(No Model.)

F. HYDE.

RUBY PIN SETTER.

No. 384,693. Patented June 19, 1888.

Fig. 1.

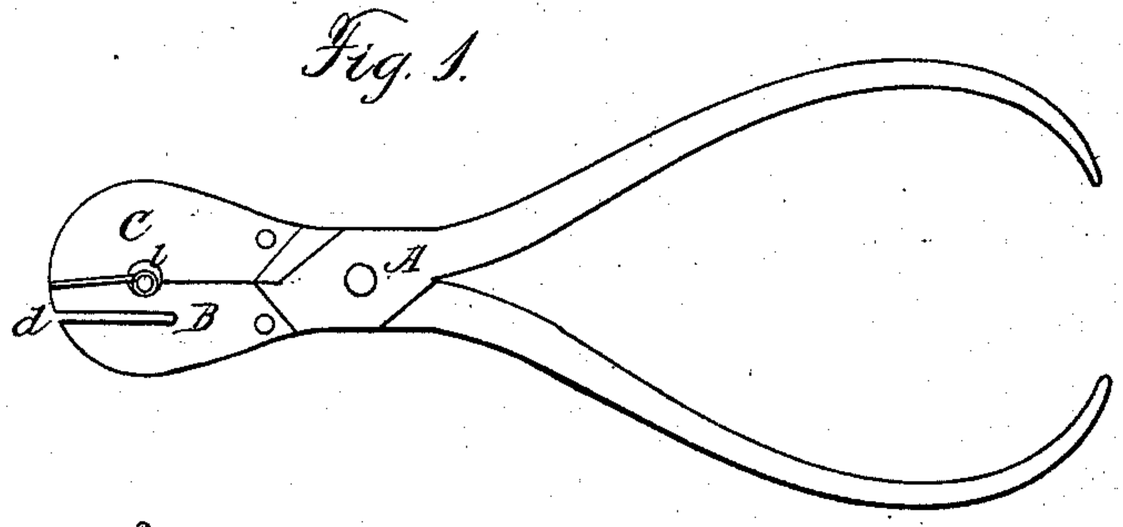


Fig. 2.

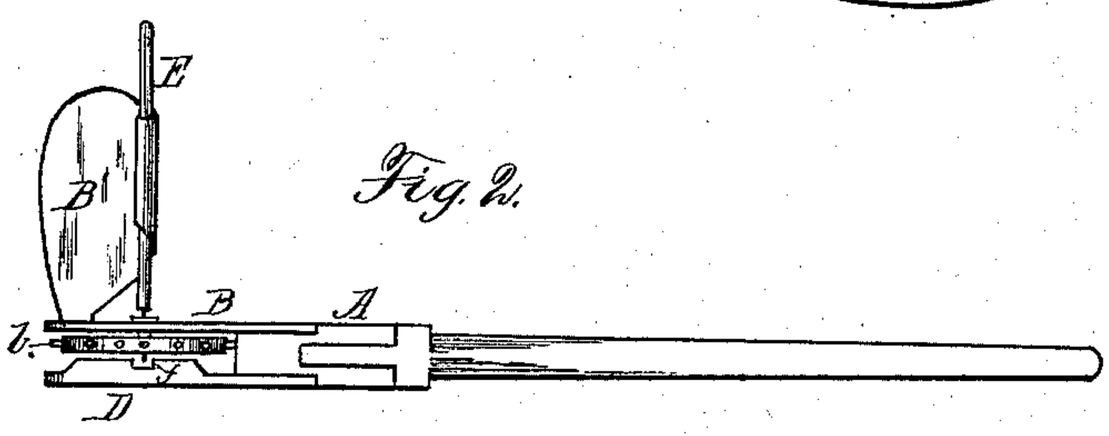


Fig. 3.

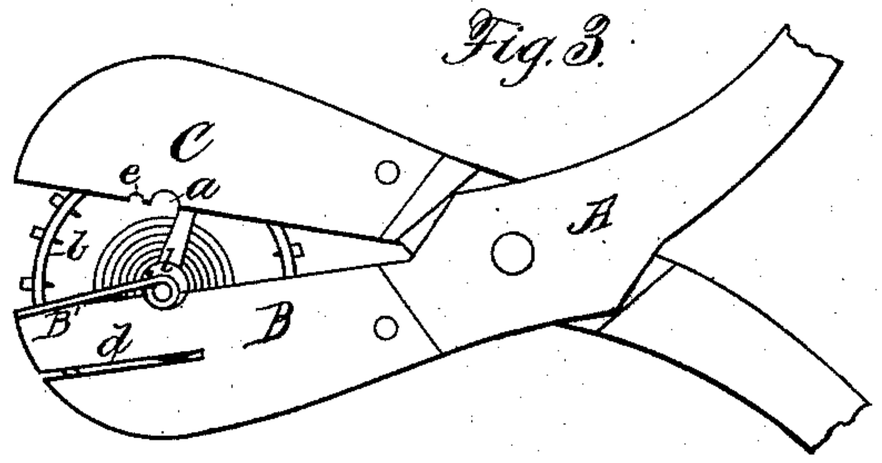


Fig. 4.

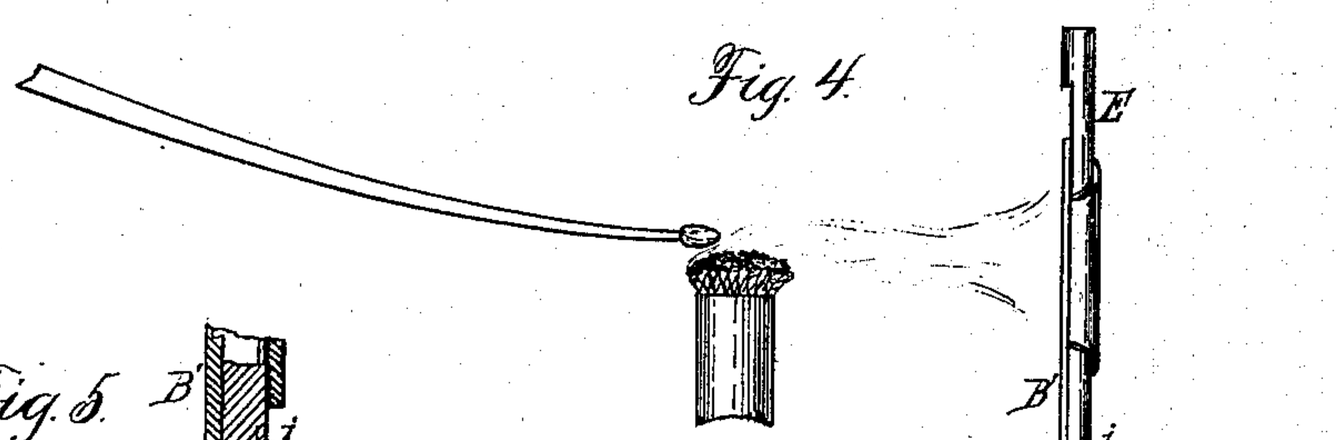
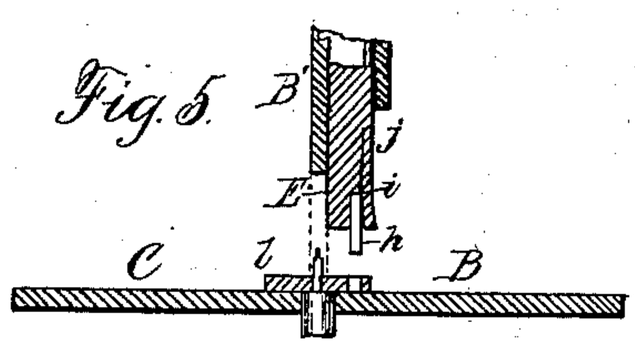


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANK HYDE, OF SIOUX FALLS, DAKOTA TERRITORY.

RUBY-PIN SETTER.

SPECIFICATION forming part of Letters Patent No. 384,693, dated June 19, 1888.

Application filed September 24, 1887. Serial No. 250,556. (No model.)

To all whom it may concern:

Be it known that I, FRANK HYDE, a citizen of the United States, residing at Sioux Falls, in the county of Minnehaha and Territory of Dakota, have invented certain new and useful Improvements in Jewel-Setting Devices, of which the following is a specification.

This invention relates to instruments used by jewelers in setting or removing jewels in the repair of watches, and more particularly the roller-jewel of the balance-wheel; and the object of my invention is to simplify this operation by providing means whereby it may be performed without the removal of the roller-table or hair-spring.

The invention consists in means for holding the balance-staff, communicating heat to the roller-table, and adjusting the jewel, as will be hereinafter fully set forth and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 represents a plan view of the invention; Fig. 2, a side elevation of the same; Fig. 3, a plan view of the head of the instrument, on an enlarged scale, with the balance-wheel in position; Fig. 4, an end view of the same; and Fig. 5, a fragmentary view of portions of the upper blades of the device and the connected parts, showing the details of the apparatus for setting the jewel.

In its general construction the device is in the nature of a pair of pliers. The body of the instrument A is provided with a pair of blade-like jaws, B C, and a supplemental blade, D, arranged with respect to each other as shown in the drawings. About in the middle of the pair of blades B C is a hole, *a*, being a semi-circular notch in each blade, adapted to receive the staff *c* of the balance-wheel *b*. Another notch, *e*, at a suitable distance from the hole *a*, admits of the old jewel being punched out of the roller-table downwardly, as will be hereinafter more fully explained. A portion of the blade B is turned upward, as shown, and that part of the blade with which this wing is connected is separated from the rest of the blade by a slot, *d*. The lower blade, D, has an upward extension, which is provided with a suitable notch, *f*.

In a suitable bearing formed in or upon the wing B′ of the blade B is mounted a vertical rod, E, having a free vertical movement. In the lower end of this rod is a hole, *i*, forming a socket for the roller-jewel *h*. At one side of the hole the rod is provided with a spring-tongue, *j*, which presses against the jewel and holds it in its socket in the rod. It will be seen that this rod is mounted a little to one side of the central hole in the blades.

The operation of the device will now be understood by reference to the drawings. The blades being opened, as shown in Fig. 3, the balance-wheel is adjusted to position and held by the blades B C, passing between the wheel *b* and the roller-table *l*. Heat is then applied to the wing B′, and from this is transmitted to the roller-table, melting the shellac, by which the jewel is held in place. The broken jewel may then be thrust out through the notch *e*. A new jewel having been inserted in the end of the rod E, the roller-table is turned slightly until the hole in it is directly under the jewel, as shown in Fig. 5, when the rod is pressed downward and held there during the application of shellac and the heating and cooling thereof. The rod then slips off the jewel, and the wheel may be removed.

It will be seen that by this device the heat may be applied directly to the roller-table through the medium of the wing-piece B. This is so far separated from the rest of the instrument by the slot *d* that there is no danger of overheating the parts and thus injuring the hair-spring below. It therefore admits of the jewel being set without the removal of the hair-spring—a matter requiring considerable time and skill.

The purpose of the blade D is simply to afford a support for the stud *m*, to which the hair-spring is attached. This is commonly taken off with the hair-spring and balance-wheel. In the case of American movements and others having a large stud a support for it is necessary, and this is afforded by this blade, the stud resting in the notch *f*. In the case of small studs this part might be dispensed with. The rod E, being for convenience in setting the jewel, might also be dispensed with and the jewel set by the ordinary means. It affords a convenient and accurate means for holding the jewel, however, and is regarded as an improvement over the common method.

The blades B C may be of brass, copper, iron, or any other suitable conductor of heat, and may be attached to the body of the instrument,

as shown in the drawings, or be integral parts thereof.

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

1. In a jewel setting device of the class specified, the blades adapted to hold the balance-staff, and the wing-piece formed on one of said blades and adapted to communicate heat applied thereto to the roller-table resting on said blades, substantially as and for the purpose set forth.

2. In a jewel-setting device, the combination of two hinged blades adapted to pass between the balance-wheel and the roller-table and hold the balance-staff in position, and a wing-piece forming a portion of one of the blades, but separated from the main body thereof by a slot, whereby heat applied to the wing-piece is communicated to the contiguous portion of the blade and the roller-table supported thereby without overheating the other parts, substantially as specified.

3. In a jewel-setting device of the class specified, the combination of two hinged blades adapted to pass between the balance-wheel and the roller-table, a wing-piece formed on one of the blades to receive and communicate heat to the roller-table, and a lower blade adapted to support the stud, substantially as set forth.

4. In a jewel-setting device of the class specified, the combination of two hinged blades adapted to pass between the balance-wheel and the roller-table and hold the same in position, a wing-piece formed on one of said blades, a vertical rod mounted on said wing, said rod having a socket at its lower end adapted to hold the jewel and being free to move vertically, substantially as and for the purpose set forth.

5. In a jewel-setting device of the class specified, the combination of two hinged blades having notches forming the hole *a*, the notch or hole *e*, the wing-piece B′, and the slot *d*, substantially as and for the purposes set forth.

6. In a jewel-setting device of the class specified, the combination of the blade B, having the wing-piece B′, and the rod E, mounted thereon and having at its lower end the hole to receive the jewel *h*, and a tongue, *j*, adapted to hold the jewel in position by spring-pressure, said rod having a free vertical movement, substantially as and for the purpose set forth.

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

FRANK HYDE.

Witnesses:
JOSEPH P. PRENTNER,
E. PARLIMAN.