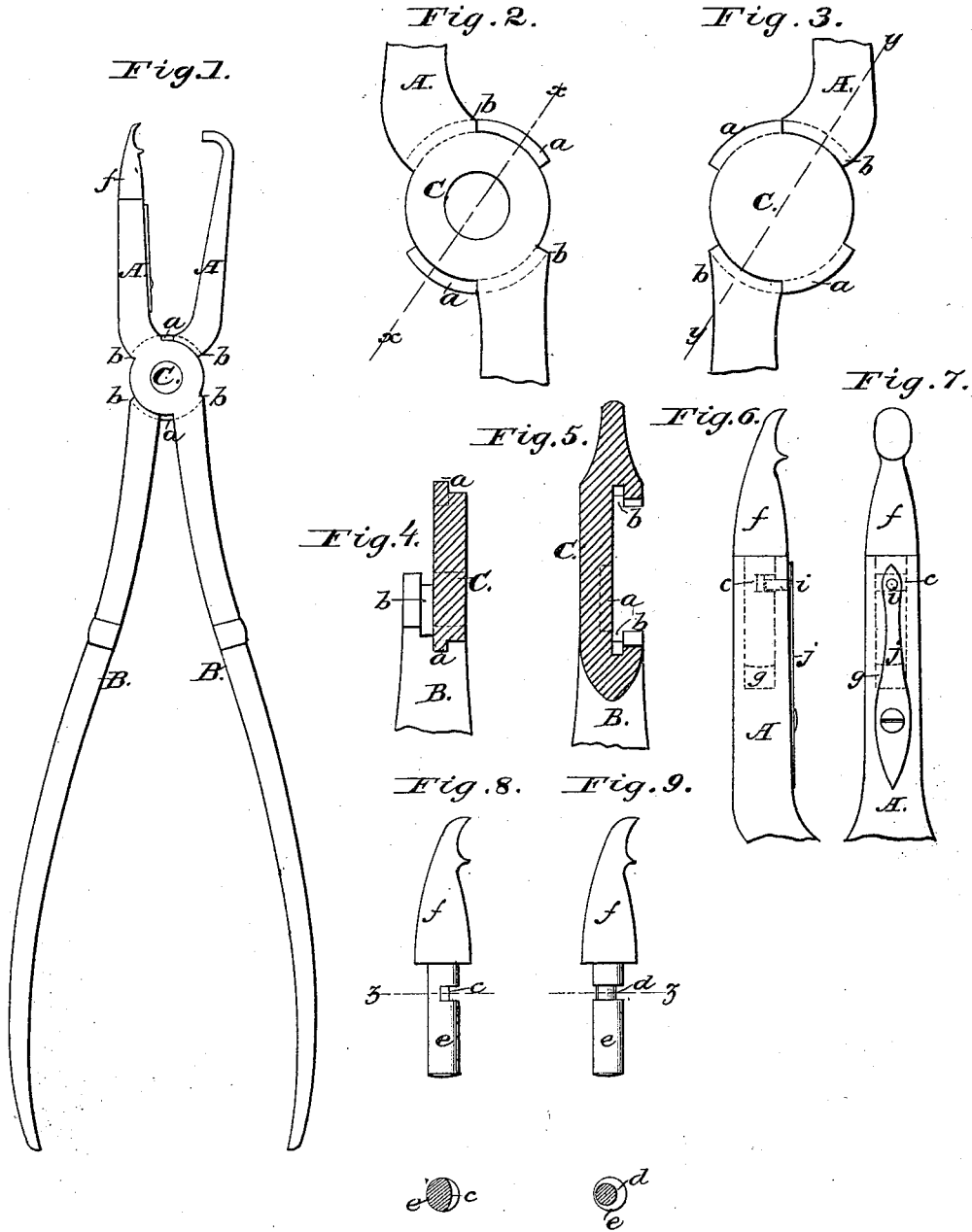


L. J. P. E. GAILLARD.
Dental Forceps.

No. 168,012.

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UNITED STATES PATENT OFFICE

LOUIS J. P. E. GAILLARD, OF PARIS, FRANCE.

IMPROVEMENT IN DENTAL FORCEPS.

Specification forming part of Letters Patent No. **168,012**, dated September 21, 1875; application filed July 30, 1875.

To all whom it may concern:

Be it known that I, LOUIS JEAN PAUL EUGENE GAILLARD, of Paris, in the Republic of France, have invented a new and useful Improvement in Dental Forceps, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing.

This invention relates to that class of dental forceps generally known as "plugging-forceps" for filling teeth, the object being to connect the two parts of the forceps by a loose joint of such a nature that it permits either of the parts to be detached one from the other, and of substituting a different portion for the one detached without removing the instrument from the mouth of the patient.

My invention further has for its object to provide a detachable beak which fits in a socket in the end of one of the jaws of the forceps, and is retained therein by means of a spring, and which can be readily inserted or removed by simply turning said beak, the shank of the same automatically dropping the spring into a recess on the same, or throwing it out of the recess during its rotation.

The first part of my invention consists in providing the two portions of the forceps, respectively, at their points of union with bosses, the edges of which have segmental lips and corresponding grooves formed on them in such a manner that when the parts are placed in contact and rotated the lips catch under the grooves, and by this means the parts are held together, while by turning the parts to the proper positions relatively to the lips and grooves they may be taken apart.

The second part of my invention consists in a detachable beak, the shank of which is adapted to fit into a socket in the end of one of the jaws of the forceps, said shank having a crescent-shaped groove formed on one side, in which a spring-catch projecting through an aperture in the jaws is adapted to engage when said recess is brought opposite it, and from which it is forced out by the uncut portion of the shank when such portion of the shank is brought opposite it, thus providing for fastening or releasing the beak by simply rotating the same.

In the drawings, Figure 1 represents a front

view of my improved forceps. Fig. 2 represents one side of the joint thereof. Fig. 3 represents the other side; Fig. 4, a cross-section of the joint in the line *x x* of Fig. 2. Fig. 5 is a section of the same in the plane of the line *y y*, Fig. 3. Fig. 6 is a side view of one of the jaws of the forceps, showing the form of fastening for the beak. Fig. 7 is a front view of the same. Fig. 8 represents detached views of the beak, and Fig. 9 detached views of a modification of the same.

The letter A designates the jaws, and B the handles, composing the forceps. The letter C represents the bosses at the junction of the jaws and handles, a portion of the edges of which is provided with lips *a*, while another portion equal in size to said lips is left free. When the bosses of the respective parts are brought together and the lips of one placed opposite the free edges of the other, the parts may be brought closely in contact with each other, and by rotating the bosses the lips will catch under the grooves and the parts will be firmly held together. When it is desired to separate the parts it is only necessary to bring them back to their first position. The lips *a* and grooves *b* are arranged in such manner relatively to the jaws A that the latter may be closed in the ordinary way.

It is evident from the above that if the forceps are applied to a tooth and a different part is to be substituted for either of those used, the one part may be detached with one hand while the other is held in place by the other hand until the connection of the desired part has been effected.

The letter *f* represents the beak of my forceps, which is provided with a shank, *e*, adapted to fit in a socket formed in the end of one of the sockets. At one side of the shank *e* is cut or otherwise formed a crescent-shaped recess, *c*, leaving the opposite side of the shank unbroken, as shown in Fig. 8; or, instead of this, the recess may be cut entirely around the shank, but deeper on one side than the other, as shown at *d d* in Fig. 9, in either case partially dividing the shank, leaving an eccentric connection, the object of which will be presently explained. To the outside of the jaw provided with the socket at its end is secured a spring, *j*, to the upper end of which

is attached a pin, *i*, which projects through a suitable aperture into the socket, in which the shank *e* fits. Said pin is in such position as to be in line with the recess *c* or *d* when the shank is inserted. In inserting the shank the beveled lower end throws the spring out and allows it to enter until the recess is brought opposite the pin *i*, when said pin engages the recess and secures the shank in place, firmly fastening the beak in position. To remove the beak it is only necessary to rotate the same until the connecting portion of the shank comes opposite the pin, by which the pin is thrown outward and the shank left free to be removed.

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

1. The bosses C, having lips *a* and grooves *b*, in combination with the parts A B of a forceps, substantially as described.

2. The detachable beak *f*, provided with a shank, *e*, adapted to fit in a socket in the end of one of the jaws of a forceps, which is provided with a spring-catch adapted to engage a crescent-shaped recess in the shank *e* when said recess is brought opposite to it, and to be automatically thrown out of said recess by the rotation of the shank in order to release the same, substantially as described.

GAILLARD.

Witnesses:

H. BONNEVILLE,
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