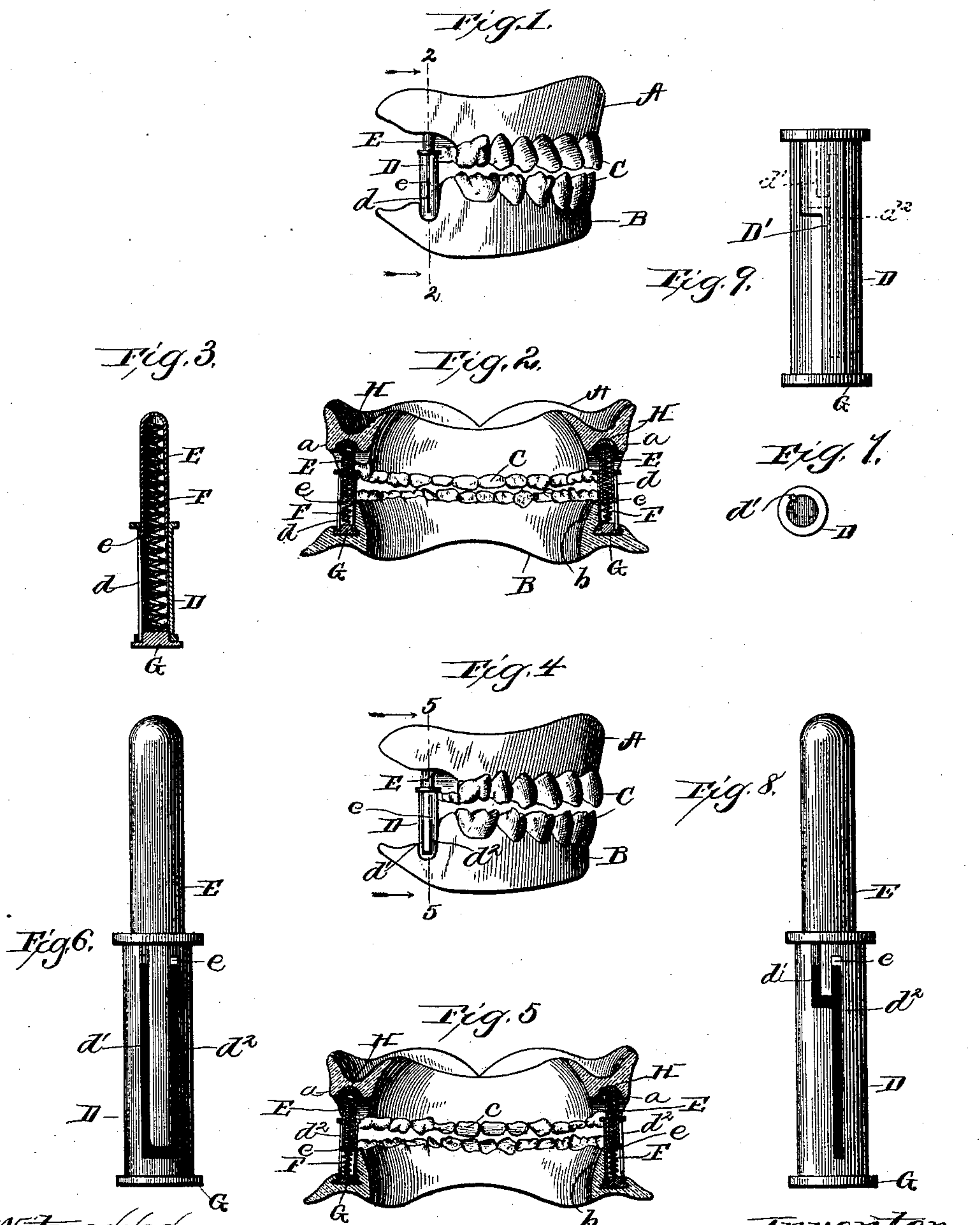


(No Model.)

J. J. STEDMAN.  
ARTIFICIAL DENTURE.

No. 452,653.

Patented May 19, 1891.



Witnesses:

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# UNITED STATES PATENT OFFICE.

JOHN J. STEDMAN, OF LA PORTE, INDIANA.

## ARTIFICIAL DENTURE.

SPECIFICATION forming part of Letters Patent No. 452,653, dated May 19, 1891.

Application filed November 15, 1890. Serial No. 371,559. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN J. STEDMAN, a citizen of the United States, residing at La Porte, in the State of Indiana, have invented certain  
5 new and useful Improvements in Artificial Dentures, of which the following is hereby declared to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.  
10 tion.

The object of my present invention is to provide improved means whereby the dentures shall be firmly held in place under all conditions, and this object I have accomplished by the improvements hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the claims at the end of this specification.

Figure 1 is a view in side elevation of upper and lower dentures having my invention applied thereto. Fig. 2 is a view in vertical section upon line 2 2 of Fig. 1. Fig. 3 is an enlarged detail view in vertical section of my improved spring mechanism. Fig. 4 is a  
25 view in side elevation similar to Fig. 1, but showing a modified form of the invention. Fig. 5 is a view in vertical section on line 5 5 of Fig. 4. Fig. 6 is an enlarged detail view showing in detail the spring mechanism illustrated in Fig. 4. Fig. 7 is a plan view of the lower spring-socket or plunger-socket illustrated in Figs. 4, 5, and 6. Figs. 8 and 9 show in side elevation a modified form of invention, the cover-plate D' being removed from  
35 Fig. 8.

A and B denote, respectively, the upper and lower dentures, *a* denoting the alveolar ridge of the upper denture, and *b* the ridge of the lower denture, these ridges being shown  
40 as furnished with the usual teeth C. Between the alveolar ridges at their backs is placed the improved spring mechanism next to be described, and this mechanism is located, preferably, in the place of the posterior molars, in which position I have found that no inconvenience whatever is experienced from its presence. The preferred form of spring mechanism comprises a tubular casing D, within which is mounted in a manner  
50 free to slide a tubular plunger E, the casing D and plunger E serving to inclose the spring F, that bears upon the ends of the casing and

the plunger and tends to hold them in the relative positions seen in Fig. 3 of the drawings. By preference the plunger E and casing D are so connected together that they may  
55 be readily disconnected by the wearer of the denture in order to permit it to be cleaned. One simple way of connecting the casing and plunger is illustrated in Figs. 2 and 3, in  
60 which form of the invention the casing D is formed with an interior screw-thread, whereby it is attached to the threaded base-block or plate G, so that the casing D can be readily removed from the block G by simply  
65 unscrewing it after the denture has been taken from the mouth. By preference the plunger E is so connected with the casing D as to prevent its being forced therefrom by the spring F, and one convenient way of so  
70 attaching the plunger and the casing is to form the casing D with a slot *d*, in which will move the lug or projection *e* at the base of the plunger. The upper end of the slot *d* is closed, as shown, to prevent the lug *e* from  
75 passing therefrom; but the lower end of the slot is formed continuous with the groove at the base, so that when the casing D has been detached from the block G the spring F can be withdrawn and the plunger E can be also  
80 withdrawn, as the lug or projection *e* is free to pass out from the slot *d*. The block G is permanently set within the ridge of the lower plate B and preferably in the position of the last molar. In the upper ridge *a* of the plate  
85 A, and preferably in the positions of the last molars of the upper jaw, are set the bearing-plates H, against which will bear the ends of the plungers E. Hence it will be seen that when the plates are in place and occupying  
90 the relative positions seen in Figs. 1, 2, &c., the springs F will cause the plungers E to press against the bearing-blocks H and force the upper and lower plates A and B apart and cause these plates to maintain their proper  
95 positions within the mouth of the wearer. The employment of upright spiral springs suitably incased not only affords a very effective means for holding the plates A and B in  
100 position, but I have demonstrated by practice that the spring mechanism of such character and when so located does not in any manner interfere with the jaws or otherwise inconvenience the wearer.



In the form of my invention illustrated in Figs. 4, 5, and 6 of the drawings the casing D and plungers E are the same as those above described, and in like manner are provided with the coiled springs F. In this construction, however, the manner of attaching the plungers E and casings D together, so that they can be conveniently detached for purposes of cleanliness, is somewhat varied. In this last form of my invention the casing D is provided with two slots  $d'$  and  $d^2$ , the slot  $d'$  being continued through the upper part of the casing, as seen in Fig. 7, while the slot  $d^2$  terminates at a slight distance below the casing. The slots  $d'$  and  $d^2$  are connected together at their bottoms, (see Fig. 4,) and these slots are formed of proper size to admit the lug  $e$  of the plunger E. From this construction it will be seen that the plunger E is set within the casing D by merely passing the lug  $e$  of the plunger down the slot  $d'$ , then turning the plunger a partial revolution until its lug  $e$  passes into the slot  $d^2$ , where it will remain so long as the dentures are in use, and as this slot terminates below the upper end of the casing it is obvious that the accidental separation of the casing and plunger is prevented. When this means of detachably connecting the plunger E and casing D is employed, the casing can be permanently connected to the base-block G or formed in piece therewith, and this block can be permanently held within the ridge  $b$  of the lower plate B. The operation of this modified form of the invention is obviously the same as that hereinbefore described.

A further advantage incident to the employment of my improved spring mechanism for securing the denture in place is that the upper plate A can be made much smaller than is usually necessary, since when such spring mechanism is used it is not necessary that the upper plate of the dentures shall extend over the entire roof of the mouth, but may be shaped much like the lower plate.

The details of construction above set out may be varied without departing from the spirit of my invention, and certain features of the invention may be employed without its adoption as an entirety.

In the modified form of the invention illustrated in Figs. 8 and 9 the casing D is pro-

vided with the plunger E, as in the constructions above defined, the casing having also a base-plate G and a vertical slot  $d^2$ , wherein the lug  $e$  of the piston will travel. In this form of the invention the supplemental slot  $d'$  is a short slot that is connected at its bottom with the slot  $d^2$ , so that when the piston is to be removed it is only necessary to turn the piston until the lug  $e$  passes into the slot  $d'$ , after which the piston can be withdrawn, as the slot  $d'$  is continued through the top rim of the casing, as seen in Fig. 7. The slots  $d'$  and  $d^2$  in this form of my invention are covered by a supplemental plate or cap  $D'$ , which may be conveniently soldered to the outside of the casing.

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

1. An artificial denture having the last molars omitted therefrom and having incased spring mechanism located between its plates in the position of the last molars, substantially as described.

2. An artificial denture having spring mechanism located between its upper and lower plates, said spring mechanism comprising a casing, a plunger within said casing, and bearing-blocks fixed to one of the plates to receive the thrust of the plungers, substantially as described.

3. An artificial denture having spring mechanism located between its upper and lower plates, said spring mechanism comprising a casing, a plunger within said casing and detachably connected thereto, and a spring within said casing for forcing outwardly said plunger, substantially as described.

4. An artificial denture having spring mechanism located between the upper and lower plates, said mechanism comprising a casing, a plunger mounted within said casing, and a coiled spring within said plunger and said casing, said plunger being provided with a lug or extension and said casing being provided with a slot or groove whereby the plunger and casing may be detachably connected, substantially as described.

JOHN J. STEDMAN.

Witnesses:

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