G. Stuart,

Dental Articulator.

No. 5,181. Patented July 3, 1847.

Fig: 3.

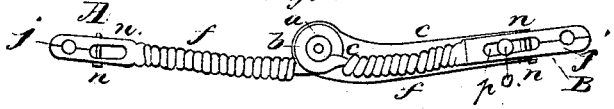


Fig: 2

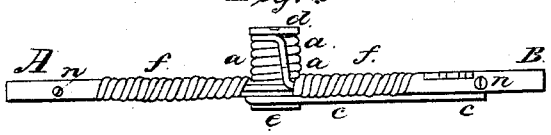
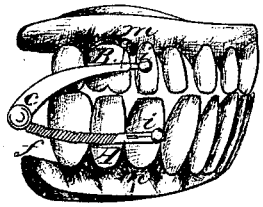


Fig: 1.



UNITED STATES PATENT OFFICE.

GEO. STUART, OF PHILADELPHIA, PENNSYLVANIA.

SPRING FOR ARTIFICIAL TEETH.

Specification of Letters Patent No. 5,181, dated July 3, 1847.

To all whom it may concern:

Be it known that I, GEORGE STUART, surgeon-dentist, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful manner of constructing springs for connecting and opening sets of artificial teeth that consist of those contained in the upper and lower jaw, which spring I denominate the "dental lever-joint spring; and I do hereby declare that the following is a full and exact description thereof.

The spring heretofore employed for connecting and opening the sets of artificial teeth consists simply of what is usually denominated a spiral spring, which is formed by the winding of a wire around another of suitable size, so as to form a hollow cylinder; this kind of spring is however very imperfect in its operation, and is liable to be misplaced in the mouth in the process of mastication; from which objections, my improved spring is perfectly free.

In the accompanying drawing Figure 1, is a side view of a set of teeth with my improved lever-joint-spring applied thereto. Fig. 2, is an edge view of the spring when separated from the teeth, and opened out so that the two arms of the lever are in a line with each other, and Fig. 3 is a view of that side of it that is toward the teeth when the spring is in use; the spring being in this case also shown as opened out, as in Fig. 2.

In each of these figures where the same parts are shown they are designated by the same letters of reference.

A, and B, are the two arms of the lever-spring; these two arms are formed principally of the uncoiled ends of a wire, the middle portion of which is bent round, so as to form the spiral coil *a*, *a*, Fig. 2, and within which there is a round pin, or barrel *b*, Fig. 3, which receives a screw *d*, Fig. 2, that holds it in place; this screw is supposed to be removed in Fig. 3.

e, Fig. 2, is the head of the pin, or barrel *b;* this barrel fits loosely within the coil *a*, *a*, offering no resistance to its action, but merely preventing its becoming disarranged. The upper end of the wire forming the coil *a*, *a*, is bent down as shown at *a'*, Fig. 2, and is again bent at right angles so as to enable it to form the arm B, of the lever spring. The portion *f*, *f*, of these arms, which appear as though they were spiral springs, are merely elastic tubes that surround the two ends of the wire *a*, *a*, which constitute a principal portion of the arms A, B; these spring tubes are unconnected with the wires *a*, *a*, at their inner ends, said wires merely passing through them, but at their outer ends the wire forming the elastic tubes *f*, *f*, are soldered to the outer ends of the wires *a*, *a*, and with them, and with the ends of the arms A, B, constitute one piece.

The ends of the arms A, B, are received upon joint pins, or pivots *i*, *i*, projecting from the teeth; (Fig. 1) there being holes *j*, *j*, Fig. 3, through these arms for that purpose. To enable them to pass on to the pivot *i*, *i;* the ends of the arms are slit, as represented in Fig. 3, so that they may spring open, and the parts are held together by screws *n*, *n*, passing through the edge of the arms. The pivots *i*, *i*, might, if preferred, be made to project from the metallic plates *m*, *m*, instead of from the teeth.

Connected with one of the arms of the lever-spring there is a plate of gold *c*, *c*, one end of which is perforated so as to pass over the barrel or pin *b*, and to rest upon its head *e;* its other end is furnished with a pin *o*, Fig. 3, that slides in a slot *p* in the lever arm B. Within this slot it has sufficient play endwise to admit of the necessary elastic action of the arms of the lever springs, while it effectually prevents their being unduly bent, the arrival of the pin *o*, at either end of the slot checking all further bending. Without this provision the lever springs might be subject to disagreement.

Having thus fully described the manner in which I form, arrange, and combine, the respective parts of my dental lever joint spring, what I claim therein as new, and desire to secure by Letters Patent, is—

The manner of forming the spring joint and arms of said instrument, in the manner herein set forth; that is to say, by the coiling of the middle of the wire *a*, *a*, so as to constitute the spring joint, and the extending of the outer ends thereof so as, in part, to constitute the elastic arms of the lever, in combination with the check plate *c*, *c*, operating in the manner and for the purpose set forth, and in combination also with the sets

of artificial teeth; the whole arrangement of the respective parts being substantially the same with that herein fully made known. And this I claim whether the respective parts be made in the precise form herein described and represented, or in any other that is the same in their action, and results, attaining the same end by means substantially the same.

GEORGE STUART.

Witnesses:
THOS. P. JONES,
WM. J. DONOHOO.