

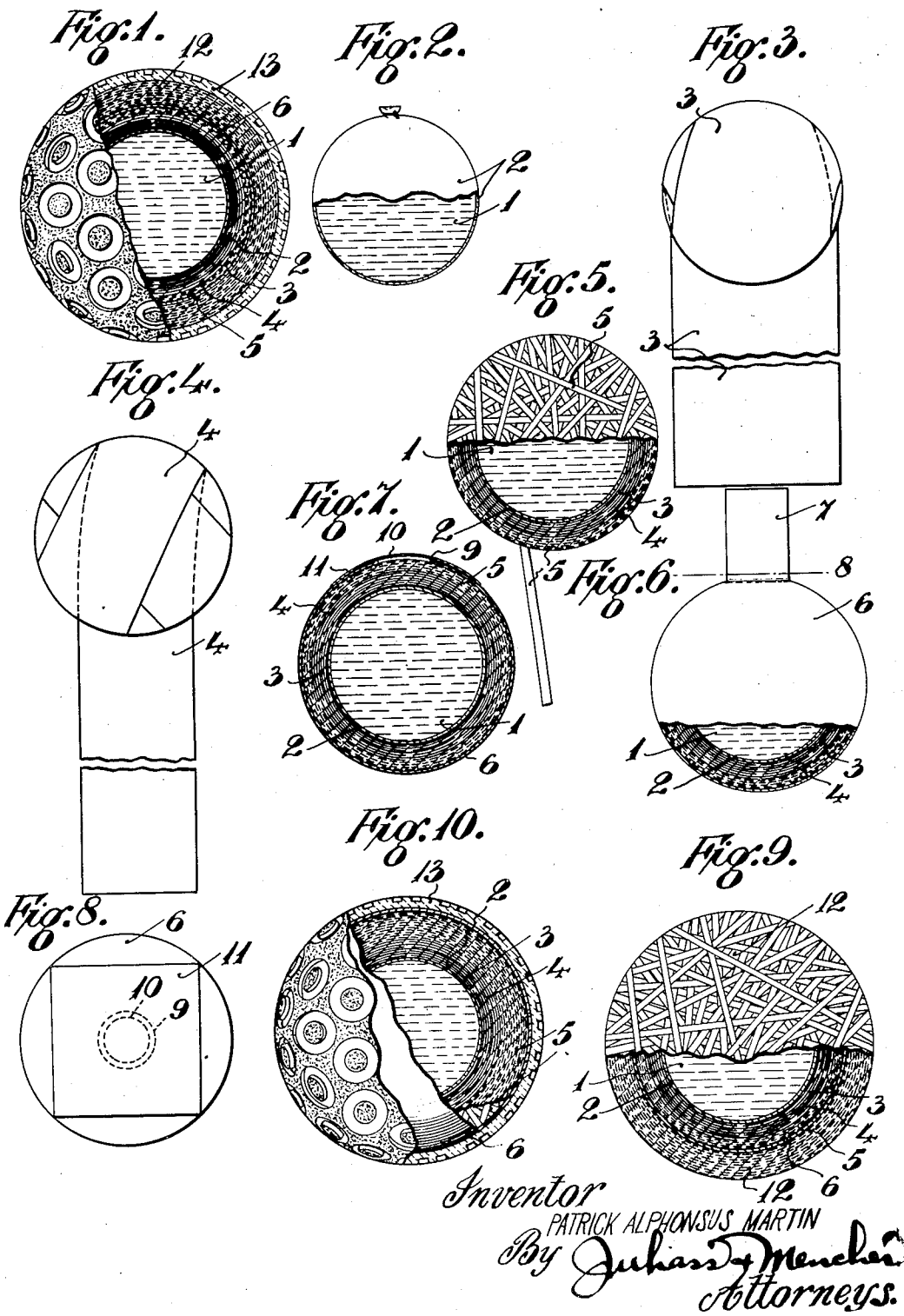
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1,982,218

METHOD OF MAKING GOLF AND OTHER PLAYING BALLS

Original Filed June 3, 1933



UNITED STATES PATENT OFFICE

1,982,218

METHOD OF MAKING GOLF AND OTHER
PLAYING BALLSPatrick Alphonsus Martin, Birmingham,
EnglandOriginal application June 3, 1933, Serial No.
674,236. Divided and this application Novem-
ber 15, 1933, Serial No. 698,068. In Great
Britain June 4, 1932

5 Claims. (Cl. 154—17)

This application is a division of the applica-
tion for patent for Golf and other playing balls,
filed in the United States Patent Office by
the inventor herein on June 3, 1933, bearing Ser.
No. 674,236.

This invention relates to the method of making
golf and other playing balls of the kind in which
a cover of balata or other suitable material is
moulded upon windings of tensioned rubber tape
and/or rubber thread usually wound upon a
centre or core of any suitable character.

It is desirable for the rubber windings to be
lubricated in order to give to the ball an efficient
resiliency and flexibility with effective length of
flight.

The object of the present invention is to en-
able an efficient golf or other ball, having lubri-
cated windings, to be produced in a practical
manner, such ball having enhanced power of
flight, as compared with a ball having non-lub-
ricated windings, by reason of its efficient re-
siliency and flexibility.

According to the invention a golf or other
playing ball is produced by winding tensioned
rubber upon a core, lubricating the windings after
being applied to the core, enclosing the wound
core within an envelope and applying outer wind-
ings and/or an outer cover upon the said en-
velope.

Figure 1 of the accompanying drawing repre-
sents partly in section and partly in elevation,
a golf ball constructed in accordance with the
present invention.

Figure 2 is an elevation, partly in section,
of the core or centre of the ball.

Figure 3 shows, in elevation, the said core or
centre partially wound with the initial rubber
wrapping or winding.

Figure 4 shows the said core or centre partially
wound with the second rubber wrapping or wind-
ing.

Figure 5 represents, partly in elevation and
partly in section, the core or centre after a third
wrapping or winding has been applied, and prior
to its being enclosed within the rubber envelope.

Figure 6 is an elevation, partly in section,
of the wound core or centre after being introduced
into the rubber envelope and before the latter
is closed.

Figure 7 is a complete section of the wound
core or central body after the enclosing envelope
has been sealed.

Figure 8 is a plan of the said wound core or
body when enclosed within the envelope.

Figure 9 represents an elevation, partly in

section, of the inner body of the ball after
being completely wound and prior to the applica-
tion of the cover.

Figure 10 shows a modification.

Referring to Figures 1 to 9, the ball comprises 60
a centre or core of any suitable character, for
example, a colloid substance 1, such as described
in my Patent No. 1,022,248, enclosed within an
elastic envelope 2. Upon this centre or core a
short length, for example, about 12 inches, of 65
wide rubber tape 3 in a dry or unlubricated con-
dition is wound, as shown in Figure 3, the same
being tensioned both laterally and longitudinally
while being wound so as to envelope the core
and form a firm basis for the subsequent wind- 70
ings. Upon this initial wrapping, a second layer
of somewhat narrower tape 4, also unlubricated,
is wound under longitudinal tension as repre-
sented in Figure 4; and then a third layer of
narrow rubber tape 5 is wound under tension 75
upon the said second covering, to form a third
covering of substantial thickness, thereby pro-
ducing the wound body shown in Figure 5. The
exterior surface of this body then has any suit-
able lubricant such as soft soap, applied to it, 80
which lubricant will penetrate the windings and
will effectively lubricate the same to give the de-
sired resiliency and flexibility while the ball is
in play. The wound body shown in Figure 5 is
next forced into a spherical rubber envelope or 85
bladder 6 (Figure 6) through a distensible neck
part 7 thereof such neck being then cut off close
to the body of the envelope at the position indi-
cated by the dotted line 8, Figure 6, leaving a
very short reinforcing collar 9 which will obviate 90
tearing of the envelope under the tension im-
posed upon it. The aperture 10 thus left in the
envelope is closed or sealed by means of a rubber
patch 11 cemented to the exterior of the envelope,
as shown in Figures 7 and 8. A final outer wind- 95
ing 12, of narrow rubber strip or thread, is then
wound upon the dry exterior of the envelope 6,
without any lubricant being applied to it, until
an outer layer of substantial thickness is formed
so as to produce the inner body shown in 100
Figure 9, said body being of the desired di-
ameter for receiving the usual balata or like cov-
ering 13, which is moulded upon the said outer
layer. The invention provides a practical meth-
od of applying lubricant to the windings around 105
the core. The enclosing of the lubricated wind-
ings within an envelope enables the outer wind-
ings to be wound upon the lubricated wound in-
ner part of the ball without difficulty, and as
these outer windings are applied in a dry or un- 110

lubricated condition the balata or like covering can be securely moulded thereon.

If desired, the envelope 6 may be left unsealed, so that lubricant may penetrate into the outer windings after the ball has been completed.

Also, as shown in Figure 10, the use of windings outside the envelope 6 may be dispensed with, the inner body enclosed within the said envelope and comprising the core 1, 2, and windings 3, 4, 5, being built up to the necessary diameter for receiving the outer cover 13 which is then moulded directly upon the said envelope 6.

It is to be understood that the centre or core may be of any suitable character. Thus, it may be solid, or may be hollow, or may comprise a liquid, fluid or plastic material enclosed within a container.

Having fully described my invention, what I desire to claim and secure by Letters Patent is:—

1. A method of manufacturing a golf or like ball consisting in winding unlubricated strip rubber under tension upon a core, lubricating the exterior of said rubber winding after being wound, enclosing the core and lubricated winding within an elastic envelope, sealing the elastic envelope, winding further strip rubber upon the envelope, and moulding an outer cover upon the said outer winding.

2. A method of manufacturing a golf or like ball consisting in winding strip rubber under tension upon a core, lubricating said rubber winding after being wound, enclosing the core and winding within an elastic envelope having a distensible neck by forcing the same through the said neck, cutting off the neck close to the body

of the envelope, and enclosing the core, winding an envelope within an outer cover.

3. A method of manufacturing a golf or like ball consisting in winding strip rubber under tension upon a core, lubricating said rubber winding after being wound, enclosing the core and winding within an elastic envelope having a distensible neck by forcing the same through the said neck, cutting off the neck close to the body of the envelope, closing the aperture to the envelope by cementing a piece of material over it, winding rubber strip under tension upon the exterior of the envelope, and moulding an outer cover upon the said outer rubber winding.

4. A method of manufacturing a golf or like ball consisting in winding unlubricated strip rubber under tension upon a core, lubricating the exterior of said rubber winding after being wound, enclosing the core and lubricated winding within an elastic envelope having a distensible neck by forcing the same through the said neck, closing the aperture of the envelope, and enclosing the core, winding and envelope within an outer cover.

5. A method of manufacturing a golf or like ball consisting in winding unlubricated strip rubber under tension upon a core, lubricating the exterior of said rubber winding after being wound, enclosing the core and lubricated winding within an elastic envelope having a distensible neck by forcing the same through the said neck, closing the aperture of the envelope, winding unlubricated strip rubber under tension upon the dry exterior surface of the envelope, and enclosing the core, inner winding, envelope and outer winding within an outer cover.

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