(Model.)

J. J. GREENOUGH.

APPARATUS FOR PIERCING EARS AND INSERTING EAR RINGS.

No. 248,855. Patented Nov. 1, 1881.

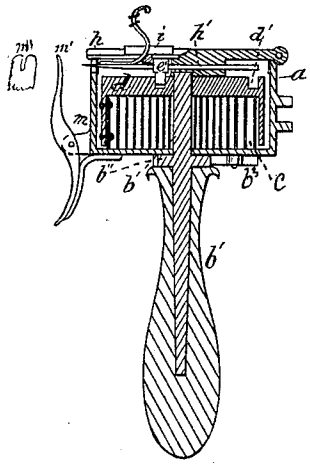


FIG. 2.

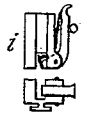


FIG. 6.

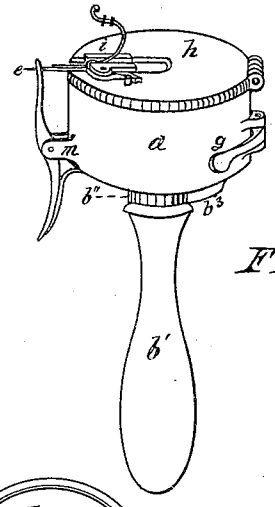


FIG. 1.

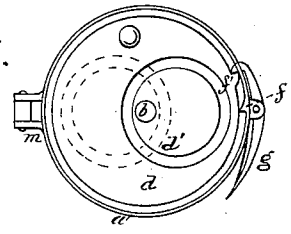


FIG. 3.

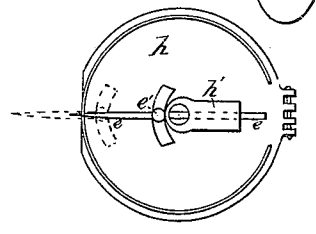


FIG. 4.



FIG. 5.

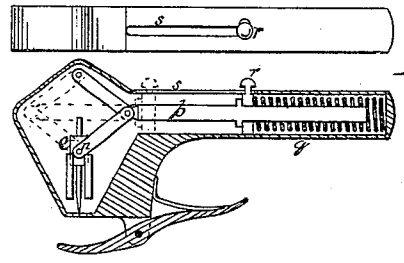


FIG. 7.

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UNITED STATES PATENT OFFICE.

JOHN JAMES GREENOUGH, OF SYRACUSE, NEW YORK.

APPARATUS FOR PIERCING EARS AND INSERTING EAR-RINGS.

SPECIFICATION forming part of Letters Patent No. 248,855, dated November 1, 1881.

Application filed August 1, 1881. (Model.)

To all whom it may concern:

Be it known that I, JOHN JAMES GREENOUGH, of Syracuse, county of Onondaga, in the State of New York, have invented a certain new and useful Instrument or Apparatus for Piercing Ears and Inserting Ear-Rings therein, of which the following is a description, with reference to the annexed drawings, in which—

Figure 1 is a general view of the instrument; Fig. 2, a longitudinal section through the axis; Fig. 3, a top plan with the cover removed, showing the drum *d* and eccentric-groove cam *d'*; Fig. 4, the inside of the cover with piercing-needle in place; Fig. 5, enlarged view of the point of the needle, with the end of the ear-ring in its recess ready for insertion; Fig. 6, forceps for holding the ear-ring while being inserted; Fig. 7, a modified construction of the apparatus, showing a different arrangement of well-known mechanical elements for effecting the same purpose.

The purposes of my invention are, first, to pierce the ear for the insertion of an ear-ring or other proper object, and then to instantly withdraw the needle or piercer by the single impulse of a spring, by which the needle is projected through the ear and retracted so quickly as to be painless; secondly, to insert with the piercing-needle an ear-ring or other object by the same impulse or at the same instant of time that the hole is punched therefor, and to permit the ear-ring, &c., to remain lodged in the incision. The hole is bored, the ear-ring inserted, and the needle withdrawn at a single instantaneous operation.

The apparatus shown in Figs. 1, 2, 3, 4 consists of a cylindrical case, *a*, at or near the center or axis of which there is a stud, *b*, that projects through the bottom of the case and forms the shank of handle *b'*, by which the stud can be revolved to wind up the coiled spring *c*, affixed by its inner end thereto. Just outside the case there is a ratchet-wheel, *b''*, affixed to and turning with the handle that is stopped by a spring-pawl, b^3. A hollow drum, *d*, is centered and turns on the stud *b* within the case, and incloses the coiled spring *c*, the outer end of which is affixed to the rim of the drum. On the face of this drum (seen in Fig. 2) there is an eccentric or cam groove, *d'*, into which a stud, *e'*, (see Fig. 4,) fits. This stud is on a slide, to which the needle or piercer *e* is attached, so that when the drum *d* makes a revolution, impelled by spring *c*, the needle is driven forward radially and back to its former position in a right line. To prevent the drum from making more than a single revolution there is a movable guard-catch or stationary projection, *f*, from the inside of the case, (see Fig. 3,) that comes in contact with a projection, *f'*, on the drum and stops it. Before the drum is ready for action it must be turned back or released from projection *f* and be held by the spring-catch or trigger, *g*, in contact with *f'*, as in Fig. 3, by which the drum can be released for another revolution. To give the spring proper tension it is wound up by turning the handle *b'*, like a watch.

The cover *h*, Fig. 4, is hinged or otherwise attached to the case, having a projection or slide-block, *h'*, affixed to its inner surface, forming a guide, through which the needle slides. The needle is cylindrical and has a groove or slot formed in one side (see Fig. 5) from the point backward. The point may be made conical or triangular, with lancet-shaped point, or of any other form found best for easy piercing, and it should be quite sharp. Directly over the piercer *e* there is a radial slot through the cover in the line of motion, which serves as a guide to the needle-slide *e*, and in which slides the forceps-block *i*, that is carried forward by the needle-slide. This block *i* has a groove in it to put the ear-ring in, where it is held by the movable eccentric-jaw of the forceps, or other suitable device that will firmly hold the point of the ear-ring in the groove of the needle until it is inserted in the ear, and then instantly release it from the instrument, while the needle retreats without carrying it back. The instrument, being entirely freed, can be instantly removed from the ear, leaving the ear-ring in place.

To hold the ear firmly while being pierced I employ a spring-forceps, *m*, hinged in proper position to the case so as to embrace the lobe of the ear at the point opposite the point of the needle with a proper pressure to resist the thrust of the needle through it. A soft cap or pad may be placed loosely upon this, into

which the needle is thrust. This cap can slip off when the instrument is removed, if found desirable.

I contemplate other modified applications of the impulse of a spring to thrust forward and retract a needle or piercer—such, for instance, as otherwise connecting the slide of the needle with the drum by a pitman instead of the cam-groove. Another type is shown in Fig. 7, where, instead of using a drum, the needle-slide *e* is attached to a toggle-joint, *n*, the upper end of which is jointed to the case properly formed therefor. The center joint of the toggle is coupled with a slide-rod, *p*, that extends into the hollow handle *q*, where it is surrounded by a spiral spring, by which it is forced forward, carrying this joint past the center to the same distance on the opposite side of the center line as it starts from. This movement causes the needle-slide to move forward and back by the single impulse of the spring, as in the other figure. The collar on rod *p* has a stud, *r*, on it, that works in a slot, *s*, in the case-handle, and when set, as in the drawings, may have a bayonet or other catch to hold it ready for action. The other details are similar to those first described, and need not be repeated.

I claim the following as my invention in the above:

1. The combination, by mechanism substantially as herein described, of a slide bearing a piercing-needle, and having a reciprocating movement, with a spring by which the needle is made to move in both directions by the continuous action of the spring in one direction, substantially as and for the purposes specified.

2. The grooved or recessed needle, as described, in an ear-piercing apparatus formed to receive the point of the ear-ring, &c., to be inserted with the needle, as above specified.

3. The combination of an ear-ring with an ear-piercing needle, substantially as described, by means of a holder that unites them, and moves forward with the needle, so as to carry the ear-ring through the ear at the same time that it is pierced, substantially as herein specified.

4. The detached movable forceps for holding the ear-ring in the groove of the needle, in combination with the needle-slide, substantially as and for the purposes specified.

5. The forceps or holder for holding the wire or shank of an ear-ring to be inserted with the needle, as described, in combination with a stud or projection by which the forceps are opened to release said ear-ring after it is inserted, substantially as specified.

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