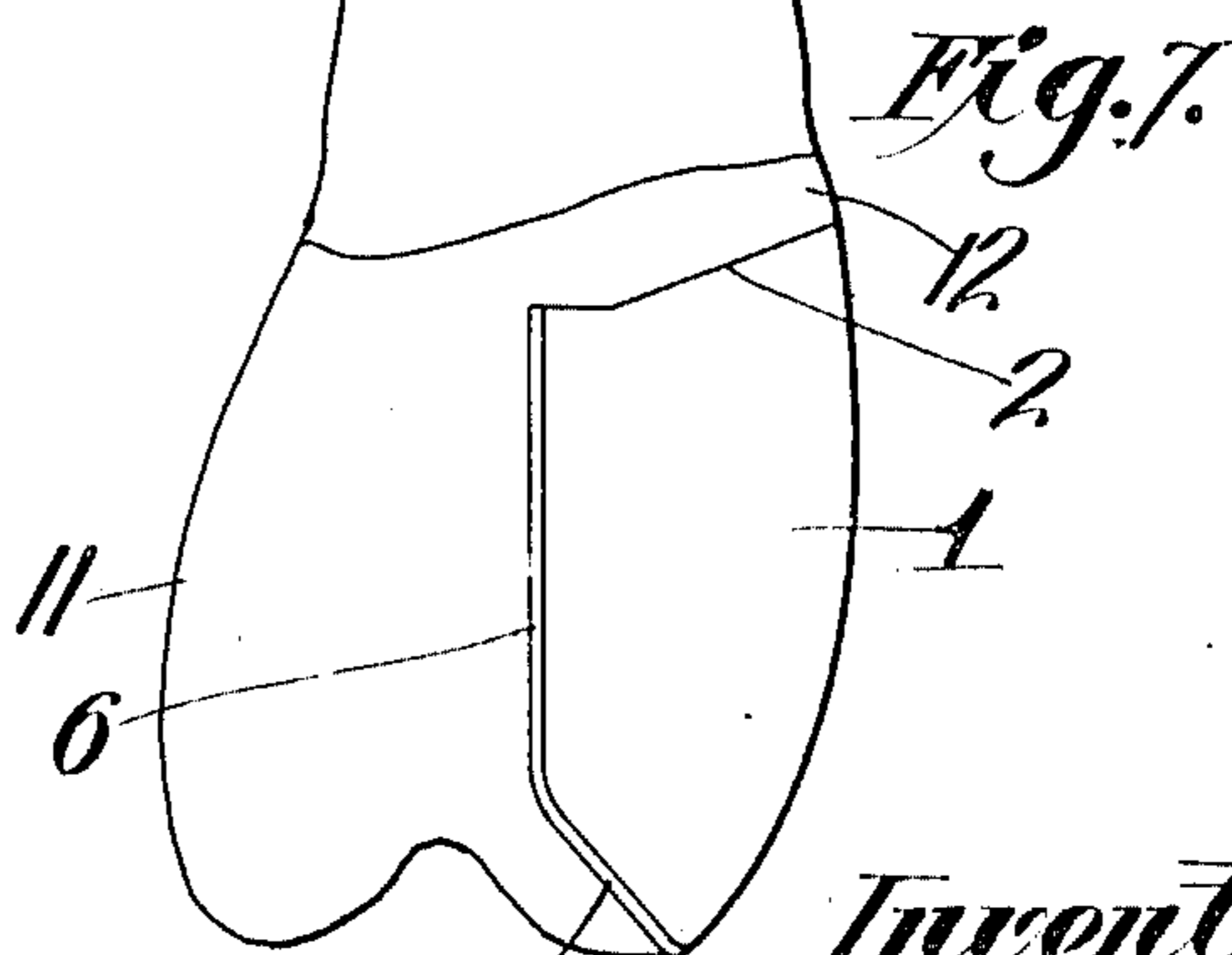
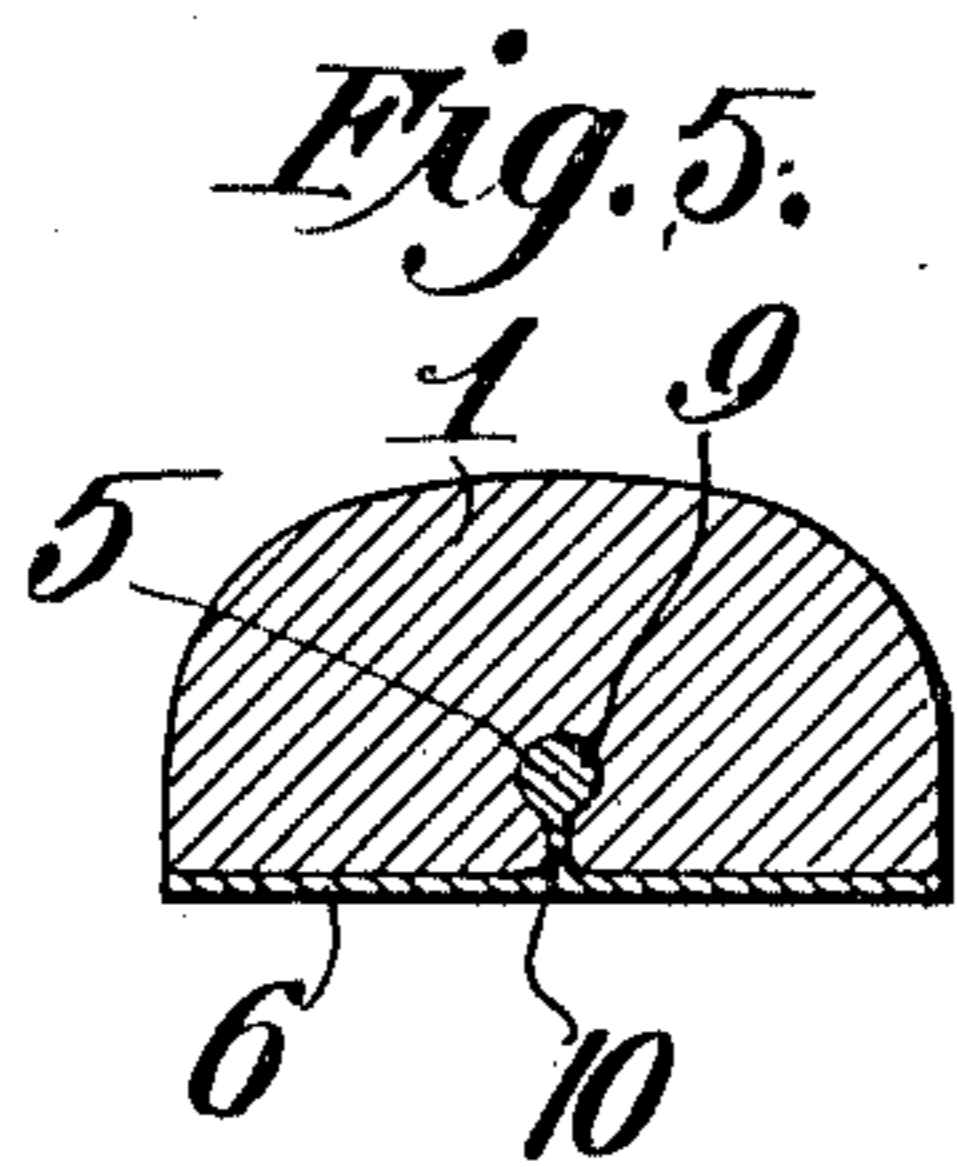
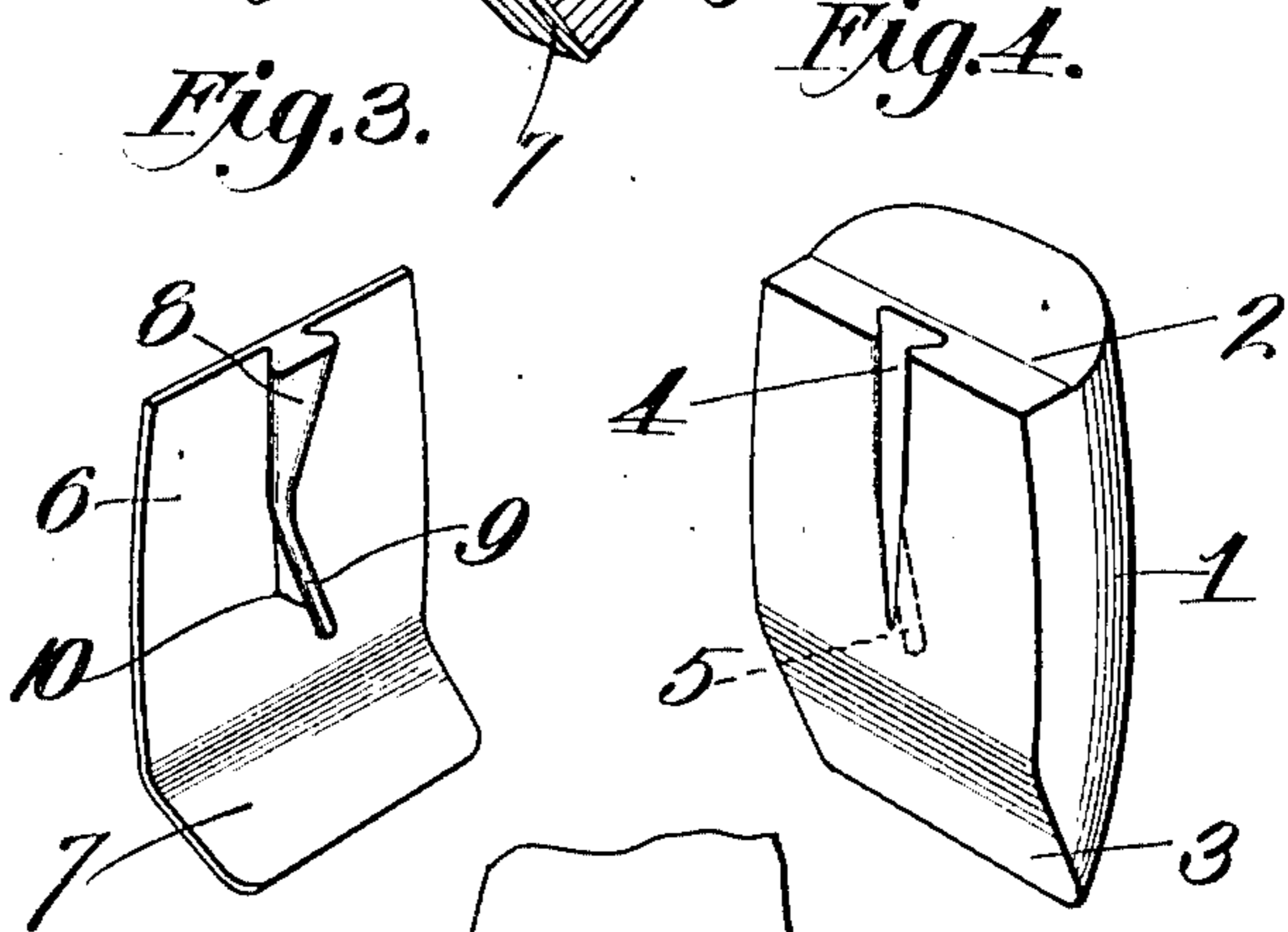
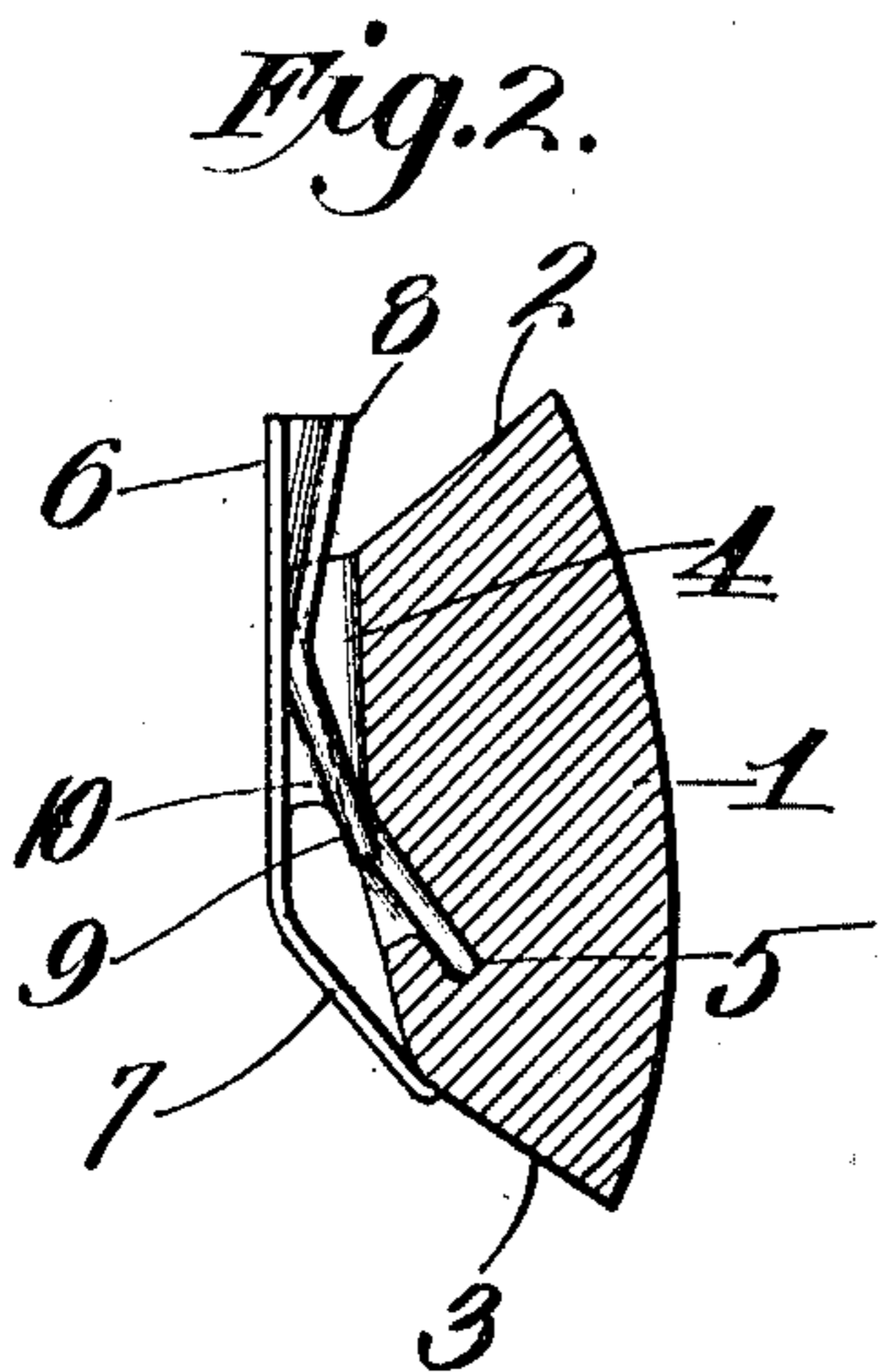
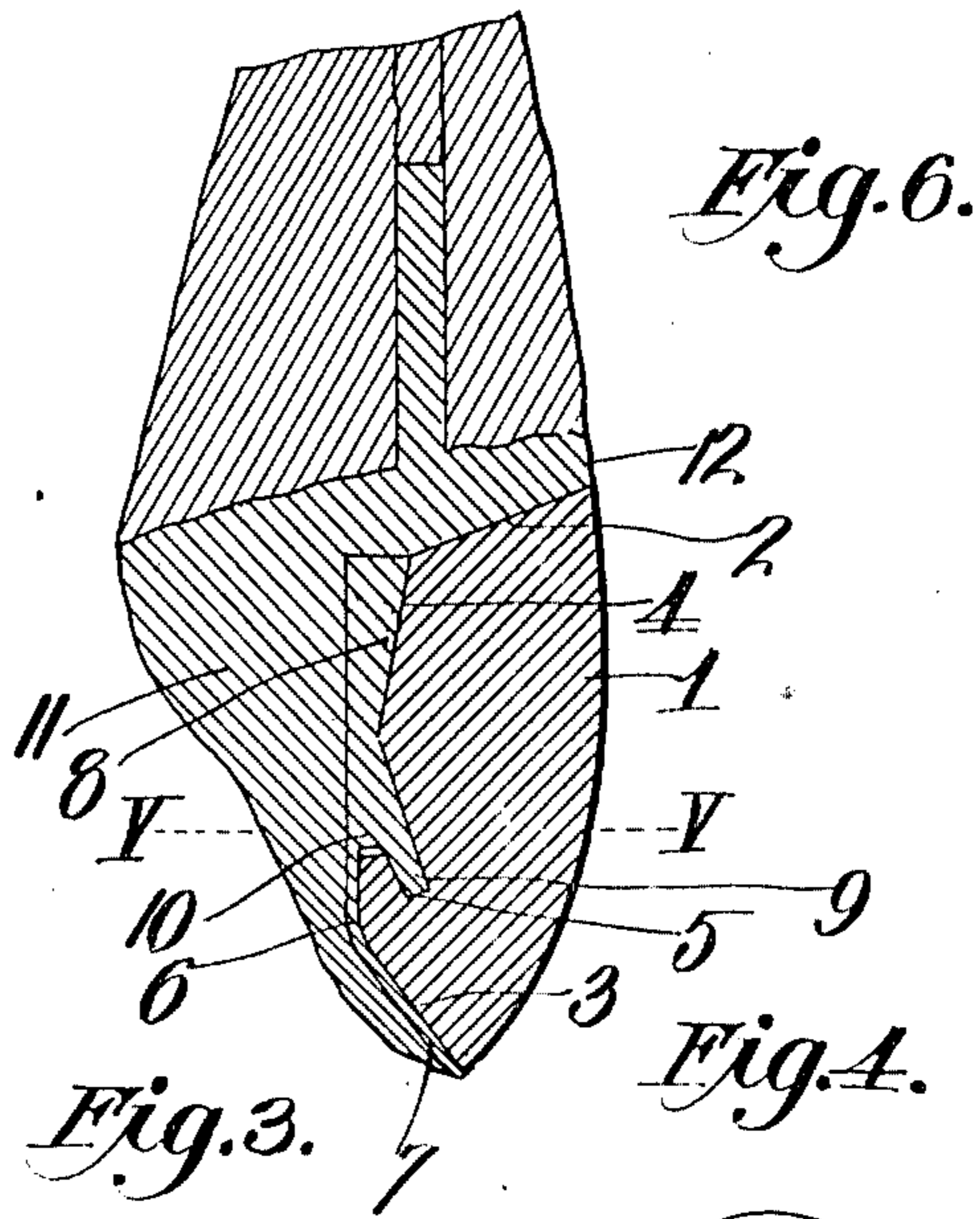
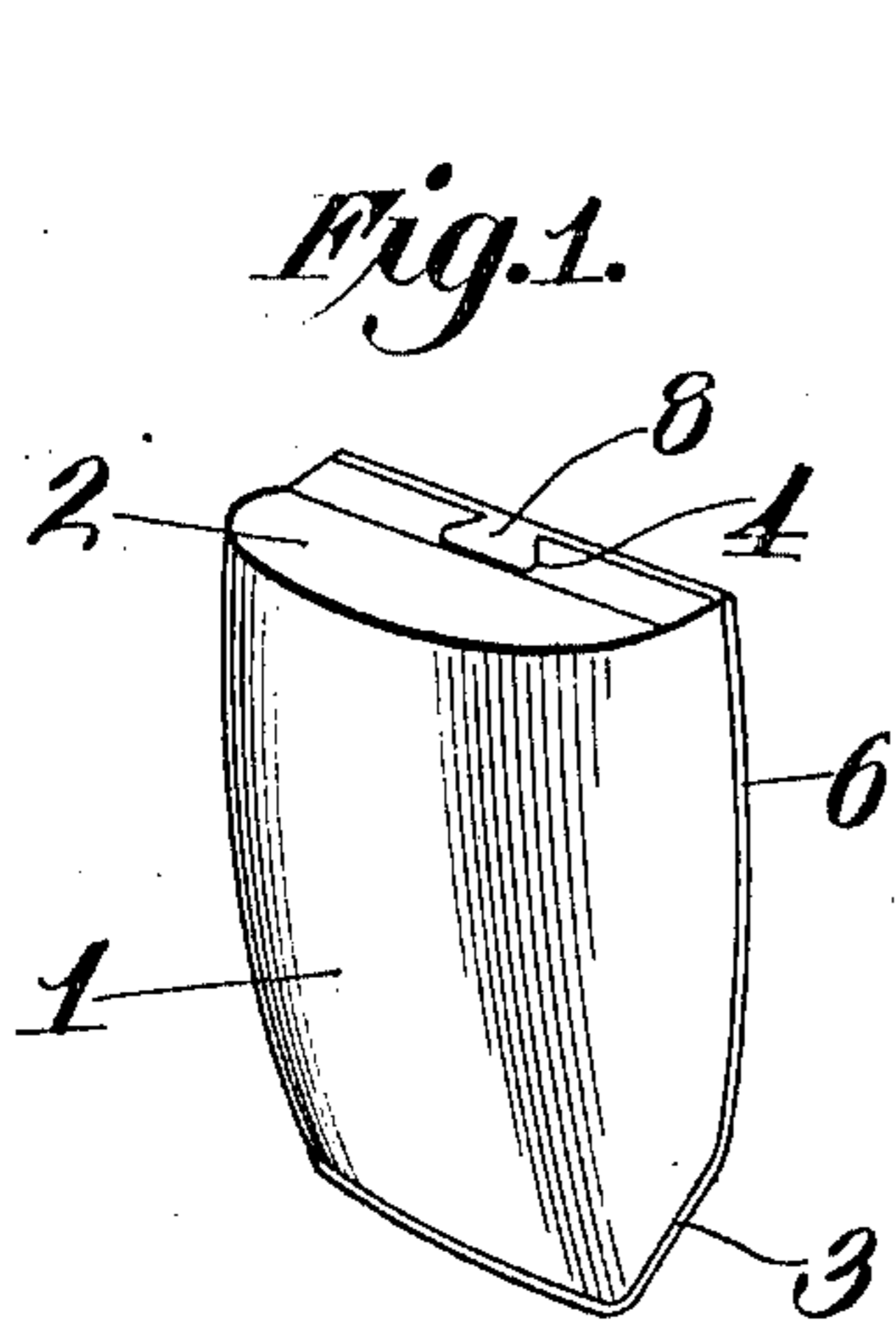


F. J. CLAYPOOL.
ARTIFICIAL TOOTH.
APPLICATION FILED SEPT. 8, 1910.

983,685.

Patented Feb. 7, 1911.



Witnesses
Frank R. Horn
H. C. Rodgers

Inventor
F. J. Claypool
By George S. Thompson Atty.

UNITED STATES PATENT OFFICE.

FRANK J. CLAYPOOL, OF OTTAWA, KANSAS.

ARTIFICIAL TOOTH.

983,685.

Specification of Letters Patent.

Patented Feb. 7, 1911.

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To all whom it may concern:

Be it known that I, FRANK J. CLAYPOOL, a citizen of the United States, residing at Ottawa, in the county of Franklin and State of Kansas, have invented certain new and useful Improvements in Artificial Teeth, of which the following is a specification.

This invention relates to artificial teeth and more particularly to teeth of that class comprising a porcelain facing and a backing secured together, my object being to produce a tooth of this character, wherein the backing is disposed over the cutting edge of the porcelain to relieve the latter of the strain incident to biting upon hard objects, of such construction that the facing may be properly fitted to the backing secured in the mouth, by fitting it against the backing and then sliding it longitudinally thereon a distance materially shorter than its own length, and which, if it becomes defective from any cause, may be readily removed by moving it in the reverse direction.

More specifically, my object is to produce an artificial tooth embodying a backing having a downwardly and forwardly projecting lower portion and a pin or stud extending in substantially the same direction from a point above said lower portion, and a facing having its lower portion ground to fit the corresponding portion of the backing, and a socket to receive said pin or stud, a still further object being to provide the backing, above said pin or stud, with a longitudinally extending dovetail stiffening rib of downwardly tapering form and a corresponding groove in the facing to receive said rib.

With these objects in view the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawing, in which—

Figure 1, is a perspective view of a porcelain facing and a backing secured together in operative relation. Fig. 2, is a vertical section of the same with the parts in the act of being slipped together or apart. Fig. 3, is a detail perspective view of the backing. Fig. 4, is a detail perspective view of the facing. Fig. 5, is a horizontal section on the line V—V of Fig. 6. Fig. 6, is a vertical section showing the backing and facing secured in operative relation upon a root and consti-

tuting an incisor. Fig. 7, is a side view with the parts in operative relation the tooth shown being a bicuspid.

In the said drawing, 1 indicates the porcelain facing or part of the tooth which is discernible when in a person's mouth, the opposite ends of the same being beveled, the upper edge at 2 and the lower edge at 3. In the rear face of the facing is formed a vertical dove-tail groove 4, which tapers or narrows toward its lower end and it is also formed with a socket 5 extending downwardly and forwardly, the upper end of the socket communicating with the groove 4.

6 indicates a gold or equivalent backing plate to fit snugly against the rear side of the facing and bent to form a downwardly and forwardly projecting lower portion 7 to fit snugly against the beveled surface 3 so that the lower end of said portion 7 shall be flush with the face of the facing at the lower margin of the latter and thus protect the latter and prevent the same from being injured under strain imposed upon it incidental to the act of mastication. At its front side the backing plate is provided with a dove-tail longitudinal rib 8 susceptible of fitting with a dove-tail relation in groove 4 of the facing and projecting downwardly and forwardly from the lower end of the dove-tail rib 8 is a pin or stud 9, to fit snugly in socket 5, a thin web 10 uniting the pin or stud with the backing plate and extending through the narrow lower end of the groove 4 and terminating by preference, short of the lower end of the pin or stud as clearly shown, so that back of the lower end of said pin or stud, the facing shall be solid.

After the backing plate and porcelain facing have been finished so as to articulate properly, the former is secured to a root as shown or in any other suitable or preferred manner, that is to say it is built up with additional gold or equivalent material 11 so as to fill out the tooth to its proper form whether it be an incisor, bicuspid or molar, the built-up portion also projecting forwardly beyond the backing plate at 12, as an abutment for the upper beveled end 2 of the facing, it being of course understood that the backing is susceptible of being attached to a bridge or of being secured in the mouth in any of the approved ways known to the dental profession. After the backing is properly secured in place, the facing is fitted against it substantially as shown in Fig. 2,

if it is an upper tooth—if it is a lower tooth, the parts would bear the same relation but would be inverted. The facing is then slid longitudinally so that the downwardly tapering dove-tail rib and the downwardly and forwardly extending pin or stud 9, shall respectively enter the dove-tail groove 4 and socket 5 of the facing, this relation being established as the lower edge of the downwardly and forwardly extending portion 7 of the backing comes flush with the incisive edge of the facing. In this manipulation of the facing it will be seen that it is necessary to move it longitudinally only a small fraction of its length and because of this it can be secured to or removed from back as well as anterior teeth.

To secure the facing permanently in position, cement is applied to its rear face and beveled edges and is also placed within the groove and socket, or it may be applied to the corresponding portions of the backing, so that when the facing is secured in operative relation to the backing it will be permanently united thereto, it being possible to remove it only by destroying the bond of cement.

It will be apparent that it will be impossible for the facing to be accidentally disconnected from the backing even if not cemented as after it is in place a sufficient force must be applied upon the facing longitudinally to cause it to overcome the friction which is created between the socket and the pin and the lower beveled end of the facing and the correspondingly bent end 7 of the backing. The pin or stud and socket together with the underlying portion 7 of the backing are depended upon chiefly to hold the facing upon the backing, the dove-tail rib being relied upon mainly as an auxiliary to the pin or stud in this holding function and for stiffening and strengthening and providing for a more extended interlocked connection between the backing and the facing, it being also noted that by the provision of the backing with the dove-tail rib and the facing with the dove-tail socket or groove, a large part of the strain which would otherwise be imposed upon the cement to prevent outward movement of the upper part of the facing, is avoided as the rib and groove guard against such separating movement.

From the above description it will be apparent that the facing is efficiently protected

and relieved of all strain tending to split or check it, by means of the metal backing extending forwardly or outwardly to the incisive edge of the facing and that I have provided a construction which is simple, strong and durable and comparatively inexpensive.

I claim—

1. An artificial tooth, comprising a backing having its lower end extending downwardly and outwardly, and provided with a downwardly and outwardly extending pin, and with a substantially vertical rib at the same side as and extending upwardly from the pin, and a facing having its lower edge beveled downwardly and outwardly to its incisive edge to correspond to and fit snugly upon the lower end of the backing, and provided with a downwardly and outwardly extending socket to receive said pin, and with a groove in its rear side forming a continuation of said socket and snugly receiving the said rib of the backing.

2. An artificial tooth, comprising a backing having its lower end extending downwardly and outwardly, and provided with a downwardly and outwardly extending pin, and with a substantially vertical rib at the same side as and extending upwardly from the pin, the said rib being of dove-tail form and narrowing from its upper end to its point of junction with the pin, and a thin web extending from the backing to the pin thereof and terminating short of the lower end of the latter and constituting a brace for the same, and a facing having its lower edge beveled downwardly and outwardly to its incisive edge to correspond to and fit snugly upon the lower end of the backing, and provided with a downwardly and outwardly extending socket to receive said pin, and with a groove in its rear side forming an upward continuation of said socket, said groove being of dove-tail form and diminishing in width from its upper end to its point of junction with said socket and adapted to snugly receive the dove-tail rib of the backing.

In testimony whereof I affix my signature, in the presence of two witnesses.

FRANK J. CLAYPOOL.

Witnesses:

S. R. HUBBARD,
G. Y. THORPE.