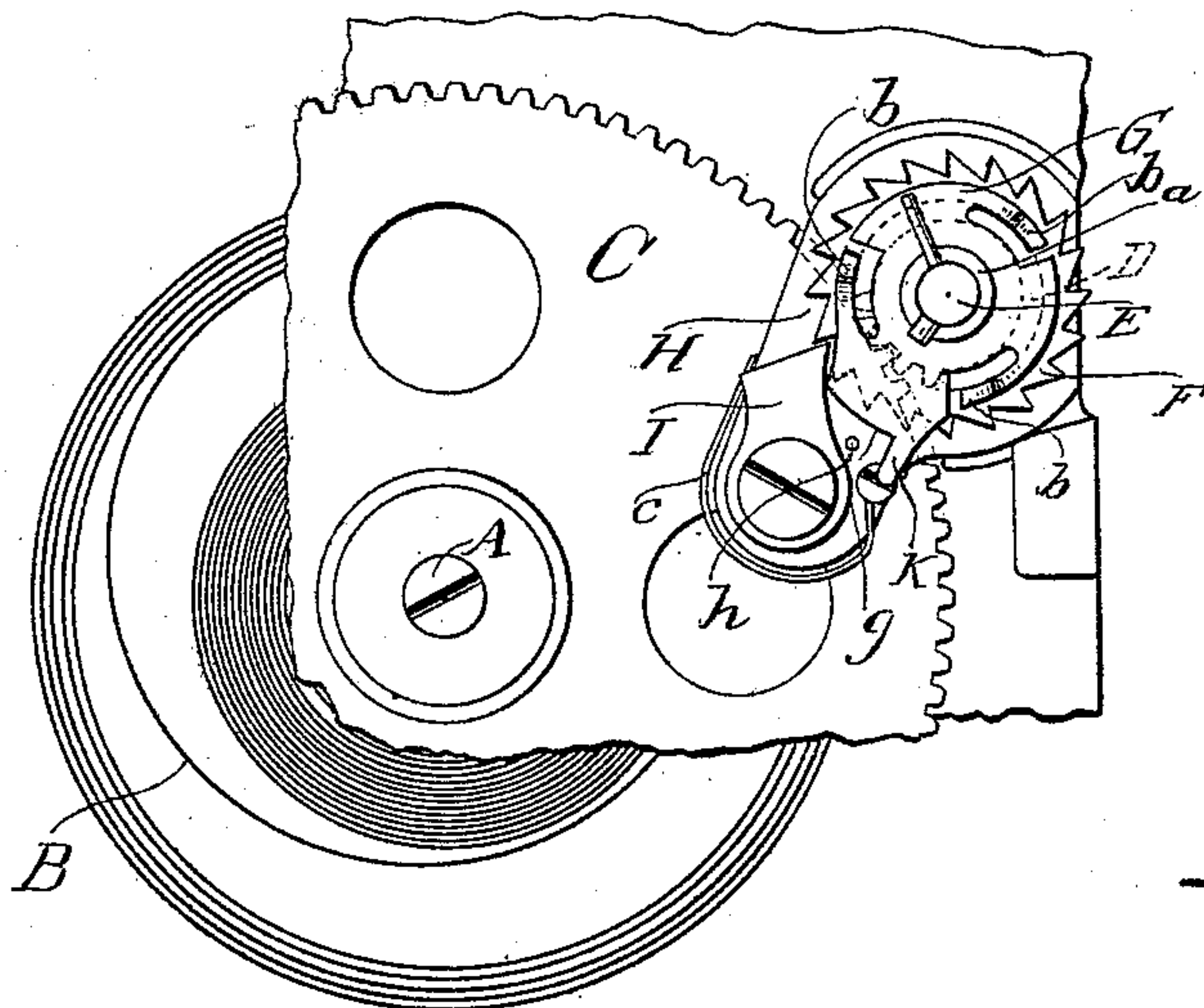
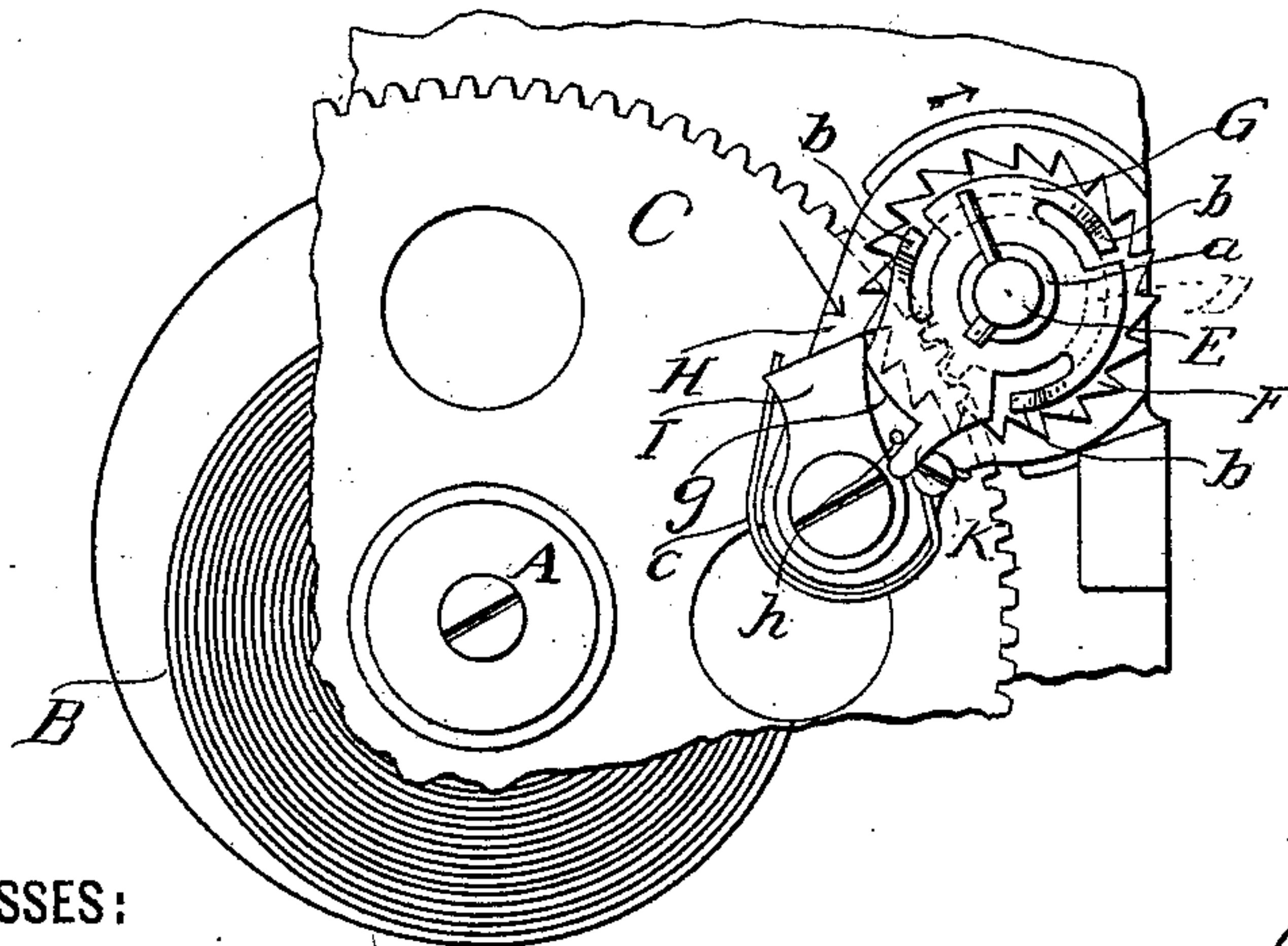


Fig. 3.

Fig. 2.



WITNESSES:

Edmund A. Shouse,
Geo. C. Morse,

INVENTOR

Gustav A. Brachhausen,

BY

Brisson & Smith

ATTORNEYS

UNITED STATES PATENT OFFICE.

GUSTAV A. BRACHHAUSEN, OF HOBOKEN, NEW JERSEY.

WINDING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 538,033, dated April 23, 1895.

Application filed October 17, 1894. Serial No. 526,172. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV A. BRACHHAUSEN, a resident of Hoboken, Hudson county, New Jersey, have invented an Improved Winding Mechanism, of which the following is a specification.

My invention relates to winding mechanism for use in music-boxes, watches, clocks and in all situations where winding mechanism is employed, and consists in the construction hereinafter set forth and claimed.

The object of my invention is to produce a winding mechanism which will operate noiselessly. I attain this object by the detent mechanism illustrated in the accompanying drawings, showing one form of my invention, in which—

Figure 1 is a face view of a winding mechanism with a stop ratchet engaged by a securing dog. Fig. 2 is a similar view showing the dog disengaged from the ratchet and some of the parts in a slightly different position; and Fig. 3 is a detail edge view of the friction plate hereinafter referred to.

In the drawings, A is the arbor of a suitable spring barrel containing a spring B.

C is a gear mounted on the arbor A and meshing with a pinion D (shown in dotted lines) mounted on the winding arbor E. The winding arbor E has a squared end or other means for engagement with a crank or key for turning it. Mounted upon the winding arbor E is a stop-ratchet F with which engages a pivoted dog I which serves to hold the ratchet from backward movement, thus forming a two part detent mechanism. This dog I is held in engagement with the ratchet F by a spring c or other suitable means.

G is a friction plate or washer hung upon the arbor E and bearing against the face of the ratchet F, being held against said face by a disk a on the arbor E, or by other suitable means. This friction plate G has a tongue or tongues b cut from its body and bent away from the plane of the plate to bear against the ratchet and frictionally bind the plate and ratchet together. I have shown this as one form of friction device in connection with my improved detent mechanism, but it is obvious that I may use any form of friction device that will serve the purpose.

The friction plate G is provided with a pro-

jecting shoulder g which extends below the face of the ratchet and is adapted to contact with the dog I to disengage the dog from the ratchet. Projecting also from the friction plate is an arm K which contacts with a fixed stop h mounted on the plate H secured to the movement.

The operation of my detent device is as follows: The mechanism being in the position of Fig. 1, a key or crank is engaged with the squared end of the arbor E and turned in the direction of the arrow, turning with it the ratchet F and pinion D, and thus turning the spring barrel and winding the spring. As the ratchet begins to rotate, the friction plate moves with it and the shoulder g contacts with the dog I and lifts its nose clear of the ratchet F, the arm K coming into contact with the stop h, thus limiting the movement of the friction plate. This is the position of Fig. 2. During the rotation of the arbor and ratchet the friction between the plate G and ratchet F serves to keep the parts in the position of Fig. 2.

When the spring has been wound to the desired tightness the key or crank is disengaged from the winding arbor, and the tension of the spring barrel B serves to give the winding arbor and ratchet a movement in the direction reverse to the arrow. It will be seen that as soon as the ratchet begins this reverse movement, it will carry with it the friction plate and disengaging the shoulder g from the ratchet permits the spring c to re-engage the dog I with the ratchet and hold the ratchet from further reverse movement.

While I have shown and described a specific mechanism, I do not limit myself to the mechanism herein shown, nor to the precise form or relation of parts, as the device may be greatly varied without departing from the spirit of my invention.

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

1. In a winding mechanism, the combination of a winding arbor, detent mechanism connected thereto, and a friction device engaging said detent mechanism and arranged to throw the same out of engagement, substantially as described.

2. The combination with a winding mechanism, of a two part detent mechanism there-

for, and a friction device arranged to disengage one of the parts of the detent mechanism from the other, substantially as described.

5 3. In a winding mechanism, the combination of an arbor, a ratchet mounted thereon, a dog for engaging said ratchet, a friction device bearing on said ratchet and engaging said dog to throw the same out of engagement with the ratchet, substantially as described.

10 4. In a winding mechanism, the combination of an arbor, a ratchet mounted thereon, a dog for engaging said ratchet, a friction plate hung on the arbor bearing on the ratchet, and having a shoulder for engaging the dog to
15 throw the same out of engagement with the ratchet, substantially as described.

5. In a winding mechanism, the combina-

tion of a winding arbor, detent mechanism connected thereto, and a friction device engaging said detent mechanism arranged to 20 throw the same out of engagement, and means for restoring the parts to their initial position, substantially as described.

6. The combination with a winding mechanism, of a two part detent mechanism there- 25 for, a friction device arranged to disengage one of the parts of the detent mechanism from the other, and a spring for reengaging the parts, substantially as described.

GUSTAV A. BRACHHAUSEN.

Witnesses:

HARRY M. TURK,
GEORGE E. MORSE.