

(No Model.)

P. RAMSER.
RUBY PIN SETTER.

No. 384,544.

Patented June 12, 1888.

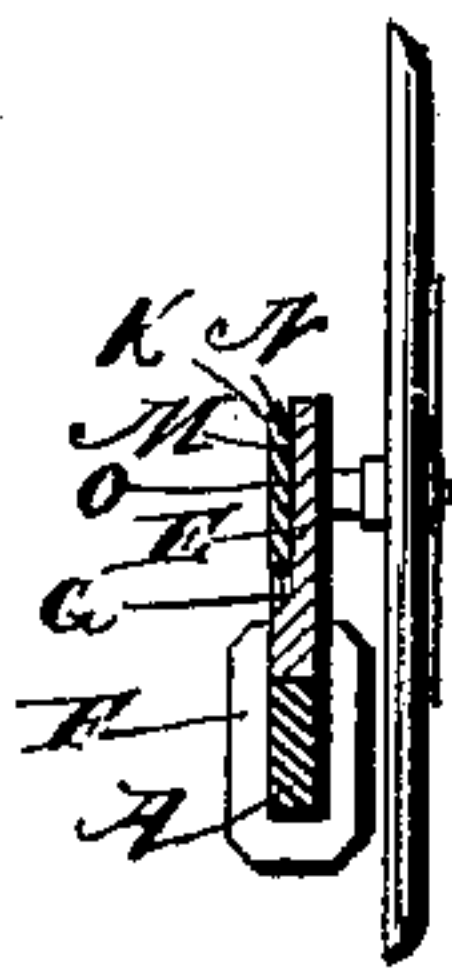
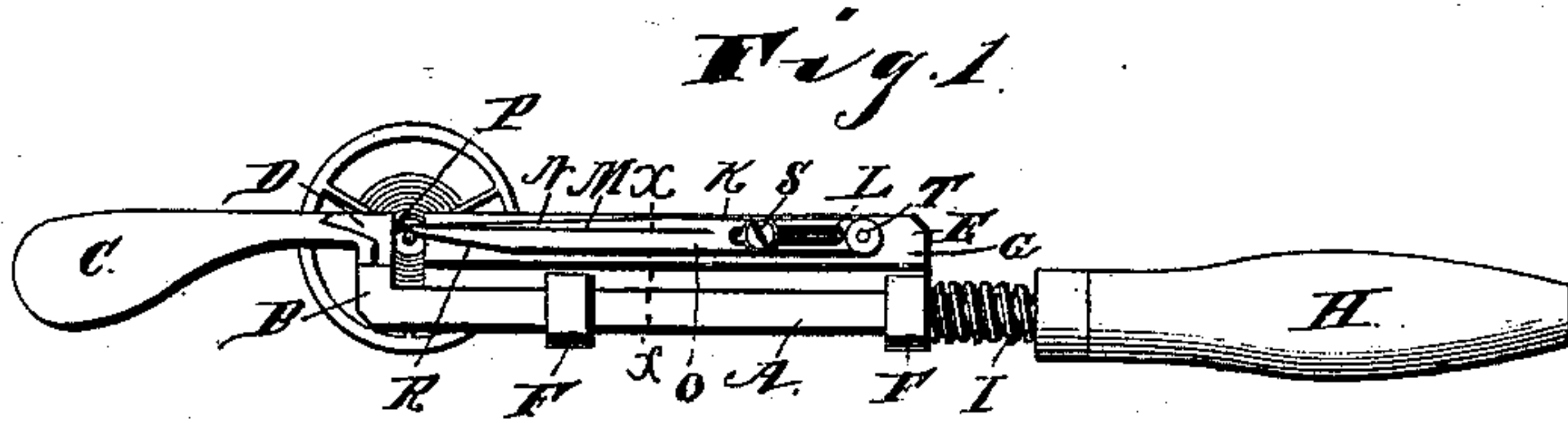


Fig. 2.

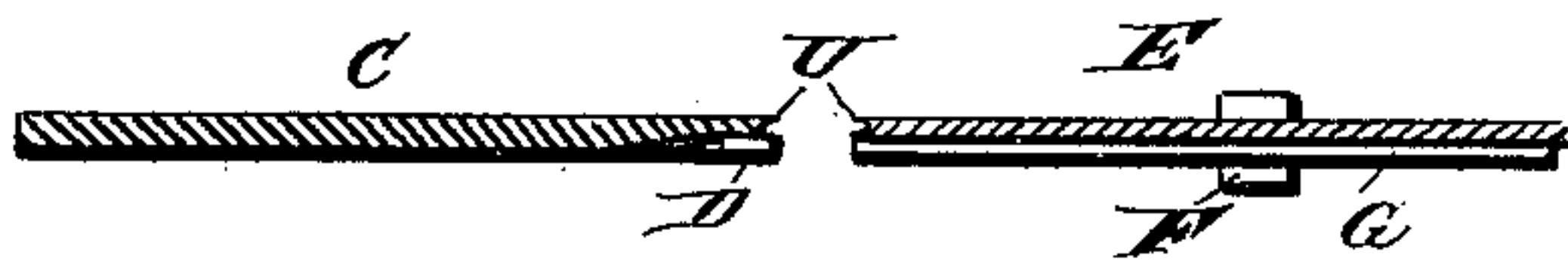
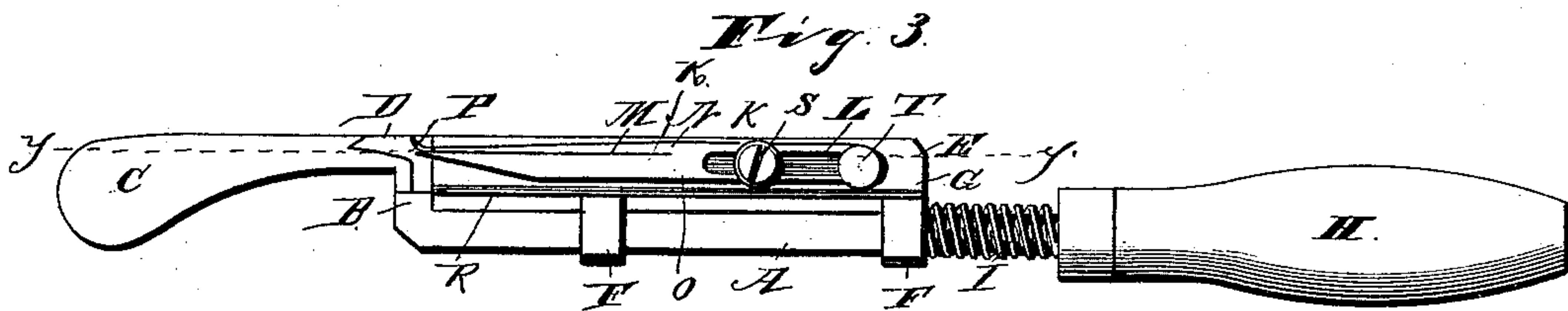


Fig. 4.

Witnesses.

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UNITED STATES PATENT OFFICE.

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RUBY-PIN SETTER.

SPECIFICATION forming part of Letters Patent No. 384,544, dated June 12, 1888.

Application filed August 27, 1887. Serial No. 248,065. (No model.)

To all whom it may concern:

Be it known that I, PAUL RAMSER, a citizen of the United States, residing at Dubuque, in the county of Dubuque and State of Iowa, have
5 invented a new and useful Improvement in Ruby-Pin Setters, of which the following is a specification.

My invention relates to an improvement in ruby-pin setters to be used by watch makers and repairers; and it consists in the peculiar
10 construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

The object of my invention is to provide a
15 tool which is adapted to set the ruby-pin without the necessity of removing the roller-table from the balance-staff, and thereby avoid the danger of breaking the pivot on the end of the staff in removing the roller-table.

20 In the accompanying drawings, Figure 1 is an elevation of a ruby-pin setter embodying my improvements, with a balance-wheel attached thereto and held thereby. Fig. 2 is an enlarged vertical transverse sectional view
25 taken on the line *x x* of Fig. 1. Fig. 3 is an enlarged elevation of the ruby-pin setter with the balance-wheel removed. Fig. 4 is a detail section on the line *y y* of Fig. 3.

A represents a shank of suitable length,
30 which has one end bent at right angles to form a head or jaw, B, from which projects an arm, C, which extends parallel with the shank A. On one side of the head B is a recess, D, the bottom of which is inclined, as shown.

35 E represents a sliding jaw, which is fitted on one side of the shank, is adapted to move back and forth thereon, and is guided on the shank and secured thereto by means of keepers F. The sliding jaw E has a longitudinal recess, G,
40 on one side.

H represents a handle, which is attached to the outer end of the shank, and I represents a coiled extensile spring, which is placed on the shank and bears between the inner end of the
45 handle and the outer end of the sliding jaw, and moves the latter normally forward, so as to close it against the head B.

K represents a combined tweezers and gage, comprising a flat strip of metal having a longitudinal slot, L, near one end, and having its
50 outer extremity bifurcated by means of a long

slit, M, thereby forming the tweezer-arms N and O. The outer end of the arm N is upturned to form a curved guide, P, and the outer end of the lower arm, O, is beveled downward, 55 as at R. The tweezers and gage is placed in the recess G of the sliding jaw E, and is secured in place therein by means of a set-screw, S, which works in the slot L and extends through the sliding jaw. The rear end of the tweezers 60 and gage has a laterally-projecting handle, T, by means of which it may be turned on the screw S as upon a pivot and adjusted longitudinally on the sliding jaw. The screw serves to clamp the tweezers and gage to the sliding 65 jaw at any desired position, as will be readily understood. In the rear side of the head B and in the front end of the sliding jaw E are made recesses U, adapted to receive the opposite edges of the roller-table of a balance-wheel 70 staff.

The operation of my invention is as follows: The balance-wheel complete, with staff roller-table and hair-spring, is secured in position by having the opposite edges of the balance- 75 table clamped between the head B and the spring-actuated sliding jaw E, the spring I serving to hold the same very firmly and securely. Care must be taken to properly adjust the roller-table in the head and jaw, so 80 that the balance-wheel will be arranged parallel with the tool. The combined tweezers and gage is then adjusted by sliding its beveled edge R against the balance-wheel staff until the slit which separates the arms of the tweezers 85 is in line with the small hole near the side of the roller-table in which the ruby-pin is to be secured. The tweezers and gage is then clamped in this position by turning the set-screw S, and the ruby-pin is then pressed between the arms 90 of the tweezers into the hole in the roller-table, a small quantity of gum-shellac being first placed in the said hole or opening in the roller-table. The projecting end of the arm C of the tool, which is made of suitable metal, is then 95 held over a small fire flame and heated to a sufficient degree to transfer heat enough to the roller-table to cause the shellac to flow. This operation does not endanger either the balance-staff or the delicate hair-spring in the 100 least, and consequently, by the use of my improved tool, a watch maker or repairer is en-

abled to set the ruby-pin without the necessity heretofore existing of first removing the roller-table from the balance-staff and running the risk of breaking the balance staff in the operation.

Having thus described my invention, I claim—

1. In a ruby-pin setter for watch-makers, the combination of the shank A, having the head B, and the projecting arm C, for the purpose set forth, with a sliding clamping-jaw arranged on the shank, and the combined tweezers and gage secured to the clamping-jaw and movable thereon, substantially as described.

2. The combination, in a ruby-pin setter for watch-makers, of the shank A, having the head B, and the extended arm D, the sliding jaw secured to the shank, the spring to force the said jaw normally forward toward the head B, for the purpose set forth, and the combined tweezers and gage fitted on one side of the sliding

jaw and provided with the longitudinal slot L, and the set-screw S, working in the said slot and secured to the sliding jaw, substantially as described.

3. The combination, with a ruby-pin setter having the rigid head B and the sliding clamping-jaw E, of the tweezers and gage secured to the said sliding jaw and adjustable thereon, said tweezers and gage having the tweezer-arms N and O, the former being provided at its outer end with the curved guide P, adapted to direct the slit between the tweezer-arms onto the ruby-pin, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

PAUL RAMSER.

Witnesses:

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