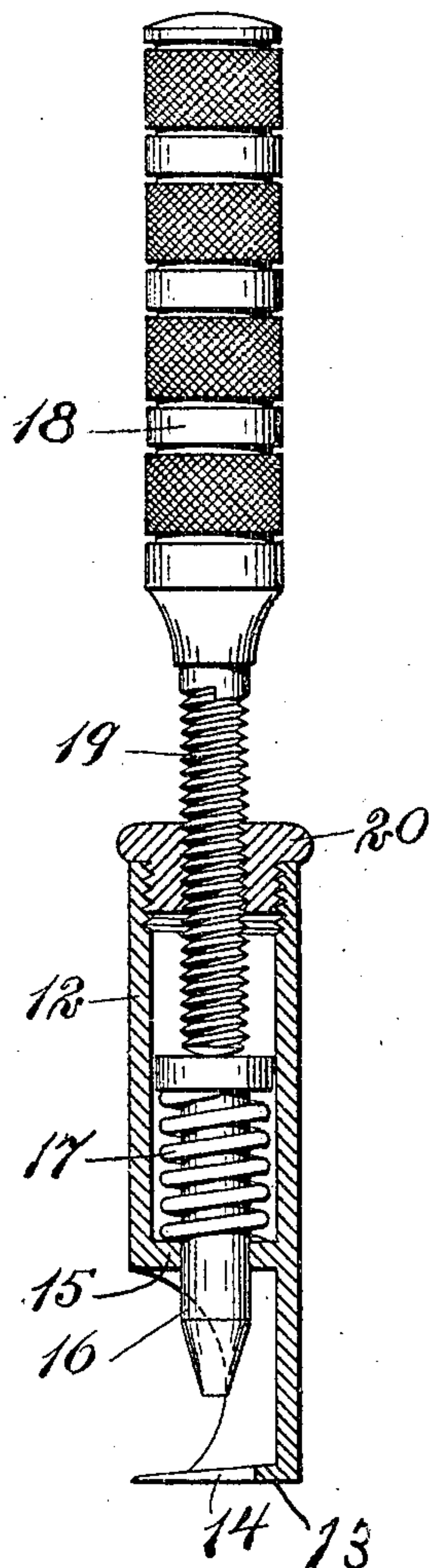


No. 837,577.

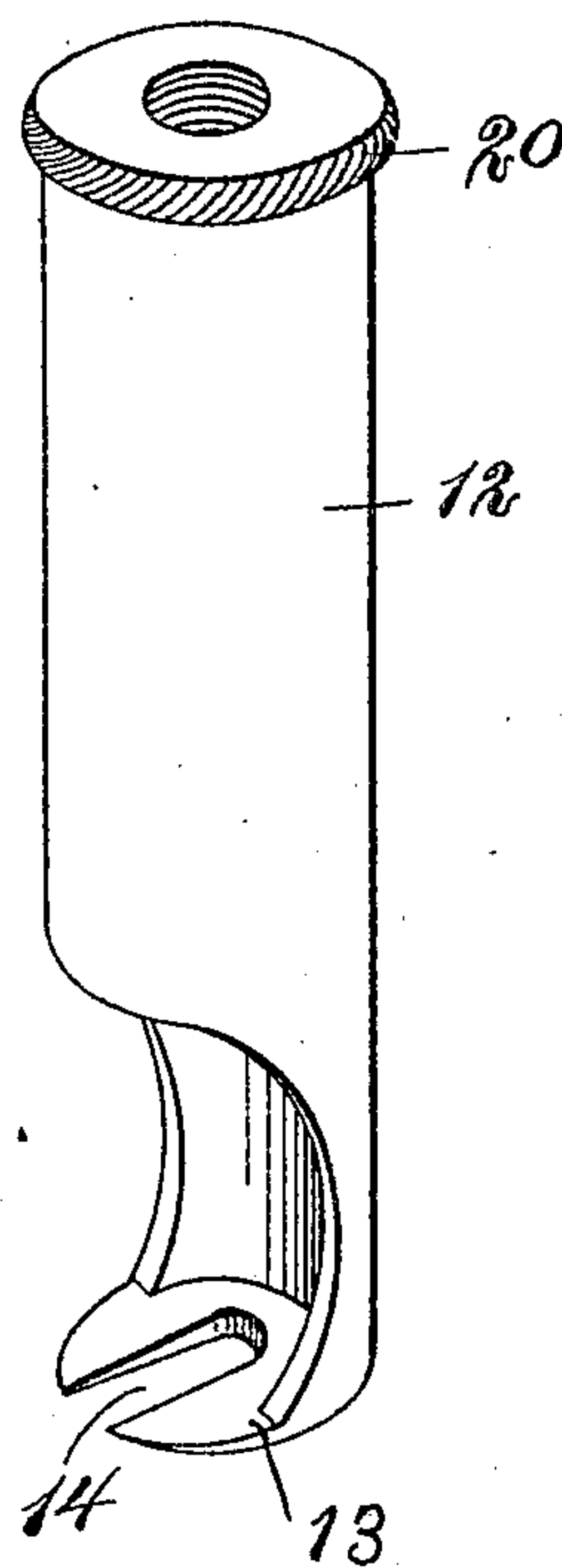
PATENTED DEC. 4, 1906.

W. N. LOUD.  
WATCH ROLLER REMOVER.  
APPLICATION FILED MAY 21, 1906.

*Fig. 1*



*Fig. 2*



*Witnesses:*  
B. W. Glover.  
E. Batchelder

*Inventor.*  
W. N. Loud  
by  
Wright Brown Quincy May  
Attorneys

# UNITED STATES PATENT OFFICE.

WILLIAM N. LOUD, OF QUINCY, MASSACHUSETTS, ASSIGNOR TO KENDRICK  
AND DAVIS, OF LEBANON, NEW HAMPSHIRE, A FIRM.

## WATCH-ROLLER REMOVER.

No. 837,577.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed May 21, 1906. Serial No. 317,884.

*To all whom it may concern:*

Be it known that I, WILLIAM N. LOUD, of Quincy, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Watch-Roller Removers, of which the following is a specification.

This invention relates to tools used by watchmakers for removing from the staff of a watch-balance the disk known as a "roller," said disk having a frictional fit upon the balance-staff.

The invention has for its object to provide a tool of this character in which the number of parts shall be reduced to a minimum, the construction being relatively simple and inexpensive.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a longitudinal section of my improved watch-roller remover, the handle portion being shown in side elevation. Fig. 2 represents a perspective view of the tubular shank having the roller-seat.

The same numerals of reference indicate the same parts in both figures.

In the drawings, 12 represents a tubular shank having at one end a roller-seat, which is preferably a head 13 provided with a slot 14 to receive the balance-staff. The shank 12 is cut away at one side above the roller-seat to form an opening, which permits the application of the roller to the upper side of the seat. Above the cut-away portion the shank is provided with a plunger-guide 15.

16 represents the plunger, which is movable lengthwise of the guide 15 and is normally retracted or moved away from the roller-seat by means of a spring 17.

18 represents a handle having a screw-threaded extension 19, engaged with a nut

20, which is detachably engaged with the end of the shank 12 opposite the roller-seat, the detachable engagement between the nut and the shank being preferably effected by an external screw-thread on the nut and an internal thread on the shank, as shown in Fig. 1. The extension 19 bears on the head of the plunger 16. When the handle is turned to force the extension 19 into the tubular shank, the plunger is projected and caused to cooperate with the seat in removing a roller from the balance-staff.

It will be seen that the described construction is extremely simple, the number of parts being reduced to a minimum. The nut 20, detachably engaged with the shank 12, provides for the ready disengagement of the shank in case of the breakage of the roller-seat and the application of another shank in its place. The screw-threaded extension 19 engaging the nut 20 is adapted to be used in connection with the shanks 12 and roller-seats 13 of various sizes, so that it is necessary to provide only one size of handle and its extension for all sizes of roller-staffs.

I claim—

A tool of the character stated, comprising a tubular shank having a roller-seat at its outer end and a plunger-guide adjacent to said seat, a spring-retracted plunger movable in said guide, a nut detachably engaged with the inner end of the shank, and a handle having a screw-threaded extension engaged with said nut and bearing on the head of the plunger.

In testimony whereof I have affixed my signature in presence of two witnesses.

WILLIAM N. LOUD.

Witnesses:

ARTHUR H. BROWN,  
E. BATCHELDER.