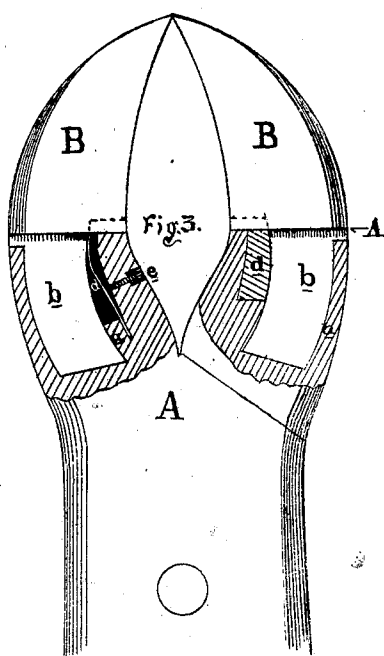
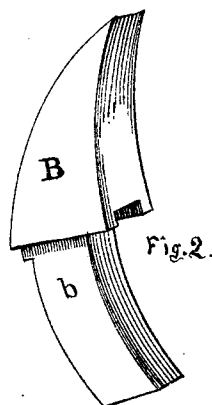
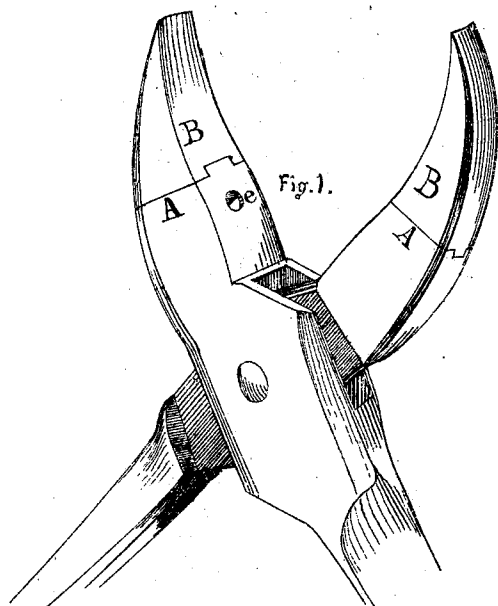


NEPHTHALI A. DURHAM.
Improvement in Dental Forceps.
No. 121,599. Patented Dec. 5, 1871.



Witnesses

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UNITED STATES PATENT OFFICE.

NEPHTHALI A. DURHAM, OF DUQUOIN, ILLINOIS.

IMPROVEMENT IN DENTAL FORCEPS.

Specification forming part of Letters Patent No. 121,599, dated December 5, 1871.

To all whom it may concern:

Be it known that I, NEPHTHALI A. DURHAM, of Duquoin, in the county of Perry and State of Illinois, have invented a new and useful Improvement in Dental Forceps; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, in which—

Figure 1 is a perspective view of my improved forceps. Fig. 2 is a perspective view of my improved beak detached. Fig. 3 is a longitudinal section, showing the manner of constructing the socket to receive the shank of the beak.

The object of my invention is to furnish a large variety of beaks fitted to a single pair of forceps-jaws, so that dentists, physicians, and others may provide themselves with a set of extracting instruments adapted to various requirements at a much less expense than the cost of a set of full forceps.

I am aware that dental forceps have heretofore been made with removable jaws or beaks; but they have been constructed with rectangular straight shanks, secured in place by spring-latches or other holding devices; and these beaks all depend in some degree upon said holding devices for security against slipping in their sockets while in use.

My invention relates to the peculiar formation of the beak and its shank to obviate these objections; and it consists in a rectangular shank to the beak, fitted in a correspondingly-shaped socket in the forcep-jaw; said shank and socket being curved so that the pressure of said beaks against any object between them will force said shanks more strongly into their sockets, thus rendering them self-fastening while their rectangular form renders it impossible for them to turn while in use.

That others may fully understand my invention, I will particularly describe it.

The instrument, with exception of the beaks,

is made in the usual way. The jaws are cut short, as shown at A, and sockets *a* curved toward the center-pin *c* are formed therein. The beaks are constructed with shanks *b* also curved in the direction of the center-pin *c*, and therefore, when inserted in the socket *a*, pressure outward upon the points of the beaks will drive the shanks *b* further and closer into said sockets, and it is impossible that any accident can occur from a partial displacement of the shank in its socket. A slight spring, *d*, of metal or elastic gum, is, for convenience, inserted in the socket *a* to prevent any rattling of the shank in its socket, and to hold the same in place while the instrument is not in use. A small set-screw might be employed for this purpose, or some of the well-known forms of latches or keys; but any such substitution would be more troublesome and not more efficacious than the spring *d*, which will always be in place and always automatic in its action, and without a sensible increase of the size of the jaw. The spring *d* may be entirely concealed within the socket *a*, or it may be partially exposed and a small screw, *e*, inserted through the inner side of the jaw A to regulate the tension of said spring.

It is evident this mode of construction is equally applicable to other than dental forceps, and that forceps for any purpose may be provided with removable jaws of different forms, as may be required for special purposes.

Having described my invention, what I claim as new is—

The beak B, constructed with a rectangular curved shank, *b*, in combination with the jaw A, constructed with a rectangular curved socket, *a*, adapted to receive the shank *b*, substantially as set forth.

NEPHTHALI A. DURHAM.

Witnesses:

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