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N. A. DURHAM.  
Dental Forceps.

No. 121,858.

Patented Dec. 12, 1871.

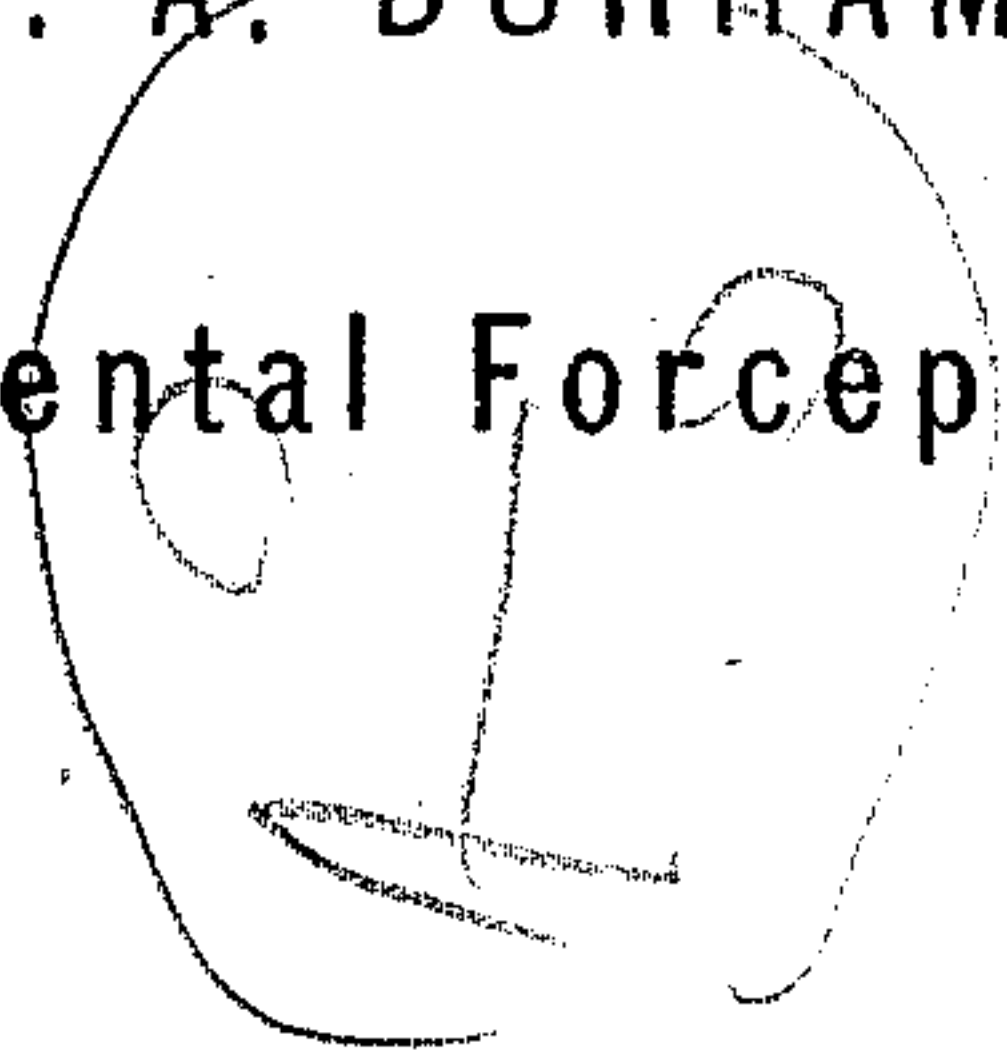


Fig. 1.

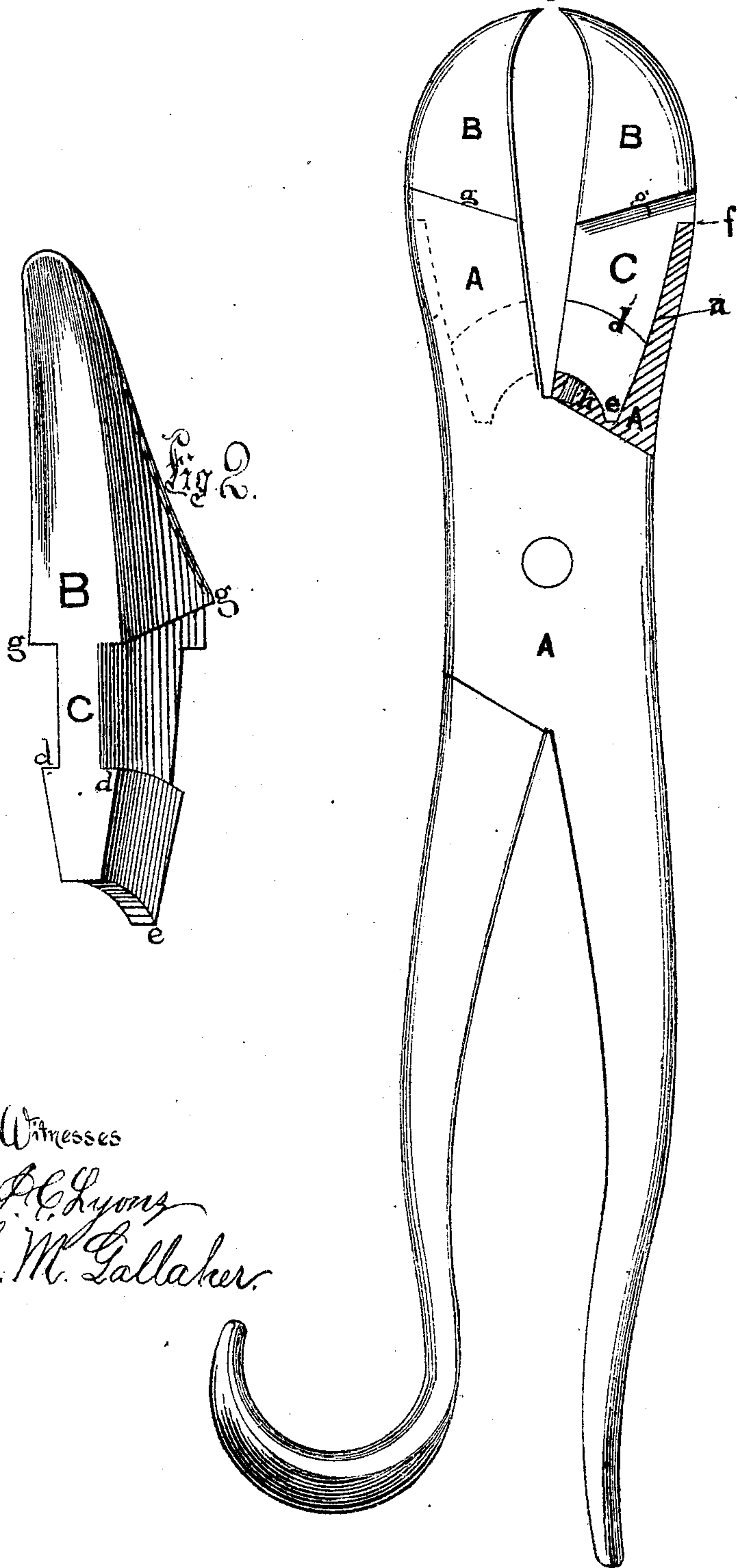


Fig. 2.

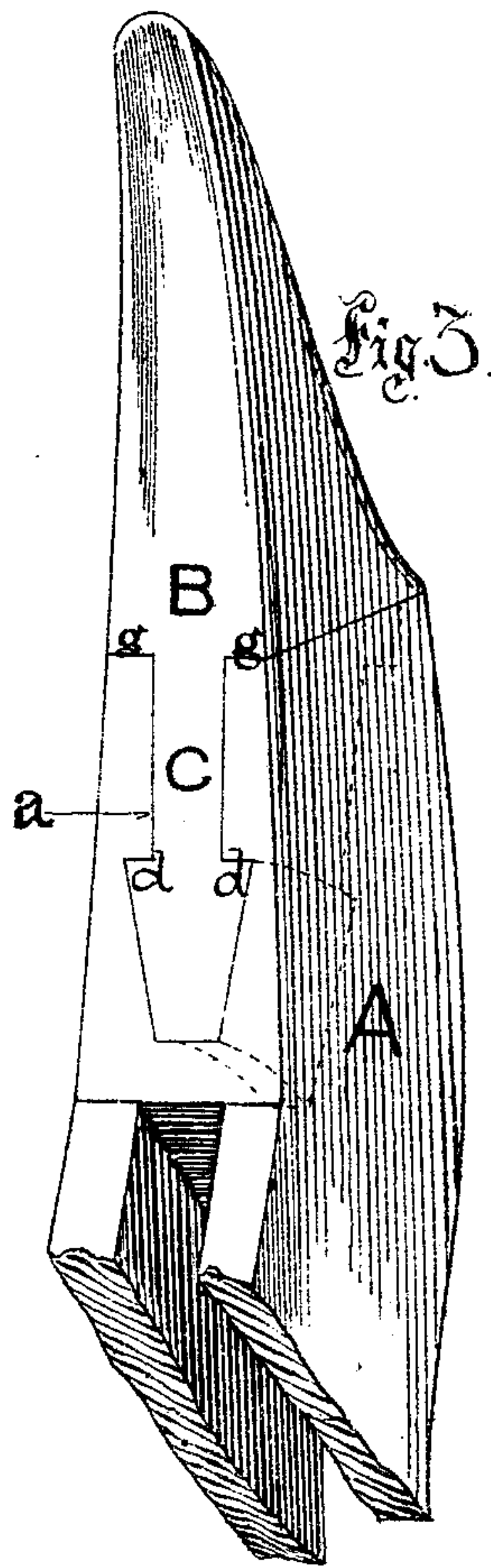


Fig. 3.

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. 121,858, dated December 12, 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 side elevation of an instrument with my invention, a part being broken away to exhibit the construction of the same. Fig. 2 is a perspective view of one of the beaks detached. Fig. 3 is a perspective view of the same in place.

This invention relates to an improvement in dental or other forceps for which Letters Patent were granted to me on the 5th day of December, 1871; and it consists of a detachable beak having a shank of rectangular cross-section, constructed with projecting shoulders near its end and adapted to fit a socket made in the side or edge of the forcep-jaw, so that said beak can only be removed from said socket by a movement in a lateral direction. Heretofore, when forceps have been constructed with removable beaks, the sockets to receive the shanks of said beaks have been formed in the ends of the head-pieces, and said shanks are entered into said sockets by a movement endwise, or in the direction of the axis of the shank. I propose to make the socket to receive the shank of the beak in the side or edge of the jaw, and so that said shank can only be entered by a sidewise movement, and thereby I can render the shank stronger, because it can have an increased cross-sectional depth, and, by the employment of interlocking shoulders, I can render it securely self-locking.

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

A A are the jaws or head-pieces of an ordinary forceps, constructed with sockets *a a* made in the edges of said head-pieces. B is the removable

beak, constructed with an angular shank, C, provided with projecting shoulders *d d*. The socket *a* in the edge or side of the head piece or jaw A is formed to fit the configuration of the shank C, and embraces the same on three of its sides, as shown in Figs. 1 and 3. The lateral pressure upon the points of the beak, when in use, will be exerted, through the shank C, upon the upper end *f* of the socket *a* at the rear, and upon the lower end of said socket at *e* at the front. The point of bearing *f*, at the upper end, becomes, therefore, a fulcrum; and to prevent any movement of the lower end of said shank it is extended downward and backward, as at *e*, so that, when in place, it engages with the solid metal of the jaw in front. The shoulders *d* engage with corresponding shoulders of the socket *a*, so that no endwise movement of the beak and shank can take place. The lower end of the shank C and the shoulders *d* may be arcs of concentric circles, and said shank will then enter its socket with a regular movement in a curved line. The shoulders *g* rest upon the end of the head piece or jaw A, and give a firm support to the beaks while in operation. A small elastic cushion or spring may be inserted at any convenient point within the socket *a*, as, for instance, at *h*, to keep the shank snugly in place, if not fitted with perfect accuracy, or after having become slightly worn.

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

The jaw A constructed with the socket *a* formed in the side or edge of said jaw, combined with the beak B constructed with the angular shank C provided with projecting shoulders *d*, substantially as and for the purpose set forth.

NEPHTHALI A. DURHAM.

Witnesses:

R. D. O. SMITH,  
E. M. GALLAHER.

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