B. FRESE.

ROLLER ABSTRACTOR FOR WATCHES.

No. 189,307. Patented April 10, 1877.

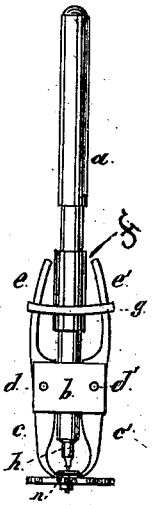

Fig. 1.

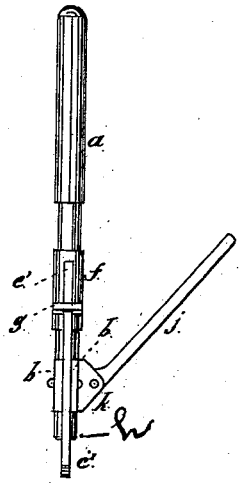

Fig. 2.

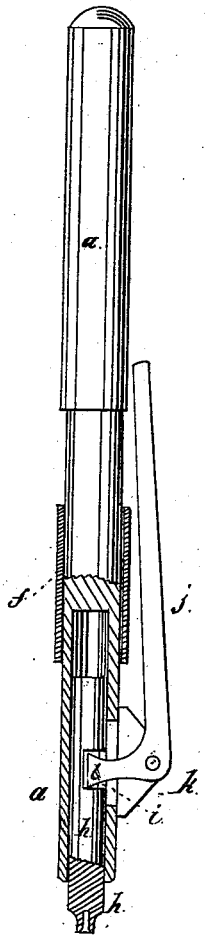

Fig. 3.

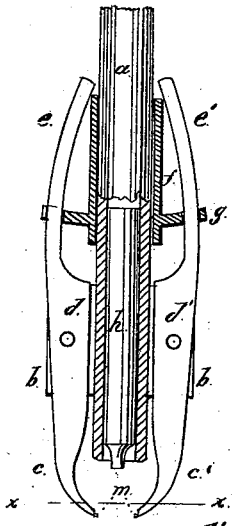

Fig. 4.

Fig. 5.

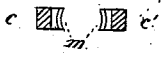

Fig. 6.

Witnesses

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BERNARD FRESE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN ROLLER-ABSTRACTORS FOR WATCHES.

Specification forming part of Letters Patent No. **189,307**, dated April 10, 1877; application filed May 29, 1876.

To all whom it may concern:

Be it known that I, BERNARD FRESE, of the city of Chicago, Cook county, State of Illinois, have invented new and useful Improvements in Roller Abstractors for Watches, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation; Fig. 2, a side elevation; Fig. 3, a side view enlarged, some of the parts being shown in section; Fig. 4, a front view enlarged, some of the parts being shown in section; Fig. 5, a section on line *x x* of Fig. 4, looking down. Fig. 6 represents the balance-wheel and roller thereon.

The object of my invention is to provide an instrument by the use of which the roller can be easily removed from the balance-wheel of a watch, and which can be easily operated with one hand, and in the use of which injury to the parts will not be likely to occur.

It consists in two rigid jaws, each jaw having a circular groove upon its inner face, fitting the roller, the jaws being pivoted to bars secured to a handle; in a sliding collar and cross-bar, for opening and closing the jaws; in a movable sliding spindle, to engage with the staff of the balance-wheel, said spindle being operated by means of a lever.

In the drawings, *a* represents the handle of the instrument. *b* are two bars, permanently secured to the handle near its lower end. *c c'* are two stiff jaws, pivoted at *d d'* to the bars *b*. *e e'* are rearward-curved extensions from the jaws, each jaw and its extension being formed from a single piece. *f* is a sliding collar, located upon the handle. *g* is a cross-bar permanently secured to the collar *f*, having holes to receive the parts *e e'*. *h* is a sliding spindle, located in the lower end of the handle *a*, which is hollow. *i* is a recess in one side of the spindle *h*. *j* is a lever, pivoted to the ears *k*, upon one of the bars *b*. *l* is the short arm of the lever, which passes through a long slot in the bar on which the ears *k* are located, and also through a similar slot in the hollow portion of the handle, and enters into and engages with the notch or recess *i* in the side of the spindle. The lower end of the spindle *h* is hollow, to engage with the pivot of the balance-staff, and in use the shoulder of the staff comes in contact with the end of the spindle. *m* is a circular groove in the inside of each jaw, the radius of the circle being the same, or about the same, as that of the roller. *n* is the roller on the staff of the balance-wheel.

In use, the instrument is to be held in one hand, the thumb and forefinger being in the proper position for moving the sliding bar and collar, which should be in the position shown in Fig. 4, the jaws being open. The jaws are then to be placed over the roller, and, by means of the thumb and finger, the sliding bar and collar can be moved up or back, closing the jaws upon the roller, as shown in Fig. 1; then, by means of the second finger, the lever *j*, which, at this time, will be in the position in Fig. 2, can be lifted up, as shown in Fig. 3, bringing the end of the sliding spindle down over the pivot of the balance-staff, and forcing the balance away from the roller, the roller being held between the jaws.

The circular groove upon the inside of the jaws insures the proper centering of the instrument, so that the spindle will engage with the pivot of the staff, and, in connection with the stiff jaws, prevents any lateral movement or displacement of the jaws while in use.

It will be seen that during the operation one hand is free to hold the balance, the instrument being wholly operated by the other hand.

I make the handle long, so that in use its upper end will come in contact with the palm of the hand, aiding the operator in steadying the instrument.

I have shown the groove or shoulder *m* as circular—that is the best form; but the instrument would be useful if such groove were not circular.

I do not limit myself to two jaws—three or more might be used; two are sufficient, especially when the groove is circular.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. The independently-pivoted jaws *c c'*, having circular grooves in the faces of their

turned-in ends, in combination with the extensions *e e'* and cross-bar *g*, for closing the jaws simultaneously, and grasping the object uniformly on all sides, substantially as and for the purpose specified.

2. The stiff pivoted jaws *c c'*, having extensions *e e'* and the slididg bar *g*, in combination with a handle and a spindle, *h*, substantially as specified.

3. The combination of the pivoted jaws *c c'*, having extensions *e e'*, sliding bar *g*, spindle *h*, lever *j*, and handle, substantially as and for the purpose specified.

BERNARD FRESE.

Witnesses:
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