

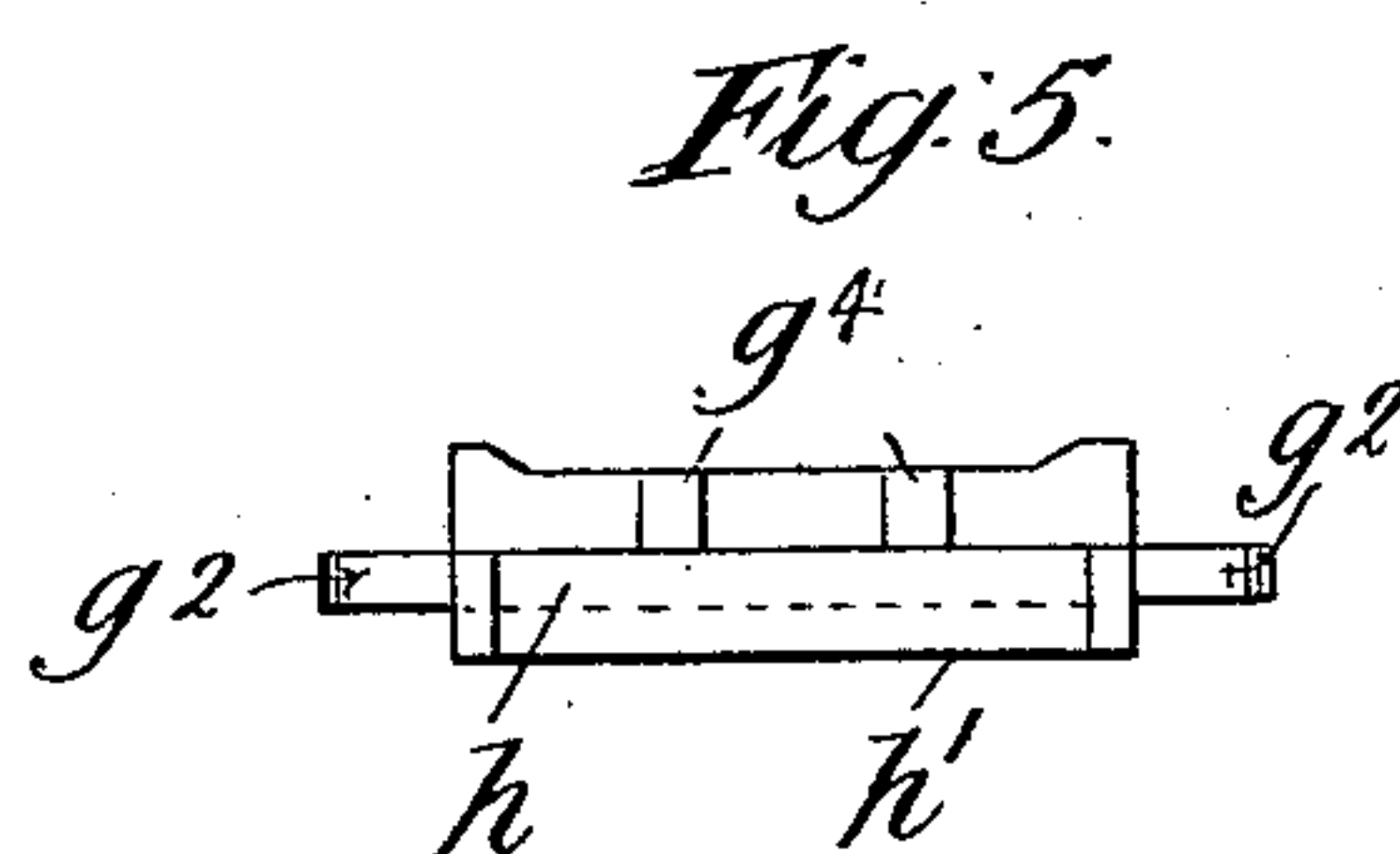
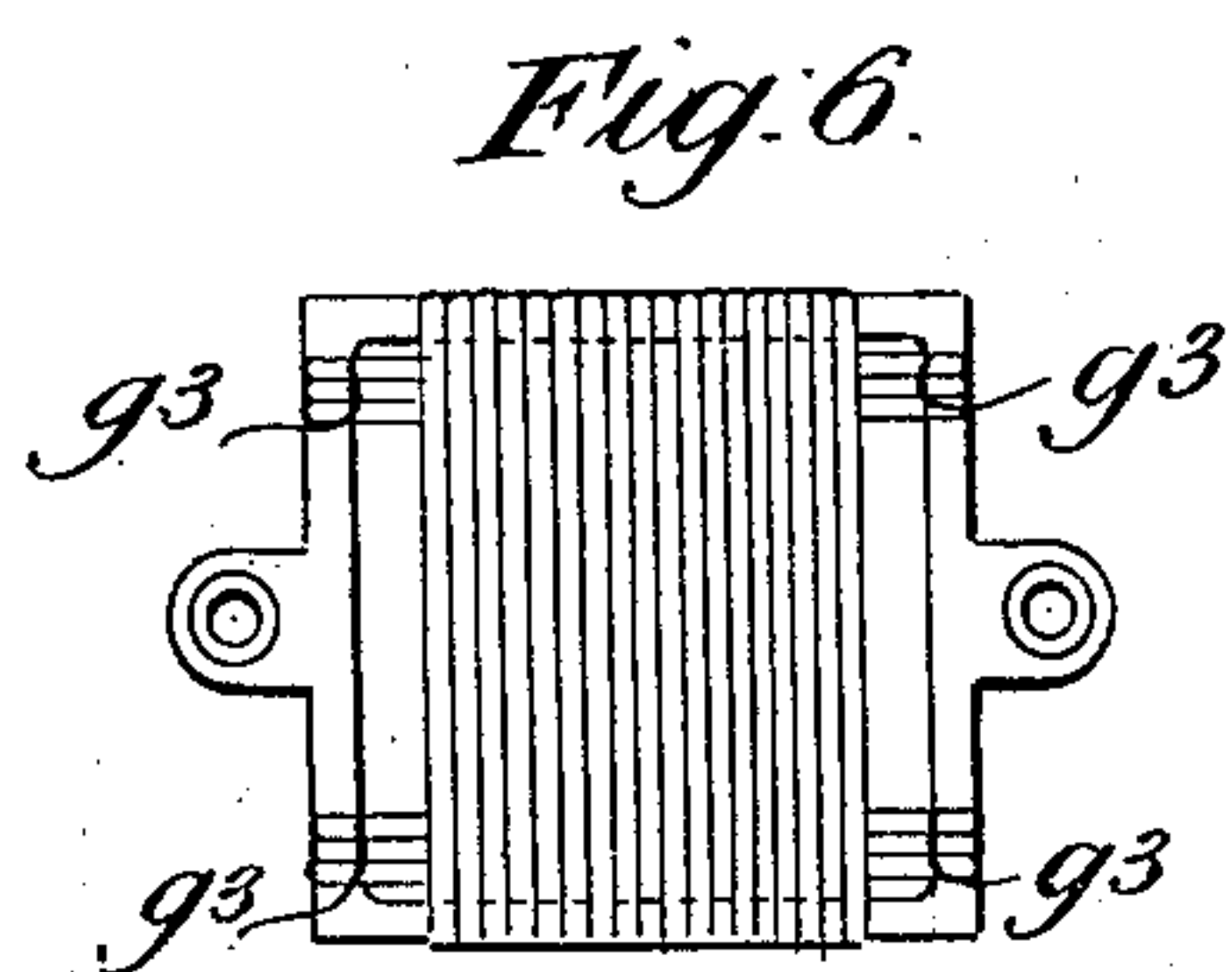
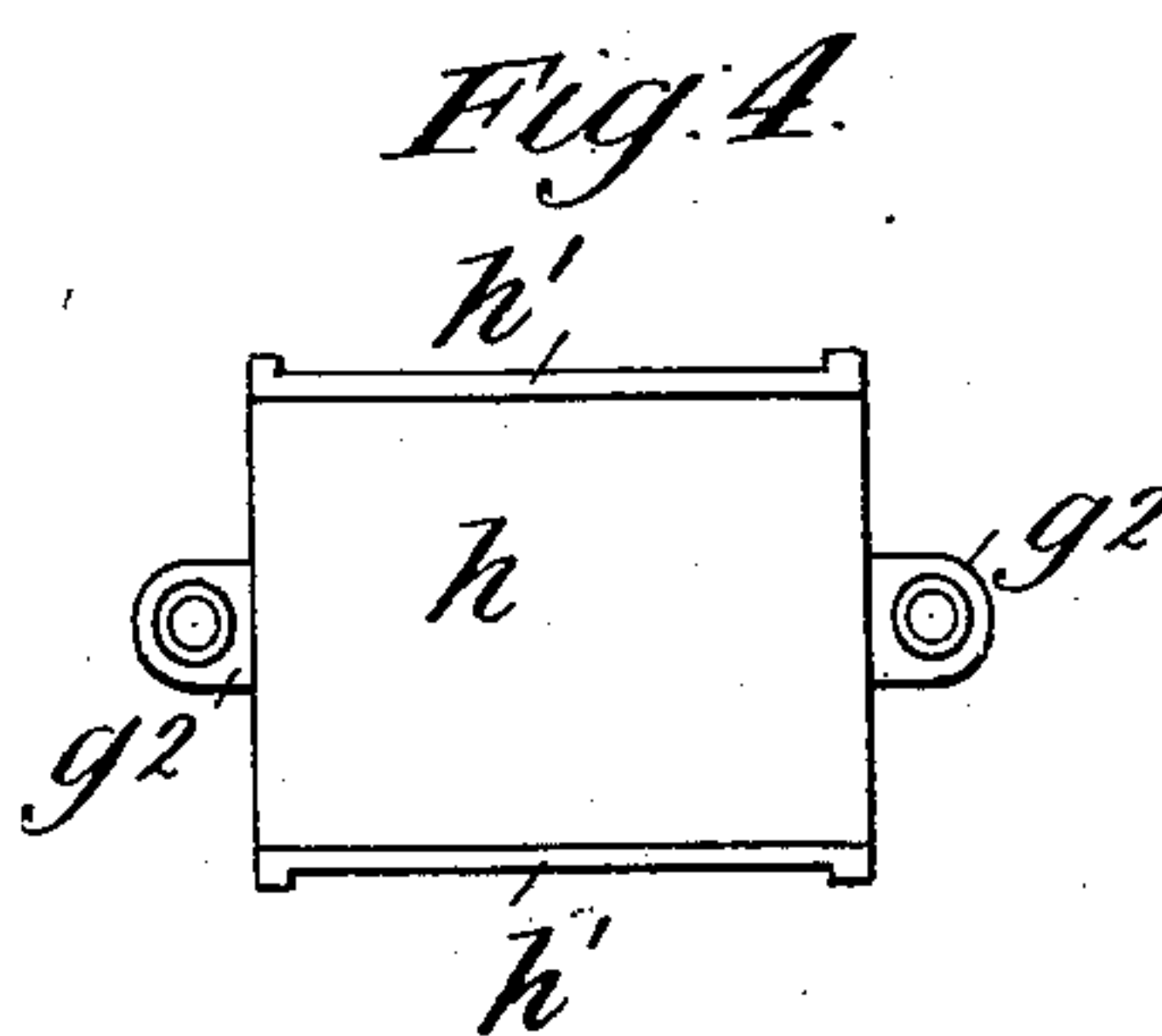
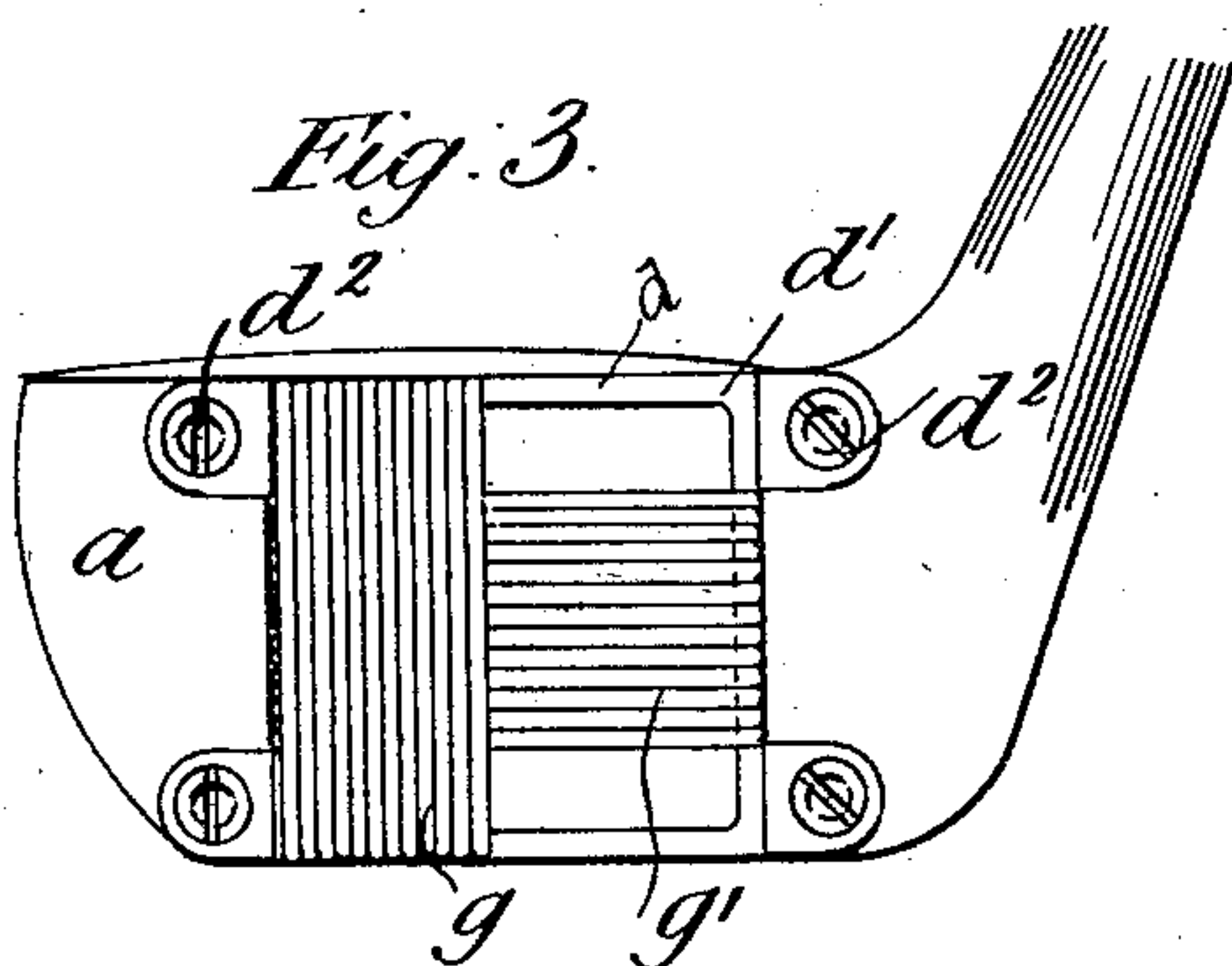
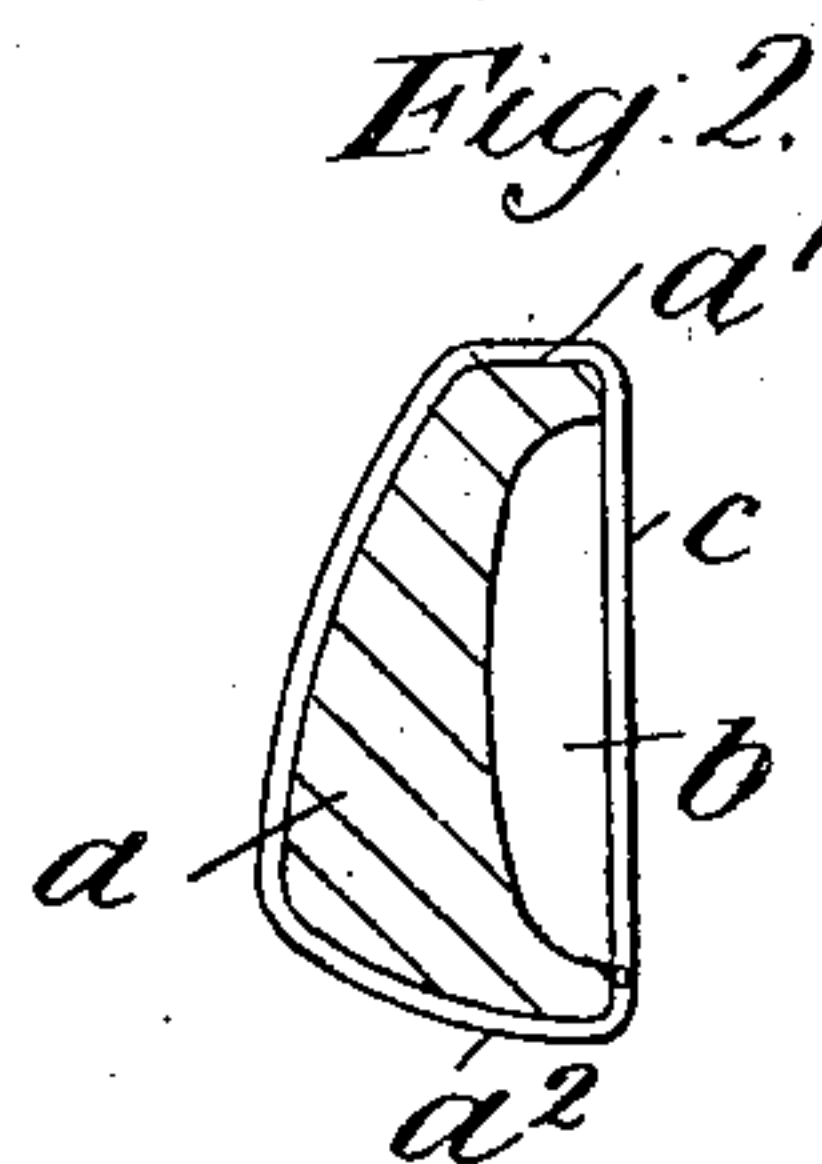
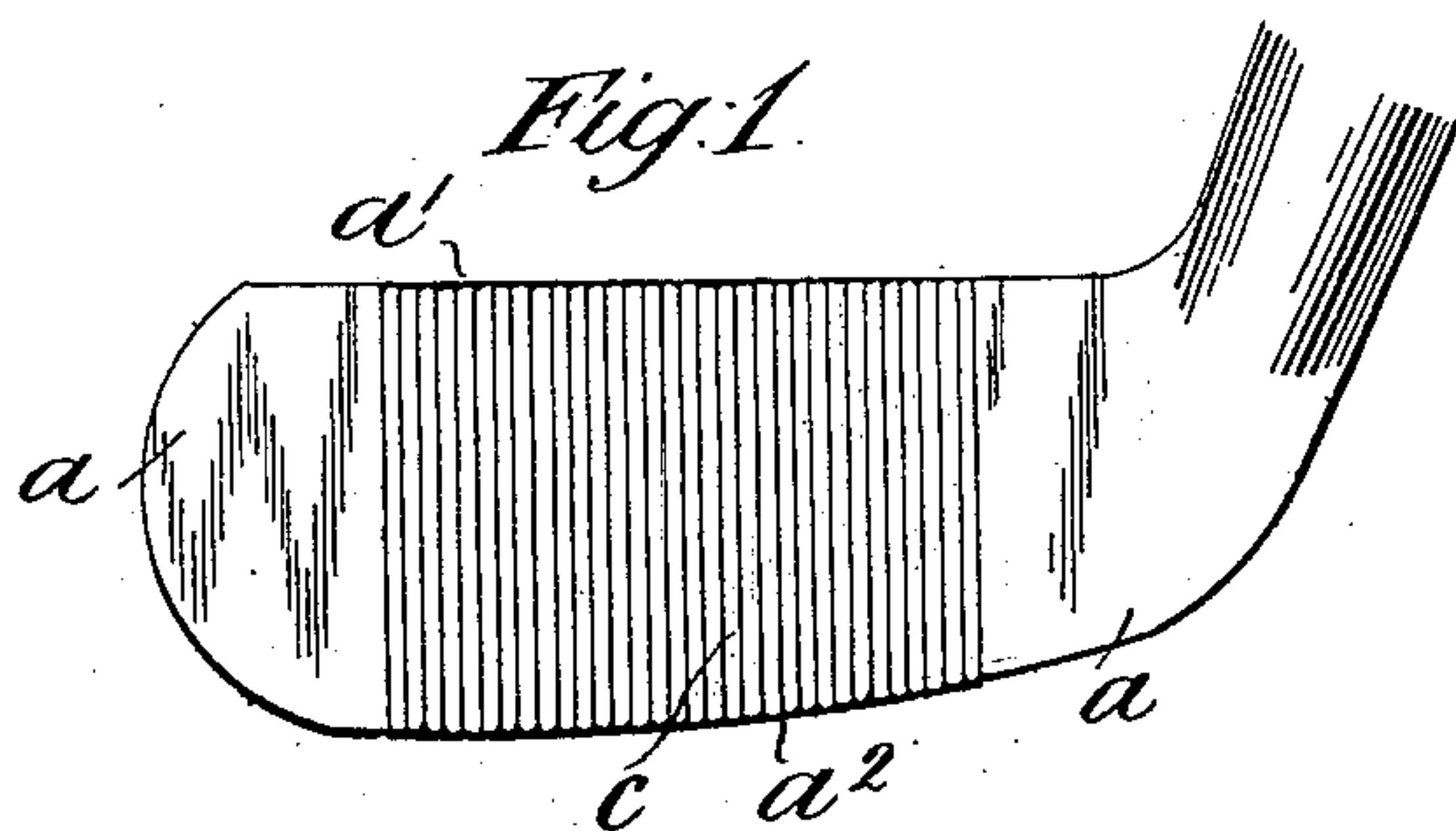
No. 890,836.

PATENTED JUNE 16, 1908.

H. BEALE.
GOLF CLUB.

APPLICATION FILED NOV. 28, 1906.

2 SHEETS—SHEET 1.



Witnesses

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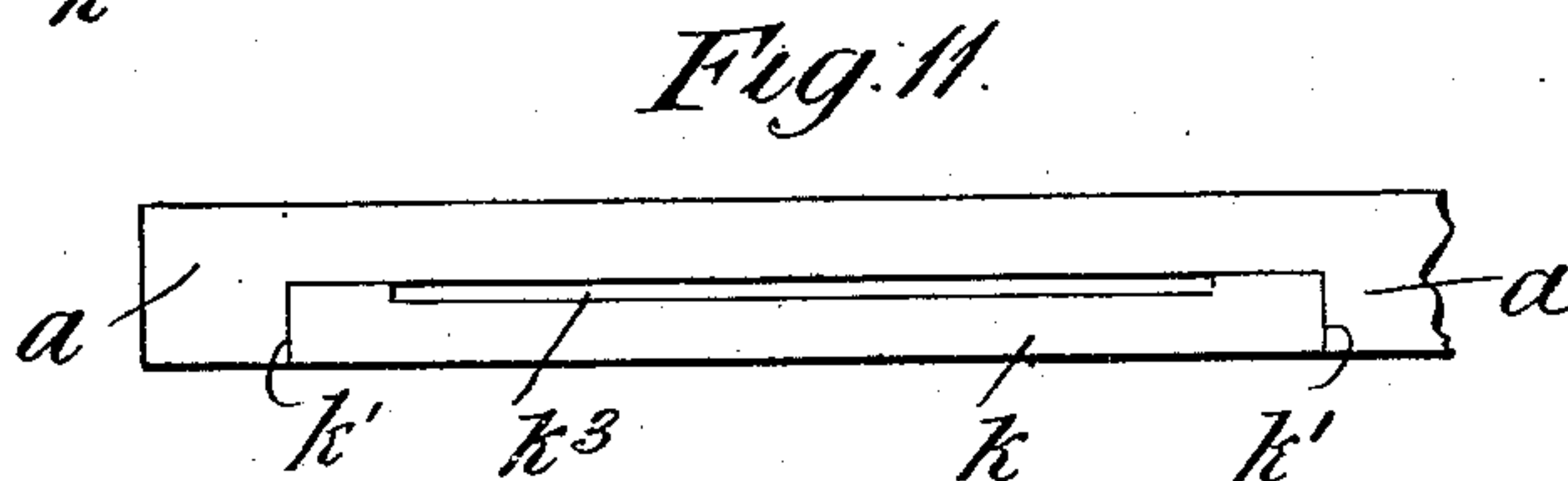
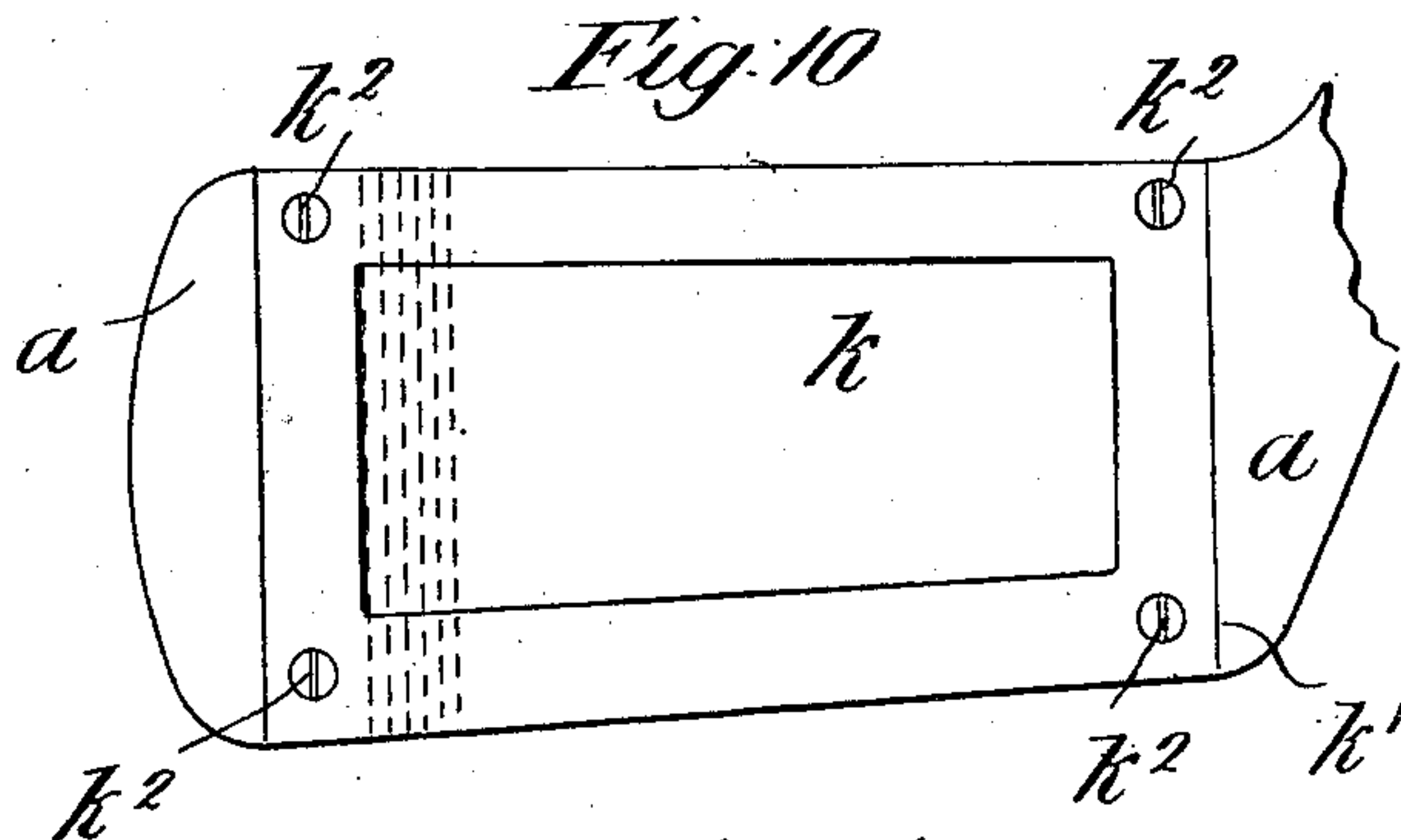
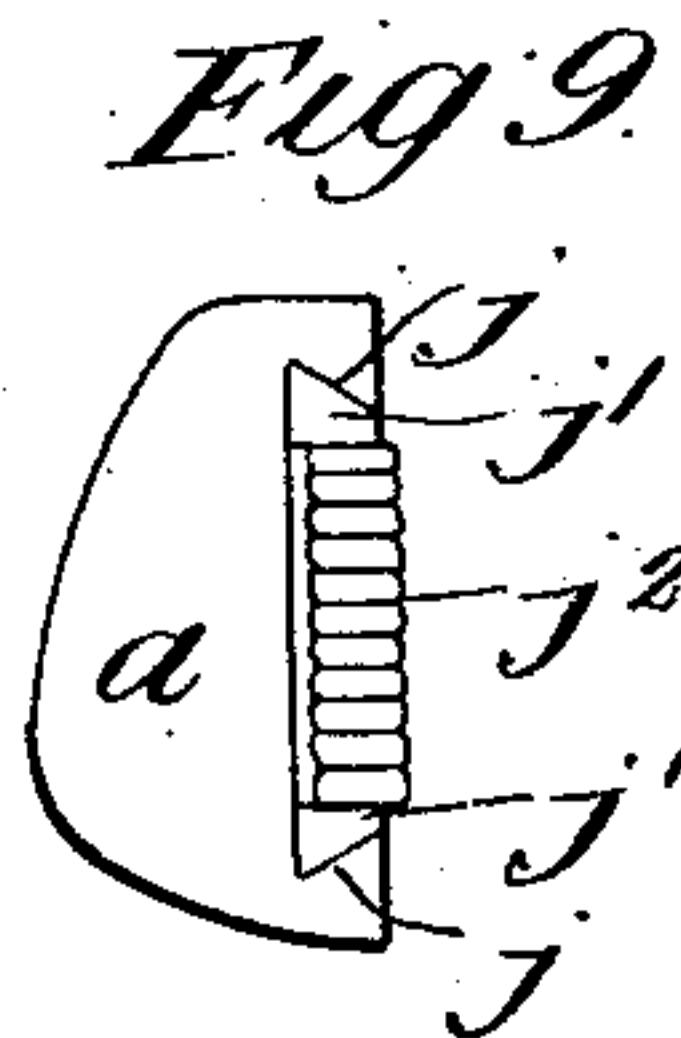
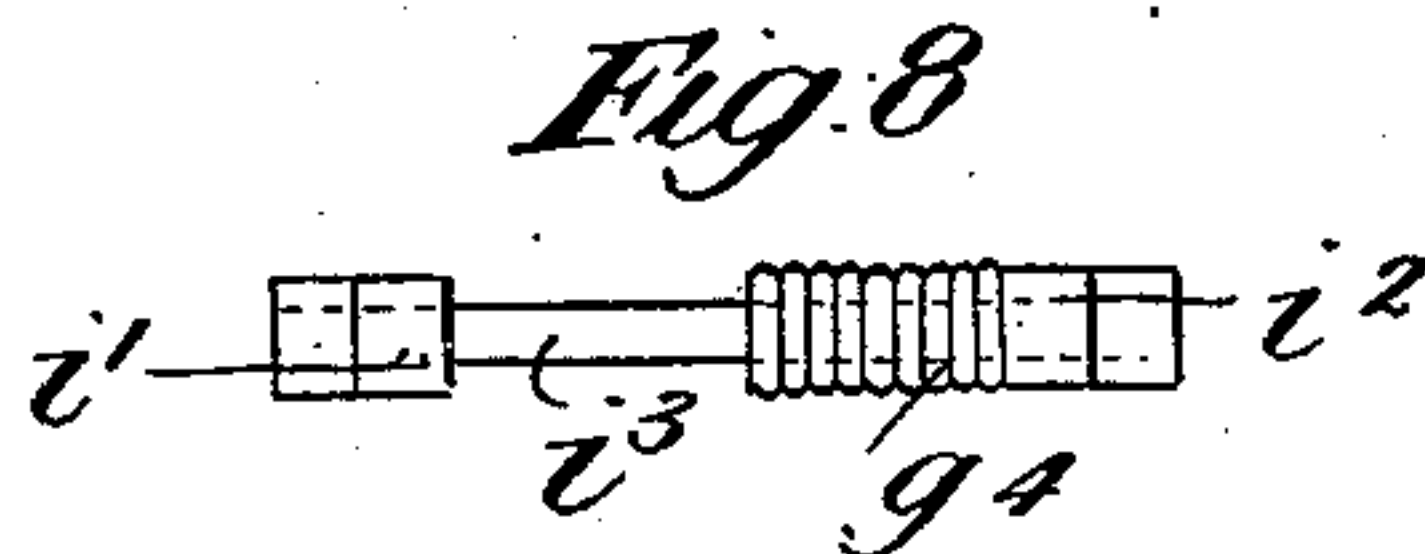
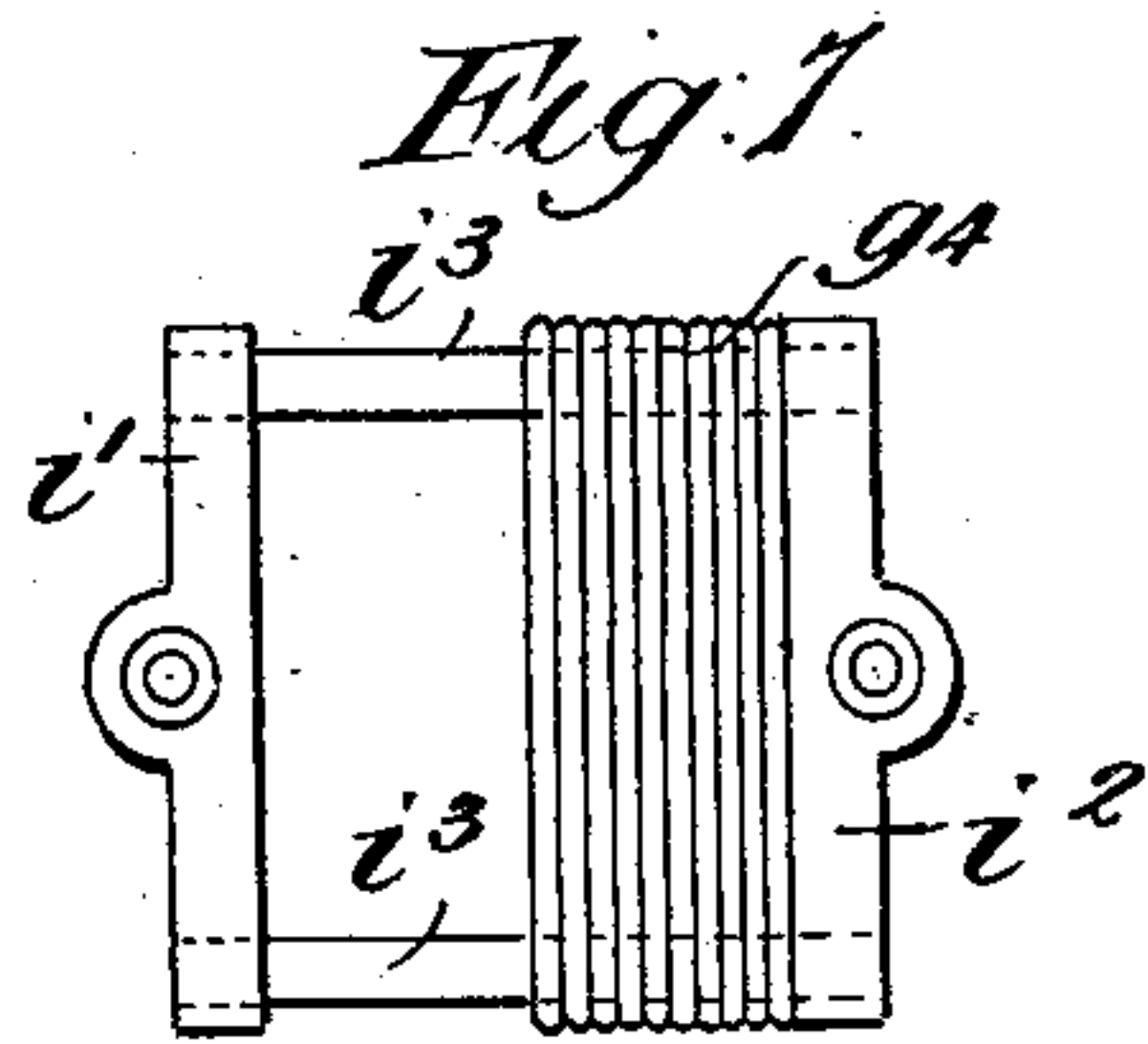
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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

HAROLD BEALE, OF LONDON, ENGLAND.

GOLF-CLUB.

No. 890,836.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed November 28, 1906. Serial No. 345,558.

To all whom it may concern:

Be it known that I, HAROLD BEALE, a subject of the King of Great Britain, and resident of London, England, have invented certain new and useful Improvements in and Relating to Golf-Clubs, of which the following is a specification.

This invention relates to improvements in and relating to golf clubs and it has for its object to so construct the said clubs as to greatly increase their driving power.

The invention consists essentially in providing that portion of the club with which the ball comes into contact with a highly resilient surface said surface being composed of strands of substantially inextensible material such for example as metal wire in one or more lengths and in a high state of tension.

In its simplest form the invention may comprise a metal frame of a peripheral outline corresponding more or less to that of the club face. Across this frame in a direction preferably at a right angle to the length of the said frame I wind a length of wire. In order to permit the equal tensioning of each convolution and at the same time to prevent the cutting of the wire the edges over which it passes are rounded. The ends of the wire are secured in any convenient manner and if desired means may be provided whereby the tension may be regulated. The frame wound in the manner just described is secured in any suitable manner, to the face of the club. The tensioning above referred to may be effected by means of a roller which may form one of the longitudinal members of the frame and round which a convolution or convolutions of wire is or are wound prior to leading it across the face of the club. The roller may if desired be perforated and the wire passed through the perforation.

A ratchet and pawl may be provided at one or both ends of the roller to secure it against rotation. It is obvious however that various devices other than that just described may be employed for tensioning the wire.

Instead of winding the wire completely round the frame as in the foregoing arrangements, the wire may be led across the frame through perforations or round channels and projections. If necessary an opening could be formed in the club itself and where the said club is formed of metal the wire could be

applied directly thereto. In the case of a wooden club it may if desired be hollowed upon the face in order to permit the necessary deflection of the wire under the force of impact with the ball. It will however be obvious that I may alter the general construction and arrangement of the parts as may be found in practice to be most desirable or necessary.

Instead of arranging the wire so that the direction of the winding is transversely of the frame I may wind the said wire in a direction parallel with the length of the frame or in both directions.

In order that the invention may be the better understood drawings are appended illustrating various applications of the invention in which:—

Figure 1 is a front view of a metal club to which a form of the invention has been applied. Fig. 2 is a transverse section of Fig. 1. Fig. 3 is a front view showing a form of the invention applied to a wooden club. Figs. 4 and 5 are respectively a front elevation and a plan of a frame carrying the wire. Fig. 6 shows an alternative arrangement of the wires. Figs. 7 and 8 are respectively a front elevation and a plan of frame upon which the wire is wound. Fig. 9 shows an alternative method of securing the frame and wire to the club. Fig. 10 is a front view of a further modification of the means employed for applying the wire to a metal club. Fig. 11 is a plan of the arrangement shown in Fig. 10.

Referring to the accompanying drawings Figs. 1 and 2 *a* indicates the body of the club which as shown in Fig. 2 is recessed upon the face at *b* and has wound round it in a direction transversely of its length a wire *c*. The club is preferably recessed upon that portion of its surface destined to receive the wire so that the outer surface of the wire is substantially flush with the surface of the club. The wire is wound tightly round the club and may be secured against unwinding by the application of solder at the points *a*¹ *a*². The wire employed may be of steel but it is obvious that wire of any other metal possessing the necessary tensile strength may be employed. The wire when stretched over the club as just described provides at the point of contact with the ball a resilient surface which greatly increases the driving power of the club.

Where the invention is applied to a wooden club I prefer to employ a plate such as *d* Fig. 3 provided upon its front surface with a peripheral flange *d*¹ and having lugs *d*² by which it may be secured, to the face of the club into which face it is countersunk so that the outer surface of the wires are flush with the face of the club. In the figure just referred to it will be noted that the wire, part of the outer winding of which has been omitted, runs in two directions one layer *g* transversely of the length of the club and the other layer *g*¹ parallel with the length of the club. The two layers are wound entirely around the plate *d* and one upon the other being secured in any convenient manner such that they do not become loose or yield under the force of the impact with the ball. As an alternative means and for supporting the wires where the winding is in one direction only I may employ a plate such as *h* in Fig. 4 having along its two opposite sides projections or ribs such as *h*¹ over which the wire is wound the said ribs or the like holding it a sufficient distance away from the face of the plate to permit it to yield under the impact of the ball. Lugs *g*² upon the ends of the plate permit its attachment to the club. To enable it to stand the strain of the wire the plate may be strengthened at the back by ribs such as *g*⁴. Similar strengthening means are also provided upon the plate *d* previously described. Instead of winding the under layer of wire completely across the supporting plate as shown in Fig. 3 I may provide a small number of convolutions *g*³ at each end of such outer winding as shown in Fig. 6 more or less of said under winding being employed as may be found in practice to be desirable.

Instead of employing a plate for supporting the wire I may employ a frame such for example as shown in Figs. 7 and 8 where the said frame comprises two end members *i*¹ *i*² provided with lugs to effect their attachment to the club and connected together by bars *i*³ *i*³ the wire *g*⁴ being wound upon the said bars *i*³, *i*³. An alternative method of inserting a frame upon which the wire or wires have been wound is shown in Fig. 9 where the club may be constructed in such manner as to enable a plate or frame to be applied thereto, the surface of the club being slotted the edges of the slots being inclined as at *j* to secure inclined surfaces *j*¹ of a frame or plate *j*². The plate or frame is secured to the club in any suitable manner but its attachment may be conveniently effected by forming both the slot and the frame somewhat tapering so that the frame may be driven tightly therein and become sufficiently wedged to prevent its ready displacement. The form of attachment just described moreover permits the ready substitution of one frame for another in the event of the collapse or damage of the frame or wires in use.

As an alternative means to that just above described I may employ a frame such as *k* shown in Figs. 10 and 11 the said frame being substantially rectangular and secured within a recess *k*¹ by means of screws *k*². The frame upon its rear longitudinal faces is recessed as shown at *k*³ Fig. 11 in order that the outer surface of the wire may be flush with the plane of the frame so as to permit it to be properly seated within the recess *k*¹. The wire is wound around the frame and is shown by dotted lines at *k*⁴, running transversely of the frame but it may run in a direction parallel with the length of the frame or in both directions. The front surfaces of the frame may also be undercut as shown at *k*³ in order that the wire may be flush with the general surface of the club face. It will however be obvious that the application of the wire to the club may be effected in various ways other than those herein described and illustrated.

What I do claim as my invention and desire to secure by Letters Patent is

1. A golf club provided with a head having a recess in its face, and strands wound under tension and extending over the recess to form the striking face of the club.

2. A golf club provided with a head having a recess in its face, and strands of wire wound under tension extending over the recess and forming the striking face of the club.

3. A golf club provided with a striking face formed of a plurality of lengths of wire in a state of tension, each length of wire being wound into a number of strands transverse to those of the other length and both lengths being mounted upon a rigid support.

4. A golf club provided with a head having a recess in its face, and strands formed of a length of wire wound under tension and extending over the recess, the run of the wire being in a direction transversely of the length of the head.

5. A golf club provided with a head having a recess in its face, and strands of wire wound under tension extending over the recess, the run of the strands being parallel with the length of the head.

6. A golf club provided with a head having a recess in its face, and two lengths of wire in a state of tension wound on said head and extending over the recess, the direction of the run of the respective wires being at right angles one to the other.

7. A golf club having a striking face formed of an open frame around which wire is wound, in a state of tension, the run of the wire being in a direction transverse to the length of the frame.

8. A golf club having an open frame mounted on its head and a wire wound around said frame in a state of tension, the run of the wire being parallel to the length of said frame.

9. A golf club having a striking face
formed of an open frame around which wire
is wound in a state of tension in a direction
parallel to and transversely of the length of
said frame, said frame being provided with
5 means for securing it to the head of the club.
In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

HAROLD BEALE.

Witnesses:

F. A. S. GWATKIN,
H. D. JAMESON.