

Callaway Golf v. Acushnet

Callaway Golf's Opening Statement

Mike Yagley – Golf Ball R&D at Callaway Golf



- > Vice President of Product Management at Callaway Golf**
- > Came to Callaway Golf in 1997 to work on golf ball development**
- > Led golf ball research and development team at Callaway Golf**

Callaway Golf



- **Founded by Ely Callaway in 1982**
- **Headquartered in Carlsbad, California**
- **2600+ employees**
- **Launched Big Bertha driver in 1991**
- **Premier manufacturer of golf clubs in the world**

Callaway Golf



- Decided in 1996 to make golf balls
- Started R&D from scratch
- Introduced the Rule 35 golf ball in January 2000
 - Solid core, ionomer inner cover, polyurethane outer cover
 - Received critical acclaim
- Bought Spalding's golf business, Top-Flite, including all patents, in 2003

Callaway Golf Ball Introductions

Jan. 2000



Rule 35 Red

Oct. 2001



CTU 30 Red

Mar. 2002



HX Red

2004-2005



HX Tour



Rule 35 Blue



CTU 30 Blue



HX Blue



HX Tour 56

Callaway Golf - Key Events

1982

Ely Callaway buys into Hickory Stick, USA

1984

Company renamed as Callaway Hickory Stick



1989

Company name is changed to Callaway Golf Company



1980s

1991

Callaway Big Bertha driver is introduced



1996

Callaway Golf Ball Company is formed

1990s

2000

Rule 35 Balls



2003

Callaway acquires Top-Flite



2000s

Tom Kennedy – Golf Ball Development at Spalding



- > Senior Vice President, Intellectual Property Development at Callaway Golf**
- > 20+ years in golf ball development at Spalding and Callaway**
- > Worked with Mike Sullivan at Spalding**
- > Working at Callaway Golf since 2003**

Spalding Owned the Sullivan Patents



- One of earliest and best known sporting goods companies
- Manufactured golf balls sold under Top-Flite brand
- Technology leader in golf balls since the 1960s
- Built on work of Sullivan, Nesbitt, Molitor and others
- Competed with Acushnet for years

Spalding Company Timeline

1876



> A.G. Spalding & Bros. was founded by Hall of Fame pitcher Albert Goodwill Spalding

> Introduced first major-league baseball



1887

Introduced first American-made football



1888

Introduced first American-made tennis ball



1894

Introduced first American-made golf club



1895

First U.S. manufacturer of golf balls



1903

First to use Balata in a golf ball cover



1909

First U.S. manufacturer of dimpled golf balls

1968

Executive
First 2-piece golf ball



1971

Top-Flite XL
First 2-piece, Surlyn-covered golf ball



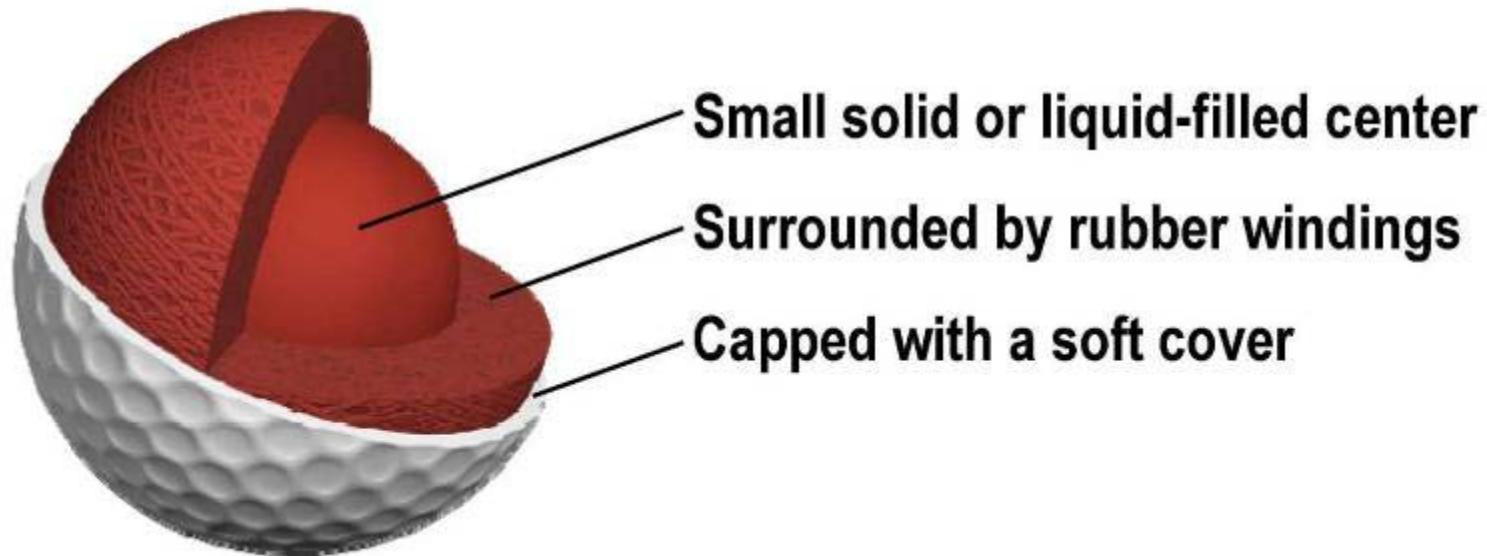
1996

Strata



1840s 1850s 1860s 1870s 1880s 1890s 1900s 1910s 1920s 1930s 1940s 1950s 1960s 1970s 1980s 1990s 2000s

Prior Art: Wound Golf Balls

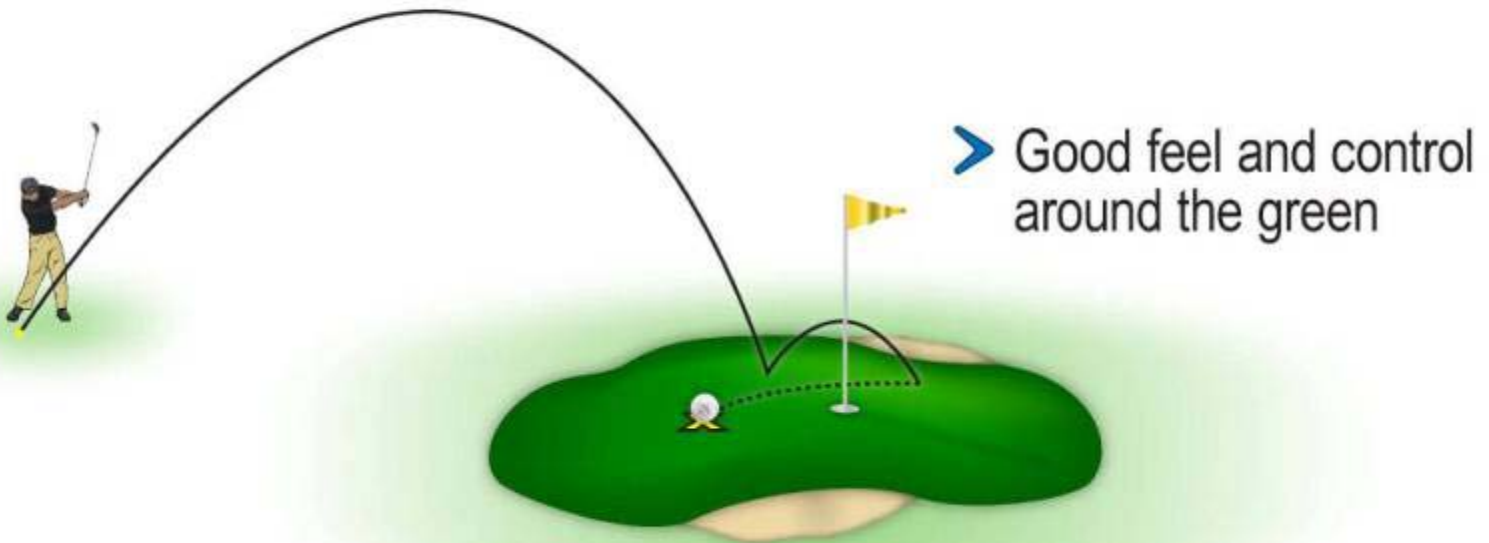


- Advantage: Soft cover provides superior spin and “feel”
- Disadvantage: Less distance; easily cut
- Was popular with professionals, not with amateurs
- Examples: Titleist Professional, Titleist Tour Prestige

Wound Ball - Balata Cover

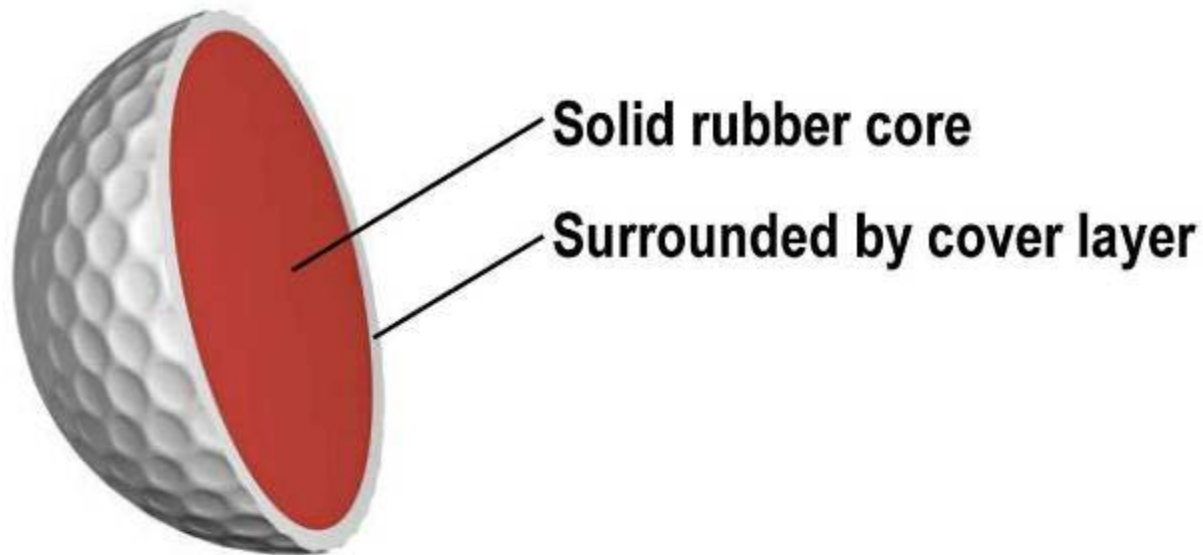


➤ Short driving distance



➤ Good feel and control around the green

Prior Art: Two-Piece Solid-Core Golf Balls

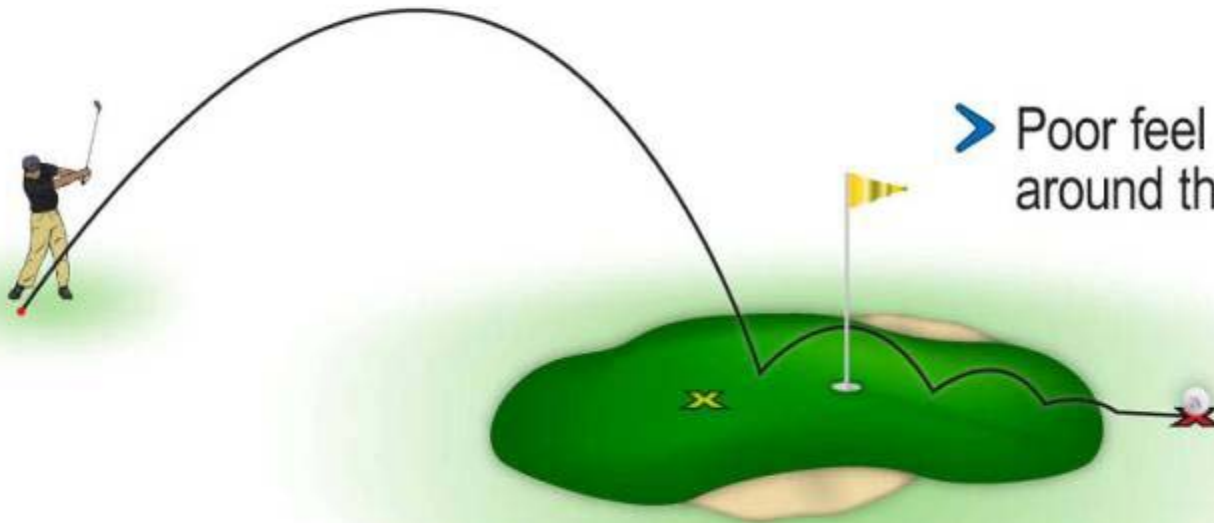


- **Advantage: Superior distance**
- **Disadvantage: Less spin, control, click and “feel”**
- **Popular with amateurs, not with professionals**
- **Examples: Spalding Executive, Spalding Top-Flite**

Two-Piece Ball

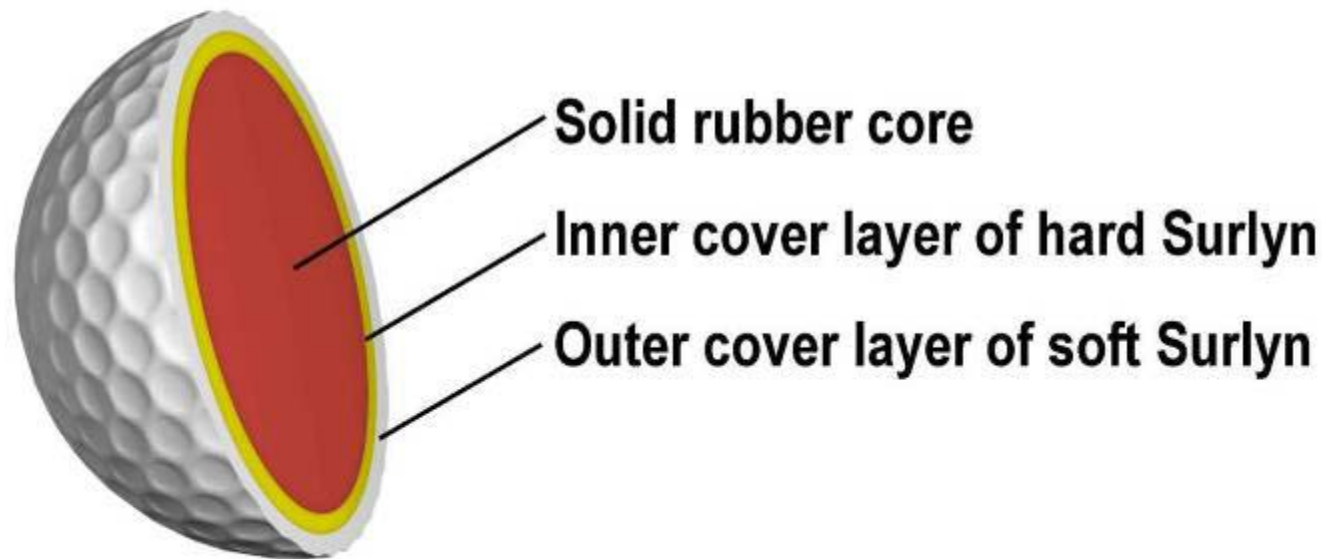


➤ Long, straight drives



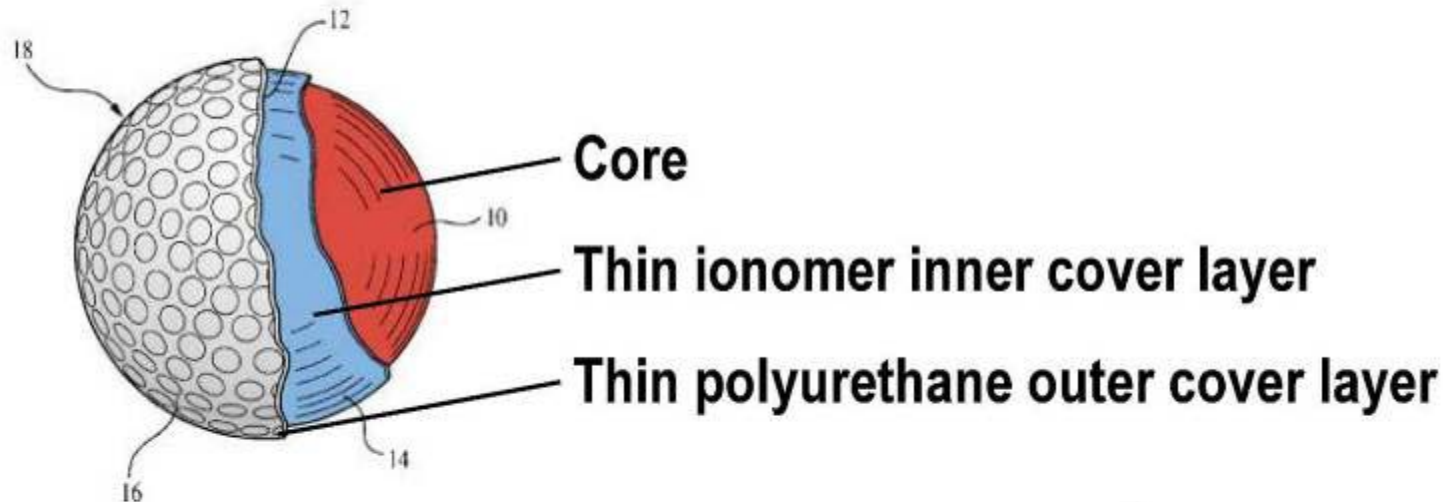
➤ Poor feel and control around the green

Prior Art: Three-Piece Surlyn-Covered Golf Ball



- **Advantage: Better “feel” than two-piece balls**
- **Disadvantage: Less distance than two-piece balls**
- **Used by amateurs, few professionals**
- **Example: Spalding Strata**

Patented Invention



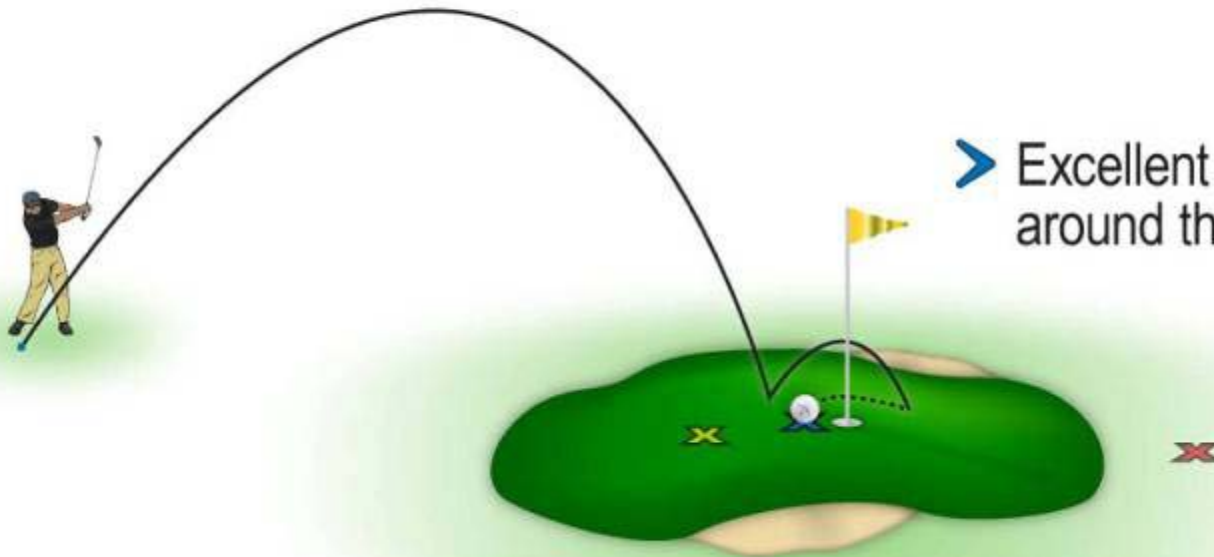
The present invention is directed to an improved multi-layer golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is comprised of a low acid ionomer blend which may or may not include a filler such as zinc-stearate. The outer cover layer is comprised of a soft, non-ionomeric thermoplastic or thermosetting elastomer such as polyurethane, polyester or polyesteramide. The resulting multi-layered golf ball of the present invention provides for enhanced distance without sacrificing playability or durability when compared to known multi-layer golf balls.

*U.S. Patent No. 6,210,293
Abstract [PX-3]*

The Sullivan '293 Invention Combines the Best of Both Worlds

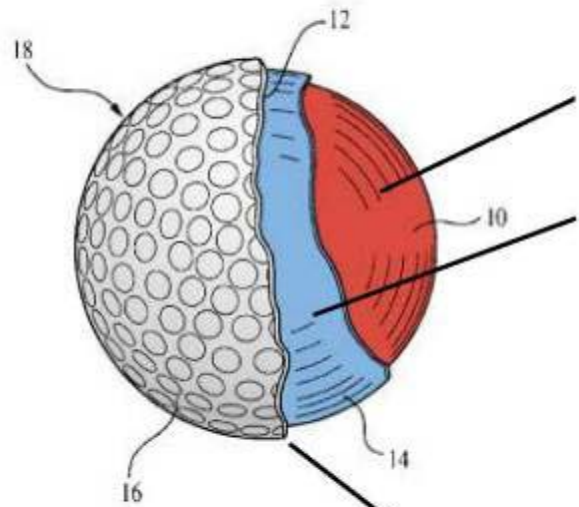


➤ Long, straight drives



➤ Excellent feel and control
around the green

Claimed Invention in More Detail



Core

Inner cover layer

- Blend of low acid ionomers ("blend claims") or including a low acid ionomer ("non-blend claims")
- Shore D hardness of 60 or more measured on the ball
- Thickness between 0.010 and 0.100 inches (3 claims)
- Modulus between 15,000 and 70,000 psi (4 claims)

Outer cover layer

- Polyurethane
- Shore D hardness of 64 or less measured on the ball
- Thickness between 0.010 and 0.070 inches (5 claims) or between 0.010 and 0.050 inches (1 claim) or between 0.030 and 0.060 inches (1 claim)

Michael Sullivan - Inventor



- **Scientist at Spalding from 1984 to 1999**
- **Bachelors Degree in Chemistry; Masters in polymer science**
- **Inventor on nearly 300 golf ball patents; more than any other person**

Michael Sullivan - Inventor



- **Worked with Dennis Nesbitt and Bob Molitor at Spalding**
- **Invented the golf balls of the patents-in-suit in 1991**
- **Applied for the patents beginning in 1993**
- **Hired away from Spalding by Acushnet in 1999**

Patents-in-Suit

(12) **United States Patent
Sullivan**

(10) **Patent No.:** **US 6,210,293 B1**

(45) **Date of Patent:** **Apr. 3, 2001**

(54) **MULTI-LAYER GOLF BALL**

(58) **Field of Search** 473/370-378

(75) **Inventor:** **Michael J. Sullivan, Chicopee, MA
(US)**

(56) **References Cited**

U.S. PATENT DOCUMENTS

(73) **Assignee:** **Spalding Sports Worldwide, Inc.,
Chicopee, MA (US)**

4,431,193 * 2/1984 Nesbitt 473/374
5,068,151 * 11/1991 Nakamura 473/377
5,314,187 * 5/1994 Proudfit 473/374

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

* cited by examiner

This patent is subject to a terminal disclaimer.

Primary Examiner—Mark S. Graham

(21) **Appl. No.:** **09/470,196**

(57) **ABSTRACT**

(22) **Filed:** **Dec. 21, 1999**

The present invention is directed to an improved multi-layer golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is comprised of a low acid ionomer blend which may or may not include a filler such as

Related U.S. Application

(63) Continuation of application No. 08/870,585, filed on Jun. 6, 1997, which is a continuation of application No. 08/556,237, filed on Nov. 9, 1995, now abandoned, and a continuation-in-part of application No. 08/070,510, filed on Jun. 1, 1993, now abandoned.

(51) **Int. Cl.**⁷

(52) **U.S. Cl.**

Related U.S. Application Data

Continuation of application No. 08/870,585, filed on Jun. 6, 1997, which is a continuation of application No. 08/556,237, filed on **Nov. 9, 1995**, now abandoned, which is a continuation-in-part of application No. 08/070,510, filed on Jun. 1, 1993, now abandoned.

PX-3

Three Examiners Allowed the Patents-in-Suit

United States Patent
Sullivan

(11) Patent No.: **US 6,210,293 B1**
(41) Date of Patent: **Apr. 3, 2001**

(54) **MULTI-LAYER GOLF BALL**

(71) Inventor: **Michael J. Sullivan**, Chicago, MA (US)

(72) Assignor: **Spalding Sports Worldwide, Inc.**, Chicago, MA (US)

(57) Abstract: Subject to any disclaimer, the term of this patent shall extend to the full term of the term of the underlying patent from which this patent is derived, or to the term of the underlying patent from which this patent is derived plus the term of the underlying patent from which this patent is derived, whichever is longer, and in no event shall the term of this patent exceed 20 years.

(51) Int. Cl.⁷: A63B 37/12
(52) U.S. Cl.: 43/374

Primary Examiner—Mark S. Graham

(11) Patent No.: **US 6,506,130 B2**
(41) Date of Patent: **Jan. 14, 2003**

(54) **MULTI-LAYER GOLF BALL**

(71) Inventor: **Michael J. Sullivan**, Chicago, MA (US)

(72) Assignor: **Spalding Sports Worldwide, Inc.**, Chicago, MA (US)

(57) Abstract: Subject to any disclaimer, the term of this patent shall extend to the full term of the term of the underlying patent from which this patent is derived, or to the term of the underlying patent from which this patent is derived plus the term of the underlying patent from which this patent is derived, whichever is longer, and in no event shall the term of this patent exceed 20 years.

(51) Int. Cl.⁷: A63B 37/12
(52) U.S. Cl.: 43/374

Primary Examiner—Steven Wong
Assistant Examiner—Raeann Gorden

(11) Patent No.: **US 6,595,873 B2**
(41) Date of Patent: **Jul. 23, 2003**

(54) **MULTI-LAYER GOLF BALL**

(71) Inventor: **Michael J. Sullivan**, Chicago, MA (US)


(72) Assignor: **Spalding Sports Worldwide, Inc.**, Chicago, MA (US)

(57) Abstract: Subject to any disclaimer, the term of this patent shall extend to the full term of the term of the underlying patent from which this patent is derived, or to the term of the underlying patent from which this patent is derived plus the term of the underlying patent from which this patent is derived, whichever is longer, and in no event shall the term of this patent exceed 20 years.

(51) Int. Cl.⁷: A63B 37/12
(52) U.S. Cl.: 43/374

Primary Examiner—Mark S. Graham
Assistant Examiner—Raeann Gorden

Sullivan Told PTO About Acushnet's Prior Art


 US06210293B1

(12) United States Patent
Sullivan

(10) Patent No.: **US 6,210,293 B1**
 (45) Date of Patent: **Apr. 3, 2001**

(54) **MULTI-LAYER GOLF BALL**

(25) Inventor: **Michael J. Sullivan, Chiscopee, MA (US)**

(73) Assignee: **Spartan Sports Worldwide, Inc., Chiscopee, MA (US)**

(*) Notice: *Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.*
This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/470,194**
 (22) Filed: **Dec. 21, 1999**

Related U.S. Application Data

(67) Continuation of application No. 08/071,581, filed on Jan. 6, 1993, which is a continuation of application No. 06/719,251, filed on Dec. 9, 1990, now abandoned, which is a continuation-in-part of application No. 08/071,525, filed on Jan. 4, 1993, now abandoned.

(51) Int. Cl.⁷ **A63B 37/12**
 (52) U.S. Cl. **473/374**

(58) Field of Search **473/370-376**

(56) References Cited

U.S. PATENT DOCUMENTS

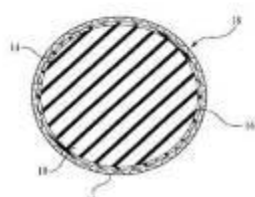
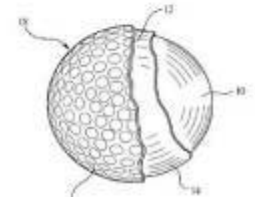
4,431,193 *	2/1984	Nesbitt	473/374
5,068,151 *	11/1991	Nakamura	473/377
5,314,187 *	5/1994	Proudfit	473/374

* cited by examiner

Primary Examiner—Mark S. Graham

(57) **ABSTRACT**
 The present invention is directed to an improved multi-layer golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is comprised of a low acid ionomer blend which may or may not include a filler such as silica-silicate. The outer cover layer is comprised of a soft, non-oxamonic thermoplastic or thermosetting elastomer such as polyurethane, polyurea or polyesteramide. The resulting multi-layered golf ball of the present invention provides for enhanced distance without sacrificing playability or durability when compared to known multi-layer golf balls.

8 Claims, 1 Drawing Sheet



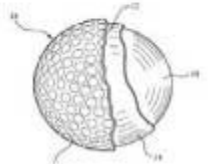
(10) Patent No.: US 6,210,293 B1
(45) Date of Patent: Apr. 3, 2001

(56) References Cited
U.S. PATENT DOCUMENTS

4,431,193 *	2/1984	Nesbitt	473/374
5,068,151 *	11/1991	Nakamura	473/377
5,314,187 *	5/1994	Proudfit	473/374

* cited by examiner

Sullivan Also Discussed Molitor '751

 US6210293B1	
(11) United States Patent Sullivan	
(12) Patent No.: US 6,210,293 B1 (13) Date of Patent: Apr. 3, 2001	
(51) MULTILAYER GOLF BALL	(50) Field of Search: 473/30-35
(72) Inventor: Michael J. Sullivan, Chicago, MA (US)	(52) References Cited
(73) Assignee: Spalding Sports Worldwide, Inc., Chicago, MA (US)	U.S. PATENT DOCUMENTS
(54) Section: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 376(a) by 9 days.	4,638,012 * 2/1992 Hagan 473/376 5,098,115 * 11/1992 Hagan 473/377 5,114,887 * 1/1994 Hagan 473/376
(57) App. No. 09/476706 (58) Filed: Dec. 21, 1999	* cited by examiner Primary Examiner—Mark S. Gorman (57) ABSTRACT The present invention is directed to an improved multilayer golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is composed of a low solid ionomer blend which may or may not include a filler such as micro-steroids. The outer cover layer is composed of a soft, non-steroidic elastomeric or thermoplastic elastomer such as polyurethane, polybutene or polyisobutylene. The resulting multilayered golf ball of the present invention provides for enhanced distance without sacrificing playability or durability when compared to known multi-layer golf balls.
(59) Continued from application No. 08/970,000, filed on Jan. 6, 1997, which is a continuation of application No. 08/356,717, filed on Sep. 26, 1995, now abandoned, which is a continuation in part of application No. 08/073,115, filed on Jan. 1, 1993, now abandoned.	(57) Int. Cl. ⁷ : A63B 35/12 (58) U.S. Cl.: 473/374
8 Claims, 1 Drawing Sheet	
	

PX-3

The hardness of the ball is the second principal property involved in the performance of a golf ball. The hardness of the ball can affect the playability of the ball on striking and the sound or “click” produced. Hardness is determined by the deformation (i.e., compression) of the ball under various load conditions applied across the ball’s diameter (i.e., the lower the compression value, the harder the material). As indicated in U.S. Pat. No. 4,674,751, softer covers permit the accomplished golfer to impart proper spin. This is because the softer covers deform on impact significantly more than balls having “harder” ionomeric resin covers. As a result, the better player is allowed to impart fade, draw or backspin to the ball thereby enhancing playability. Such properties may be determined by various spin rate tests such as the “nine iron” spin rate test described below in the Examples.

U.S. Patent No. 6,210,293, Col. 5: 6-22

Sullivan Also Disclosed Molitor '637 and Wu

US00001548

(12) United States Patent
Sullivan

(10) Patent No.: **US 6,503,156 B1**
(45) Date of Patent: ***Jan. 7, 2003**

(54) **GOLF BALL HAVING MULTI-LAYER COVER WITH UNIQUE OUTER COVER CHARACTERISTICS**

(71) Inventor: **Michael J. Sullivan, Barrington, RI (US)**

(72) Assignor: **Spalding Sports Worldwide, Inc., Chapequa, MA (US)**

(*) **Notice**—Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No. **09873642**
(22) Filed: **Jan. 4, 2000**

Related U.S. Application Data

(03) Continuation of application No. 0875878, filed on Feb. 2, 2001, which is a continuation of application No. 08470196, filed on Dec. 21, 1999, under PTA, No. 6,120,293, which is a continuation of application No. 08870280, filed on Jan. 6, 1997, now abandoned, which is a continuation of application No. 08356127, filed on Dec. 9, 1994, now abandoned, which is a continuation-in-part of application No. 08070155, filed on Jan. 4, 1993, now abandoned.

(51) Int. Cl.⁷ **A63B 37/32**
(52) U.S. Cl. **473/374**
(58) Field of Search **473/378, 377, 473/376, 372, 371, 370, 373, 374**

(59) **References Cited**

U.S. PATENT DOCUMENTS

2,741,480 A 4/1956 Smith
2,973,000 A 3/1961 Macosko
3,043,839 A 8/1962 Puchowski
3,264,270 A 8/1966 Davis
3,515,541 A 4/1967 Benish
3,972,523 A 3/1976 Stone
3,984,412 A 5/1976 Brand et al.

3,985,039 A 3/1976 Molitor et al.
3,496,330 A 7/1969 Smith et al.
3,962,338 A 3/1976 Cox
3,534,960 A 10/1970 Benish et al.
3,752,721 A 1/1974 Benish et al.

(Note continued on next page.)

FOREIGN PATENT DOCUMENTS

CA 2187840 6/1990
EP 0396607 3/1994
EP 0489600 12/1994
EP 0619428 2/1995
GB 460025 10/1996

(Note continued on next page.)

OTHER PUBLICATIONS

Super Corporation, "Engineering Polymer Properties Guide: Thermoplastics and Polyamides," Section, pp. 2-7, 28-29.
A Preparation Guide, "Engineering Polymer Thermoplastics and Thermosets," Miss. Inc., 1-25 (1994).
Reference Handbook, "Chemistry-Rate Molecular-Processing Applications-Properties," edited by Oetel et al., Hanser Gardner Publications, Inc., 101, 102 (1994).

(Note continued on next page.)

Primary Examiner—Alexis Wong
Assistant Examiner—Barbara Gordon

(57) **ABSTRACT**

The present invention is directed to an improved multi-layer golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is comprised of a low acid ionomer blend which may or may not include a filler such as zinc stearate. The outer cover layer is comprised of a soft, non-stereoregular thermoplastic or thermosetting elastomer such as polyurethane, polyether or polyacrylate. The resulting multi-layered golf ball of the present invention provides for enhanced distance without sacrificing playability or durability when compared to known multi-layer golf balls.

11 Claims, 1 Drawing Sheet

PX-3

4,218,543 A	8/1980	Weber et al.
4,248,432 A	2/1981	Hewitt et al.
4,272,079 A	6/1981	Nakade et al.
4,274,637 A	6/1981	Molitor
4,337,946 A	7/1982	Saito et al.
4,431,193 A *	2/1984	Nesbitt
4,442,282 A	4/1984	Kolycheck
4,570,937 A	2/1986	Yamada
4,582,887 A	4/1986	Dominguez et al.
4,590,219 A	5/1986	Nissen et al.
4,607,090 A	8/1986	Dominguez
4,650,193 A	3/1987	Molitor et al.
4,674,751 A	6/1987	Molitor et al.
4,679,795 A	7/1987	Melvin et al.
4,688,801 A	8/1987	Reiter
4,690,981 A	9/1987	Statz

5,314,187 A *	5/1994	Proudfit
5,324,783 A	6/1994	Sullivan
5,330,837 A	7/1994	Sullivan
5,334,673 A	8/1994	Wu
5,338,610 A	8/1994	Sullivan
5,368,304 A	11/1994	Sullivan et al.
5,368,806 A	11/1994	Harasin et al.

Presumption of Validity

- **Patents are presumed to be valid**
- **All of Acushnet's prior art was before the Patent Office Examiners who issued the patents**
- **To find the claims invalid, there must be clear and convincing evidence that the Patent Office should not have issued the patents**

Acushnet

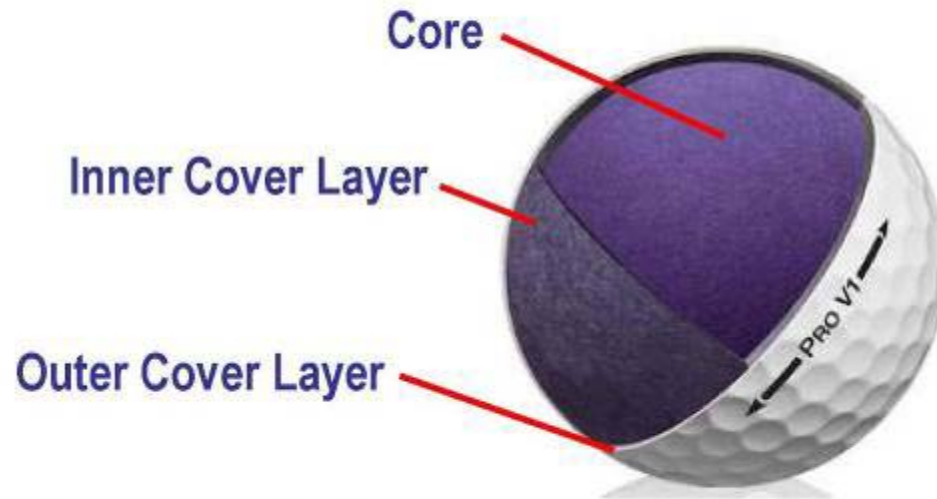
Titleist



- Golf division of Fortune Brands
- Includes Titleist as well as Pinnacle, Footjoy and Cobra
- Leading golf ball manufacturer
- In 2000, when the Rule 35 came out, Titleist's premium golf balls were all wound (Professional, Tour Prestige)

Acushnet

Titleist



- Had to play catch-up to Callaway Golf, as well as Nike and Bridgestone
- Recognized the revolutionary technology
- Introduced Pro V1 in October 2000
 - Core, ionomer inner cover, polyurethane outer cover
- Received patents – the Hebert Patents – on the “veneer concept”

Acushnet Had to Play Catch-Up

Veneer Core Research

May 1, 2000

Purpose:

With the introduction of the Callaway Red (Firm Feel) and Callaway Blue (Soft Feel) golf balls, the Veneer project has become a high priority in the R&D department. These new competitive products have shown distance advantages over our new design. After dissecting the golf balls, the Veneer core was determined to be slower than Callaway cores.

Based on separate studies conducted for "Bamco" Veneer core prototyping, we will produce cores of 1.541" diameter. As a result, we will produce cores of 1.541" diameter. As a result, we will produce cores of 1.541" diameter. As a result, we will produce cores of 1.541" diameter.

Procedure:

A large number of ball cores were prepared using the current Veneer core formulation in the laboratory.

Results:

After many experimental iterations, we are comparing these ball cores.

Veneer Prototype
100 PIRZ Stud 1234
25.8 PIRZ 20A
4.3 PIRZ 2aD
16.4 PIRZ 2aD
0.53 PIRZ 2aD

The following chart lists the core properties of the cores previously obtained data.

Chart 1: Veneer Core Data

	Diameter (in)	Weight (oz)	Compression	Call (in) (124 lbs)
Prototype	1.545	1.279	69.8	0.803
Veneer	1.541	1.282	72.7	0.804
Bamco A Tergolite	1.541	1.287	71.0	0.811
Callaway Blue	1.541	1.211	66.7	0.805
Callaway Red	1.511	1.229	70.7	0.809

Veneer Core Research

May 1, 2000

Purpose:

With the introduction of the Callaway Red (Firm Feel) and Callaway Blue (Soft Feel) golf balls, the Veneer project has become a high priority in the R&D department. These new competitive products have shown distance advantages over our new design. After dissecting the golf balls, the Veneer core was determined to be slower than Callaway cores.

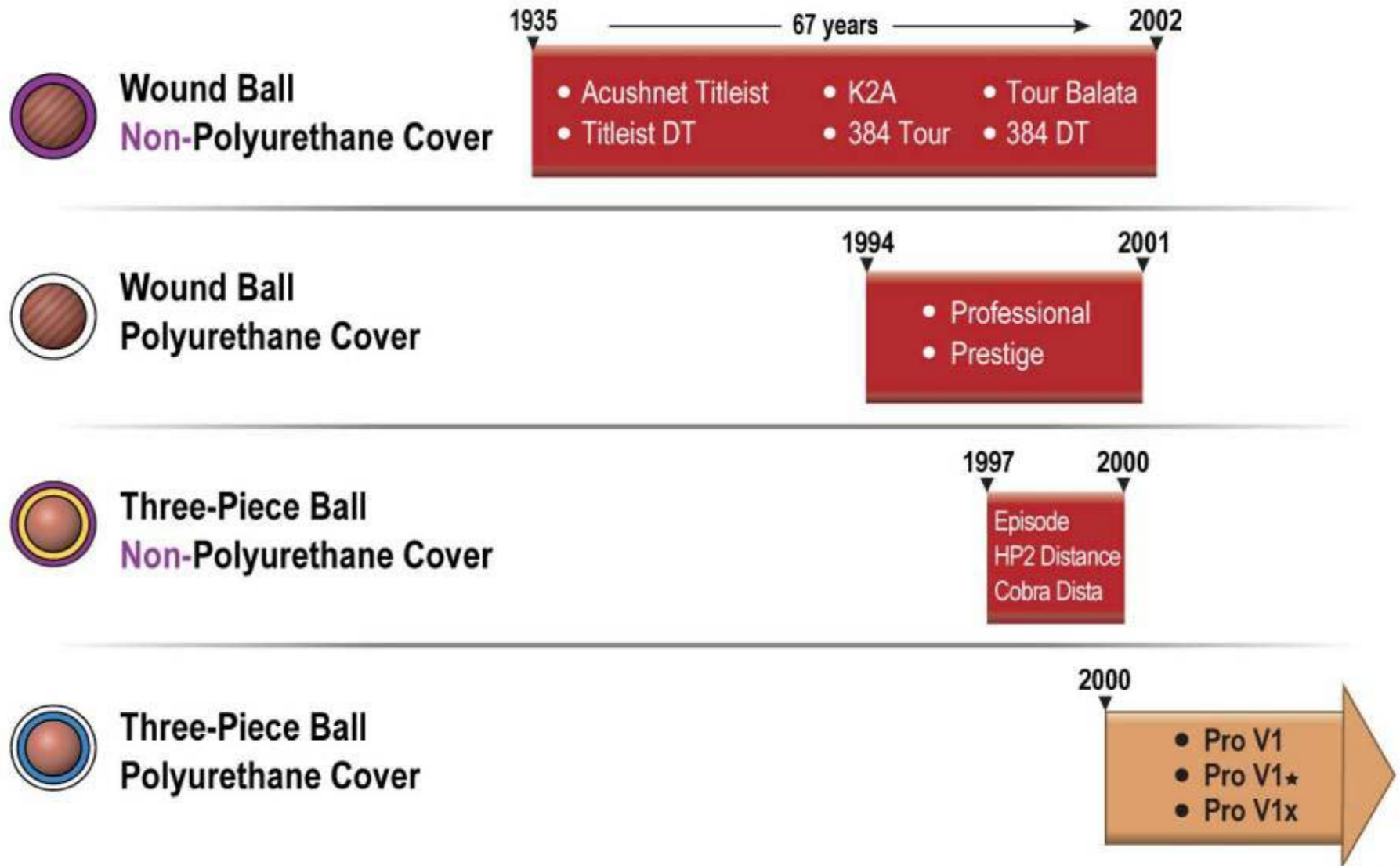
HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

Case No. 00-91 (SLR)
PX-985
Date Entered: _____
By: _____

AC0041826/HR

PX-985

Titleist Golf Ball Timeline



Acushnet's Hebert '172 Patent

United States Patent Hebert et al.

[54] MULTILAYER GOLF BALL WITH A THERMOSET OUTER LAYER
 [75] Inventors: Edmund A. Hebert, North Dartmouth, Mass.; William E. Morgan, Barrington, R.I.; Dean Snell, Oceanside, Calif.
 [73] Assignee: Acushnet Company, Fairhaven, Mass.
 [21] Appl. No.: 863,788
 [22] Filed: May 27, 1997
 [51] Int. Cl.⁶: A63B 37/08; A63B 37/12; A63B 37/06
 [52] U.S. Cl.: 473/354; 473/365; 473/363; 473/376; 473/378
 [58] Field of Search: 473/384, 354, 363, 365

References Cited
 U.S. PATENT DOCUMENTS

3,147,324	9/1964	Ward	264/254
3,177,280	4/1965	Ford et al.	264/275
3,262,272	7/1966	Barakauskas et al.	60/39.05
3,616,101	10/1971	Satchell et al.	161/7
3,989,568	11/1976	Isaac	156/182
4,203,941	5/1980	Brooker	264/250
4,431,193	2/1984	Nesbitt	273/235
4,625,964	12/1986	Yamada	273/62
4,848,770	7/1989	Shama	273/228
4,919,434	4/1990	Saito	273/235 R
4,959,000	9/1990	Giza	425/116



PX-17

United States Patent [19] Hebert et al.

[11] Patent Number: 5,885,172
 [45] Date of Patent: Mar. 23, 1999

[54] MULTILAYER GOLF BALL WITH A THIN THERMOSET OUTER LAYER
 [75] Inventors: Edmund A. Hebert, North Dartmouth, Mass.; William E. Morgan, Barrington, R.I.; Dean Snell, Oceanside, Calif.
 [73] Assignee: Acushnet Company, Fairhaven, Mass.

5,002,281	3/1991	Nakahara et al.	273/220
5,006,288	4/1991	Rhodes et al.	264/46.6
5,006,297	4/1991	Brown et al.	264/234
5,072,944	12/1991	Nakahara et al.	273/220
5,112,556	5/1992	Miller	264/279
5,253,871	10/1993	Viollaz	273/228
5,314,187	5/1994	Proudfit	273/235 R
5,334,673	8/1994	Wu	273/235 R
5,415,937	5/1995	Cadorniga et al.	473/385 X
5,609,535	3/1997	Morgan	473/378 X
5,692,974	12/1997	Wu et al.	473/377

[21] Appl. No.: 863,788
 [22] Filed: May 27, 1997

[51] Int. Cl.⁶: A63B 37/08; A63B 37/12; A63B 37/06
 [52] U.S. Cl.: 473/354; 473/365; 473/363; 473/376; 473/378
 [58] Field of Search: 473/377, 378, 473/384, 354, 363, 365, 374, 376

FOREIGN PATENT DOCUMENTS

2278609	7/1994	United Kingdom
2291811	7/1996	United Kingdom
2291812	7/1996	United Kingdom
2291817	7/1996	United Kingdom

Primary Examiner—George J. Marlo
 Attorney, Agent, or Firm—Pennic & Edmonds LLP

[56] References Cited U.S. PATENT DOCUMENTS

3,147,324	9/1964	Ward	264/254
3,177,280	4/1965	Ford et al.	264/275
3,262,272	7/1966	Barakauskas et al.	60/39.05
3,616,101	10/1971	Satchell et al.	161/7
3,989,568	11/1976	Isaac	156/182
4,203,941	5/1980	Brooker	264/250
4,431,193	2/1984	Nesbitt	273/235
4,625,964	12/1986	Yamada	273/62
4,848,770	7/1989	Shama	273/228
4,919,434	4/1990	Saito	273/235 R
4,959,000	9/1990	Giza	425/116

[57] ABSTRACT

The present invention is directed towards a multilayer golf ball which comprises a core, an inner cover layer and an outer cover layer, wherein the outer cover layer comprises a thermoset material formed from a castable, reactive liquid, said outer layer having a thickness of less than 0.05 inches and said inner cover layer comprises a high flexural modulus material. The golf balls of the present invention are believed to provide a "progressive performance" from driver to wedge.

18 Claims, 1 Drawing Sheet

Acushnet's Hebert '172 Patent

United States Patent [19]		[11] Patent Number:	5,885,172
Hebert et al.		[45] Date of Patent:	Mar. 23, 1999
[54]	MULTILAYER GOLF BALL WITH A THIN THERMOSET OUTER LAYER	5,002,281	3/1991 Nakamura et al. 273/220
		5,006,288	4/1991 Rhodes et al. 264/256
		5,006,297	4/1991 Brown et al. 264/234
[75]	Inventors: Edmund A. Hebert , North Dartmouth, Mass.; William E. Morgan , Barrington, R.I.; Dean Snell , Oceanside, Calif.	5,072,944	12/1991 Nakamura et al. 273/220
		5,112,556	5/1992 Miller 264/279
		5,253,871	10/1993 Viethz 273/228
		5,318,187	5/1994 Pionelli 273/258 R
		5,338,673	6/1994 Wu 273/258 R
[73]	Assignee: Acushnet Company , Fairhaven, Mass.	5,415,937	5/1995 Calderiza et al. 473/385 X
		5,669,535	3/1997 Morgan 473/378 X
		5,692,974	12/1997 Wu et al. 473/377
[21]	Appl. No.: 863,788	FOREIGN PATENT DOCUMENTS	
[22]	Filed: May 27, 1997	2278609	7/1994 United Kingdom .
[51]	Int. Cl. ⁶ A63B 37/08 ; A63B 37/12; A63B 37/06	2290811	7/1996 United Kingdom .
[52]	U.S. Cl. 473/354 ; 473/365; 473/363; 473/376; 473/378	2291812	7/1996 United Kingdom .
[58]	Field of Search 473/377, 378, 473/384, 354, 363, 365, 374, 370	2291817	7/1996 United Kingdom .
[56]	References Cited	<i>Primary Examiner—George J. Muslo</i> <i>Attorney, Agent, or Firm—Pennie & Edmonds LLP</i>	
	U.S. PATENT DOCUMENTS	[57]	ABSTRACT
	3,147,324	9/1964	Ward 264/254
	3,177,260	4/1965	Ford et al. 264/275
	3,287,272	7/1966	Harakanku et al. 80/39.05
	3,616,101	10/1971	Satchell et al. 161/7
	3,989,568	11/1976	Isaac 156/182
	4,203,941	5/1980	Brooker 264/290
	4,431,193	2/1984	Nesbitt 273/235
	4,625,964	12/1986	Yamada 273/262
	4,846,770	7/1989	Shima 273/228
	4,919,434	4/1990	Sato 273/235 R
	4,959,000	9/1990	Giza 425/116
		18 Claims, 1 Drawing Sheet	

PX-17

- Covers three-piece, solid-core balls with cast polyurethane cover
- Acushnet insisted that Callaway Golf buy a license to the Hebert Patents
- Callaway Golf and Acushnet both learned later that it was Sullivan, not Hebert, who invented this new technology

Acushnet's Hebert '172 Patent

The invention is particularly directed towards a multilayer golf ball which comprises a core, an inner cover layer and an outer cover layer. The thickness of the outer cover layer

Thermoset polyurethanes and urethanes are particularly preferred for the outer cover layers of the balls of the present invention. Polyurethane is a product of a reaction between a polyurethane prepolymer and a curing agent. The polyurethane prepolymer is a product formed by a reaction between a polyol and a diisocyanate. The curing agent is typically either a diamine or glycol. Often a catalyst is employed to promote the reaction between the curing agent and the polyurethane prepolymer.

5800585172A

United States Patent (19)
Hebert et al.

(11) Patent Number: 5,885,172
(21) Date of Patent: Mar. 23, 1999

(10) Multilayer Golf Ball with a Thin Thermoset Outer Layer

(75) Inventors: Edward A. Hebert, North Dartmouth, Mass.; William F. Morgan, Barrington, H.I.; Devin Staff, Orono, Maine

(73) Assignee: Acushnet Company, Fairhaven, Mass.

(21) Appl. No. 863,788
(22) Filed: May 27, 1997

(51) Int. Cl.⁷: A63B 37/08; A63B 37/12; A63B 37/90
(52) U.S. Cl.: 473/354; 473/363; 473/363; 473/374; 473/376

(56) Field of Search: 473/372, 376; 473/363, 364, 365, 368, 374, 376

(50) References Cited

U.S. PATENT DOCUMENTS

4,147,424	04/1967	Ward	204,224
4,177,267	04/1969	Ford et al.	204,225
3,262,272	7/1966	Decker et al.	403,910
2,614,108	04/1971	Schiff et al.	260,57
3,089,560	11/1975	Isaac	176,982
4,103,041	5/1980	Reuter	204,226
4,434,183	2/1980	Nishida	273,036
4,679,061	12/1980	Yoneda	273,032
5,006,751	7/1985	Stevens	273,028
4,914,414	01/1991	Saito	274,230 B
4,850,000	01/1991	Case	425,115

FOREIGN PATENT DOCUMENTS

273069	7/1994	United Kingdom
2204912	7/1996	United Kingdom
2291812	7/1996	United Kingdom
2291817	7/1996	United Kingdom

Primary Examiner—George J. Merlo
Attorney, Agent, or Firm—Rosen & Lichstein LLP

(57) ABSTRACT

The present invention is directed towards a multilayer golf ball which comprises a core, an inner cover layer and an outer cover layer, wherein the inner cover layer comprises a thermoset material formed from a suitable reactive liquid, said outer layer having a thickness of less than 0.05 inches and said inner cover layer comprises a high modulus material. The golf balls of the present invention are believed to provide a "progressive performance" from drive to wedge.

18 Claims, 1 Drawing Sheet

INNER COVER
Flex Mod. 65,000psi - 120,000psi
Thickness: 0.025in - 0.045in
Shore D: 65 - 74

Wound or Solid Core

Solid or Liquid Center

OUTER COVER
Shore D: 30 - 60
Thickness: < 0.05in

PX-17

Spalding's Golf Business Struggled in Late 1990's

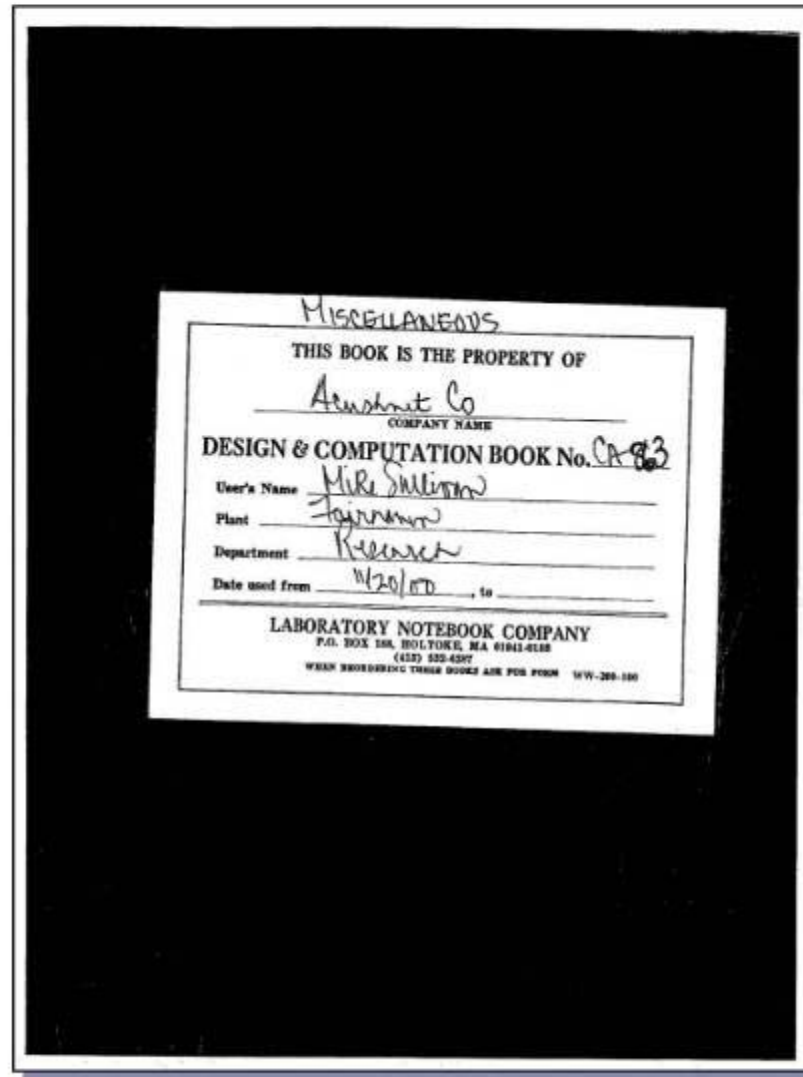
- > Bought by New York investment bank in 1996**
- > The bank saddled Spalding with huge debt load**
- > Management struggled to service that debt**
- > Made it difficult for Spalding to capitalize on R&D**

Acushnet Hired Sullivan Away from Spalding

- **Hired by Acushnet in 1999**
- **Acushnet wanted Mr. Sullivan's golf ball design experience**
- **Acushnet wanted Mr. Sullivan to help them build their patent portfolio**
- **Acushnet wanted to keep Mr. Sullivan from going to Callaway Golf**



Sullivan's Work at Acushnet



PX-619

AC0090622-715

The '293 Patent Issued Right After Callaway Golf Signed the Hebert License with Acushnet

(10) Patent No.: **US 6,210,293 B1**
 (45) Date of Patent: **Apr. 3, 2001**

(15) United States Patent
 Sullivan

(11) Patent No.: US 6,210,293 B1
 (12) Date of Patent: Apr. 3, 2001

(50) MULTILAYER GOLF BALL

(51) Int. Cl. Michael J. Sullivan, Chicago, MA (US)

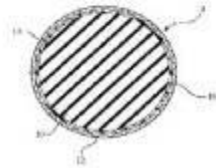
(52) Invention Class. Spalding Sports Worldwide, Inc., Chicago, MA (US)

(53) Field of Invention: Multilayer golf ball

(54) Summary: The present invention is directed to a multilayer golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is composed of a soft, non-thermo-plastic polymer or elastomer, such as polybutadiene, polyisoprene or polyethylene. The outer cover layer is composed of a thermoplastic, thermosetting or thermoplastic elastomer, such as polyurethane, polyurea or polyurea-urethane. The multilayer golf ball of the present invention provides for optimal distance, reduced spin rate, improved feel and reduced wear.

(55) Abstract: The present invention is directed to a multilayer golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is composed of a soft, non-thermo-plastic polymer or elastomer, such as polybutadiene, polyisoprene or polyethylene. The outer cover layer is composed of a thermoplastic, thermosetting or thermoplastic elastomer, such as polyurethane, polyurea or polyurea-urethane. The multilayer golf ball of the present invention provides for optimal distance, reduced spin rate, improved feel and reduced wear.

(56) Claims, 1 Drawing Sheet



- **Early 2001** – Acushnet and Callaway Golf sign the Hebert license
- **April 3, 2001** – The Sullivan '293 Patent issues to Spalding

PX-3

Acushnet Realized that Spalding, Not Acushnet, Owned the Patents on the Key Concept

United States Patent

Sullivan

(10) Patent No.: **US 6,210,293 B1**
 (45) Date of Patent: **Apr. 3, 2001**

MULTI-LAYER GOLF BALL

Inventor: **Michael J. Sullivan**, Chicopee, MA (US)

Assignee: **Spalding Sports Worldwide, Inc.**, Chicopee, MA (US)

Appl. No.: **09/470,196**

Filed: **Dec. 21, 1999**

Related U.S. Application Data

Continuation of application No. 08/870,585, filed on Jun. 6, 1997, which is a continuation of application No. 08/556,237, filed on Nov. 9, 1995, now abandoned, which is a continuation-in-part of application No. 08/070,510, filed on Jun. 1, 1993, now abandoned.

Int. Cl.⁷ **A63B 37/12**
 U.S. Cl. **473/374**

PX-3

United States Patent [19]

Hebert et al. [11] Patent Number: **5,885,172**
 [45] Date of Patent: **Mar. 23, 1999**

[54] **MULTILAYER GOLF BALL WITH A THIN THERMOSET OUTER LAYER**

[75] Inventors: **Edmund A. Hebert**, North Dartmouth, Mass.; **William E Morgan**, Barrington, R.I.; **Dean Snell**, Oceanside, Calif.

[73] Assignee: **Acushnet Company**, Fairhaven, Mass.

[21] Appl. No.: **863,788**

[22] Filed: **May 27, 1997**

[51] Int. Cl.⁶ **A63B 37/08**; A63B 37/12; A63B 37/06

[52] U.S. Cl. **473/354**; 473/365; 473/363; 473/376; 473/378

[58] Field of Search **473/377, 378, 473/384, 354, 363, 365, 374, 376**

PX-17

Reaction at Acushnet to the Issuance of the Sullivan '293 Patent

- > Internal Acushnet e-mails regarding the '293 Patent on the same day it issued**
- > Frantic search for prior art**
- > Result: Acushnet changed opinion – concept of polyurethane-covered multilayer golf ball was now “obvious”**

Dr. Risen Will Explain that the Asserted Claims Are Not Obvious



- **Dr. Bill Risen**
- Professor of Chemistry at Brown University
- 20 years in golf ball design

Dennis Nesbitt Does Not Think He Invented the Polyurethane Covered Three-Piece Golf Ball



Q. Do you think that you invented the polyurethane three-piece golf ball?

A. No, I didn't.

*Nesbitt Deposition, April 11, 2007,
Page 249:13-15*

The Market Demanded the Patented Technology

The Road to Our Present Day Pro VI Journey

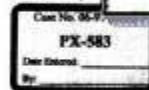
- + Wound Culture & Concentration
- + Competitive Landscape Challenges
- + Nature of the Game & Player Changes
- + Golfer Strength & Performance Requirements Evolving...Distance is the Holy Grail
- + Await Competition's Best Shot and Respond

Why the Accelerated Launch of Pro VI Now?

- + Momentum and buzz within industry peaked
- + Opportunity to capitalize upon noise and consumer curiosity timely
- + Pre-empt Competitive counter antics and actions...Product and Marketing
- + Satisfy consumer demand, as well as avoid negative trade and player sentiments due to exclusion

The Road to Our Present Day Pro VI Journey

- + Wound Culture & Concentration
- + Competitive Landscape Challenges
- + Nature of the Game & Player Changes
- + Golfer Strength & Performance Requirements Evolving...Distance is the Holy Grail
- + Await Competition's Best Shot and Respond



AC000072.UR

HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

PX-583

Acushnet Introduced the Pro V1 in Response to Competition, including Callaway Golf

New Pro V1 Product Brief

Objectives

- Demonstrate the multi-component construction performance superiority of the Titleist brand to crush the myth that Titleist is the "wood ball" company.
- Fortify and protect our worldwide #1 ball in golf position by providing multi-component technology to complement our iron process, wood technology.
- Enhance Titleist's reputation as the technology and performance leader in all construction categories by emphasizing that Titleist was the first to develop and create patents for this new large-core, multi-component technology.
- Drive products optimized for the next generation of golfers...New Bloods.
- Affirm its superior performance by the immediate acceptance (usage & success) on the worldwide professional tour.
- Capitalize on the success of our Ultramar Elastomer technology and increase market share in On/Off channels at the expense of competitive models.
- Stimulate trial among competitive high performance golf ball users and "vulnerable" Titleist golf ball users.

Golfer Audience

1. Current competitive golf ball users:
 - Callaway Red
 - Callaway Blue
 - Nike Tour Accuracy
 - Bridgestone Precept Tour
 - Strata Tour Professional
 - Maxfli Revolution
2. Current Titleist users who are vulnerable to switching to competitive models.
3. Avid core, serious golfers seeking the highest performance technology.
4. High ball/club speed players.

Positioning

- High performance golf ball targeted focus on high ball/club speed players
- Longer distance with driver and iron
 - Tight ball flight in all wind conditions
 - Higher launching, less spin, flatter
 - Steeper angle of descent with iron
 - *Drop-and-Stop™* performance
 - Soft feel (distinctly different from competitors)
 - Short and abrasion durability

Packaging

Platinum Full with Copper accents.

New Pro V1 Product Brief

Golfer Audience

1. Current competitive golf ball users:

- Callaway Red
- Callaway Blue
- Nike Tour Accuracy
- Bridgestone Precept Tour Premium
- Strata Tour Professional
- Maxfli Revolution

2. Current Titleist users who are vulnerable to switching to competitive models.
3. Avid core, serious golfers seeking the highest performance technology.
4. High ball/club speed players.

HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER



AC0070020

PX-1116

Acushnet's Strategy Was to Watch and Wait

New Pro VI Product Brief

Objectives

- Demonstrate the multi-component construction performance superiority of the Titleist brand to create the myth that Titleist is the "round ball" company.
- Fortify and protect our worldwide #1 ball in golf position by providing multi-component technology to complement our iron process, wood technology.
- Enhance Titleist's reputation as the technology and performance leader in all construction categories by emphasizing that Titleist was the first to develop and receive patents for this technology.
- Drive product excitement.
- Affirm its superior performance in the worldwide professional market.
- Capitalize on the success share in On/Off channel.
- Stimulate trial among current Titleist golf ball users.

Golfer Audience

1. Current competitive
 - Callaway Red
 - Callaway Blue
 - Nike Tour Accu
 - Bridgestone Pro
 - Srixon Tour Pro
 - Mizuho Revolv
2. Current Titleist user
3. Avid core, serious g
4. High ball/club speed

Positioning

- High performance golf ball focus on high ball/club speed
- Longer distance with drive
 - Tight ball flight in all winds
 - Higher launching, less spin
 - Steeper angle of descent
 - Drop-and-Stop™ performance
 - Soft feel (distinctly different)
 - Short and obedient distance

Packaging

Platinum Foil with Copper

Why has Titleist waited so long to introduce this ball?

Given the current competitive golf ball environment, Titleist's introduction strategy was to allow the competition to launch what was their first and, what we considered to be, their best shot. We watched and responded accordingly with the high performance multi-component Pro VI, a product of superior performance.

The Pro VI has been designed to respond to the changing nature of the game. Many of today's highly skilled golfers are placing a greater premium on distance.

The new Pro VI accomplishes the distance objective through its high launch, low spin performance characteristics while retaining the playability the golfer expects in a high performance golf ball.

HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

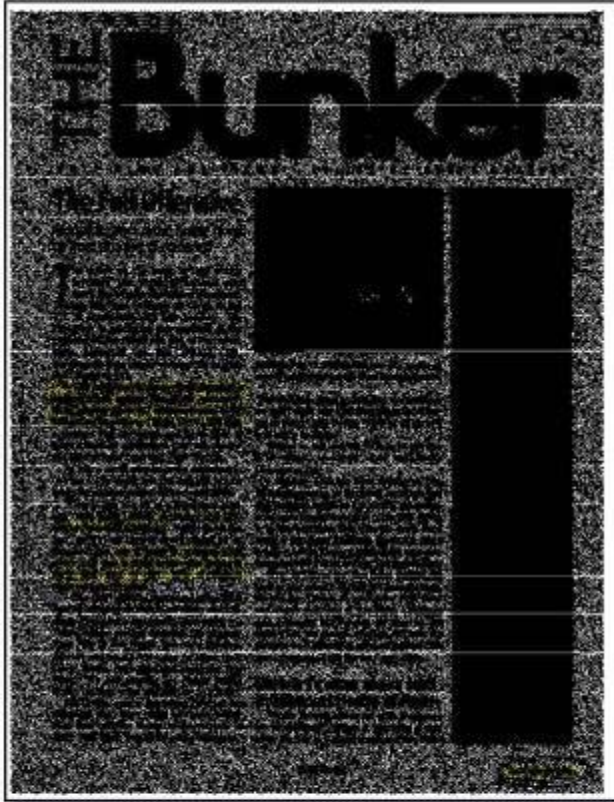


AC0070020

PX-1116

The Bunker

October 13, 2000



PX-984

The Acushnet Company has mounted a counterattack against Nike (Tour Accuracy) and Callaway (Rule 35) with the launch of its solid-core, three-layer Titleist Pro V1 392 ball.

“Clearly, this is a bit of a Normandy landing,” said Wally Uihlein, president and CEO of the Acushnet Company. “Apart from the fact [the V1] has been in development for as long as it has, our strategy is to watch what everybody else is going to do—the feeling is their first shot is their best shot—and respond appropriately.”

OCTOBER 17, 2000

New Titleist ball is all the rage - PGATour.com Page 1 of 4

Home | Scores | Schedule | Players | News | Shop | Specials

GolfWeb®

FREE!

New Titleist ball is all the rage

Multiple View Available

WASHINGTON, Va. — The Titleist ball has been making waves in the golf world since it was first introduced in July. While the ball didn't make headlines, it was a quiet success.

Recently one-third of the field at the Inaugural Classic at Las Vegas used the Titleist ball, which features an unusually large core and ultra-soft cover. That means Titleist not only the No. 1 rated ball in the PGA TOUR last week, but also the most used ball (TC).

"It goes to show you that we can take appropriate action to respond to changes in product performance warranted by the best players in the game," Titleist chief Wally Uihlein said.

It also was a response to Title, Callaway and Spalding, which have tested balls many times for several years, of which Titleist has always been the leader.

Titleist said that 95 percent of Titleist's sales are in new balls, as the company is heavily invested in R&D and innovation technology.

He also said the pattern of the technology for the new ball was tested in 1997, after two years of research, to what look as long as 10 to 15 years.

Titleist said an old ball strategy — let everyone take their best shot, then come.

"In a competitive environment, it's better to know what you're shooting at than shooting in the dark," Uihlein said. "We watched everyone launch their ships, then we responded."

Steve Stricker finished with the new ball Tuesday at the Inaugural Classic, and he was one of the 100 players at Inaugural Classic that Titleist sponsored for over 10 years. Titleist will be open to about 10 players to make of the Inaugural Classic.

LPGA Q-school

http://www.pgatour.com/players/players/1977/201031_00.html

COMPASSION - Subject to Privacy Policy

Current: 0-800-828-1090

075-1090

By: _____

"It goes to show you that we can take appropriate action to respond to changes in product performance warranted by the best players in the game," Titleist chief Wally Uihlein said.

"In a competitive environment, it's better to know what you're shooting at than shooting in the dark," Uihlein said. "We watched everyone launch their ships, then we responded."

PX-1090

Golfweek: "Titleist's Big Makeover"



Titleist's big makeover

Development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

V1 Development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

Uihlein says, "We were planning to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

"We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

Uihlein says, "We were planning to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

"We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

Uihlein says, "We were planning to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

"We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

Uihlein says, "We were planning to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

Uihlein says, "We were planning to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

"We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

Uihlein says, "We were planning to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

"We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

Uihlein says, "We were planning to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

"We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

Uihlein says, "We were planning to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

"We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

Uihlein says, "We were planning to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

"We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

CONFIDENTIAL - Subject to Protective Order

CONFIDENTIAL

PX-722

Before Introducing the Pro V1, Acushnet Was Facing Obsolescence

This is Wally's note to the team in Las Vegas, telling the V1 story
To: Bill Morgan, George Sine, Joe Gomes, Mary Lou Bohn
cc: Ed Abrain, Herb Boehm, Joe Nauman, Dennis Doherty, Dale Shenk, Peg
Nicholson, Bill Young, Mac Fritz
Subject: V1-Las Vegas

This is Wally's note to the team in Las Vegas:
To: Bill Morgan, George Sine, Joe Gomes, Mary Lou Bohn
cc: Ed Abrain, Herb Boehm, Joe Nauman, Dennis Doherty, Dale Shenk, Peg
Nicholson, Bill Young, Mac Fritz
Subject: V1-Las Vegas

ok, the game is on.....

You should already be anticipating next step.
story be at week's end be as follows:

*Titleist affirms its position as the #1 ball in golf. Successful launch of
Titleist ProV1 392 golf ball golf leaves Title
#1 non wound ball on tour (solid, multi com

This is the story.

FOREWARNING: Both the competition and
the death of the wound ball! WHY? The cor
media will want to write it this way because
story.

BULL. _____. Written as a wound versus no

And if a brand story is what the media is going to write, then it should be
that after the competition has fired all of the guns that they have, we are
still #1 FAR AND AWAY and.....we are both the wound and non wound
leader on tour. If this story does not get told as such. SHAME ON US

Ed
the
Lo
thi
If
con
his

late 1980's, this is one of those STRATEGIC INFLECTION POINTS/MOMENTS OF TRUTH
where the history of the company and the long term viability of the entity is
at risk and in play.

This is spin time and I am confident that I have the best team possible in
front of this one.

The fact that the competition has already begun the trash talk ("wound is
dead", "the ball's too hot", etc. etc), is all the evidence that you need that
THEY ARE SCARED S_____ of what the future holds.

I do not need to put into historical perspective the magnitude of the challenge
before us. In the genre of the Pro Shop only decision of the 1930's, the
recovery from the hurricane of '54, the comeback from the 'A' ball introduction
of 73, the Pinnacle launch of 1980 and the rebuff of the Nippon invasion of the

PX-1174

Before Introducing the Pro V1, Acushnet Was Facing Obsolescence

This is Wally's note to the team in Las Vegas, telling the V1 story
To: Bill Morgan, George Sine, Joe Gomez, Mary Lou Bohm
cc: Ed Abrain, Herb Boehm, Joe Nauman, Dennis Doherty, Dale Shenk, Peg
Nicholson, Bill Young, Mac Fritz
Subject: V1-Las Vegas

ok, the game is on.....

You should already be
story be at week's end

*Titleist affirms its pe
Titleist ProV1 392 g
#1 non wound ball of

This is the story.

FOREWARNING: Be
the death of the wound
media will want to w
story.

BULL. _____. Written

And if a brand story
that after the competi
still #1 FAR AND AW
leader on tour. If this story does not get told as such, SHAME ON US.

Ed Abrain, I want Sirak, Nugent/Gardner/Seanor and Adam Barr called today with
the tidbits shown below and the themes expressed above.

Lou, George and Joe.....you need to be sure that the media is headed
this way during your briefings.

If on Thursday/Friday or in next week's tabloids this week's Normandy landing
counter attack reads like our funeral rather than our finest hour, then we all
have some explaining to do to 5000 fellow associates.

This is spin time and I am confident that I have the best team possible in
front of this one.

The fact that the competition has already begun the trash talk ("wound is
dead", "the ball's too hot", etc. etc), is all the evidence that you need that
THEY ARE SCARED S_____ of what the future holds.

I do not need to put into historical perspective the magnitude of the challenge
before us. In the genre of the Pro Shop only decision of the 1930's, the
recovery from the hurricane of '54, the comeback from the 'A' ball introduction
of '73, the Pinnacle launch of 1980 and the rebuff of the Nippon invasion of the

The next two to three years will be the most critical years that we will, as
individuals, will experience as part of this company's history.

Twenty, Thirty and Forty years from now when the story is told as to how we
looked down the gun barrel of potential technological obsolescence, refused to
blink and then prevailed with faster guns and better shots will be the stuff
that legends grow from.

PX-1174

Golfweek: "Titleist's Big Makeover"



Titleist's big makeover

Inside Look: Titleist's big makeover

BY JOHN BISHOP

It's a little over a year ago that the venerable Titleist Golf Club in Las Vegas, Nev., was a quiet place, a place where the club's members were playing golf and the club's employees were working on the golf course. But now, the club is a place where the club's members are playing golf and the club's employees are working on the golf course.

As the club's members are playing golf and the club's employees are working on the golf course, the club is a place where the club's members are playing golf and the club's employees are working on the golf course.

There were a number of days when we had cottonmouth and tight underwear," says Wally Uihlein, the chief executive officer of Acushnet Co., the parent of Titleist. "The anxiety level was extremely high because we were betting the farm on the success of this ball. We essentially elected to obsolete ourselves in a very important area and put everything behind the Pro V1."

See Titleist, page 83

Call for 24/7 service
PX-722
800-850-2

Copyright © 2001 Acushnet Corp. All rights reserved.

Titleist

It's a little over a year ago that the venerable Titleist Golf Club in Las Vegas, Nev., was a quiet place, a place where the club's members were playing golf and the club's employees were working on the golf course. But now, the club is a place where the club's members are playing golf and the club's employees are working on the golf course.

As the club's members are playing golf and the club's employees are working on the golf course, the club is a place where the club's members are playing golf and the club's employees are working on the golf course.

There were a number of days when we had cottonmouth and tight underwear," says Wally Uihlein, the chief executive officer of Acushnet Co., the parent of Titleist. "The anxiety level was extremely high because we were betting the farm on the success of this ball. We essentially elected to obsolete ourselves in a very important area and put everything behind the Pro V1."

See Titleist, page 83



See the Titleist Pro V1 ball in action on the cover of Golfweek magazine.

Titleist management began grappling with whether to undertake a vast conversion of much of its wound-ball production capability—even before the success of the Pro V1 was assured—that would end up costing \$15 million.

“There were a number of days when we had cottonmouth and tight underwear,” says Wally Uihlein, the chief executive officer of Acushnet Co., the parent of Titleist. “The anxiety level was extremely high because we were betting the farm on the success of this ball. We essentially elected to obsolete ourselves in a very important area and put everything behind the Pro V1.”

PX-722

The Pro V1 Has Been Extremely Successful

Question for you:

Was this success due in part to the patented technology, or not?

Before Sullivan Patents Issued, Acushnet Emphasized the Patented Technology

How does the Pro V1 perform? And how does this differ from multi-layer or high performance wound golf balls?

- The exclusive and proprietary large core multi-component and thin Urethane Elastomer technology of the Pro V1 provides a combination of high launch and low driver spin which creates a flatter trajectory to improve distance.
- The Pro V1 produces lower spin with full iron shots for greater distance, however with less than full swings, the very soft urethane elastomer outer surface increases spin and combines with the higher launch to produce a very controlled shot to the green.
- The Pro V1 design combines the short game control of a soft covered high performance golf ball with the driver distance of a solid distance ball.
- The Pro V1 differs from multi-layer golf balls in that the very soft urethane elastomer outer surface increases spin and combines with the inherent steep angle of descent to create a *Drop-and-Stop™* type of shot into the green.
- High performance wound balls offer a softer feel, and higher spin off the driver, long and mid-irons, allowing better players the ability to "work" their shots more efficiently. Solid construction golf balls generally deliver lower spin and longer distance off the driver, long and mid irons and a higher trajectory and steeper angle of descent into the greens.

Objectives

- Demonstrate the multi-component construction to match the myth that Titleist is the
- Purify and protect our worldwide #1 ball construction technology to complement our
- Enhance Titleist's reputation in the ball construction categories by emphasizing & receive patents for this new large core, 4
- Deliver products optimized for the next &
- Affirm the superior performance by the & the worldwide professional team.
- Capitalize on the success of the Urethane share in On/Off channels at the expense
- Stimulate trial among competitive high & Titleist golf ball users.

Golfer Audience

1. Current competitive golf ball users:
 - Callaway Red
 - Callaway Blue
 - Nike Tour Accuracy
 - Bridgestone Precept Tour Precept
 - Srixon Tour Professional
 - Maxfli Revolution
2. Current Titleist users who are not
3. Avid users, serious golfers seeking the
4. High ball/club speed players.

Positioning

- High performance golf ball targeted to a pro focus on high ball/club speed players seeking:
- Longer distance with driver and long irons
 - Tight ball flight in all wind conditions
 - Higher launching, less swing, flat and
 - Steeper angle of descent with approach
 - *Drop-and-Stop™* performance into the
 - Soft feel (distinctly different from solid)
 - Short and accurate durability

Packaging

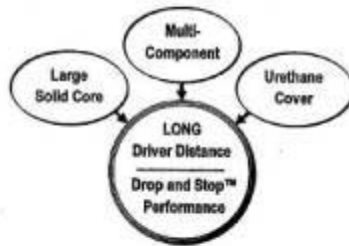
Minimum Price with Copper accents

HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

PX-1116

Before Sullivan Patents Issued, Acushnet Emphasized the Patented Technology

Pro V1 Three Leading Technologies Combined



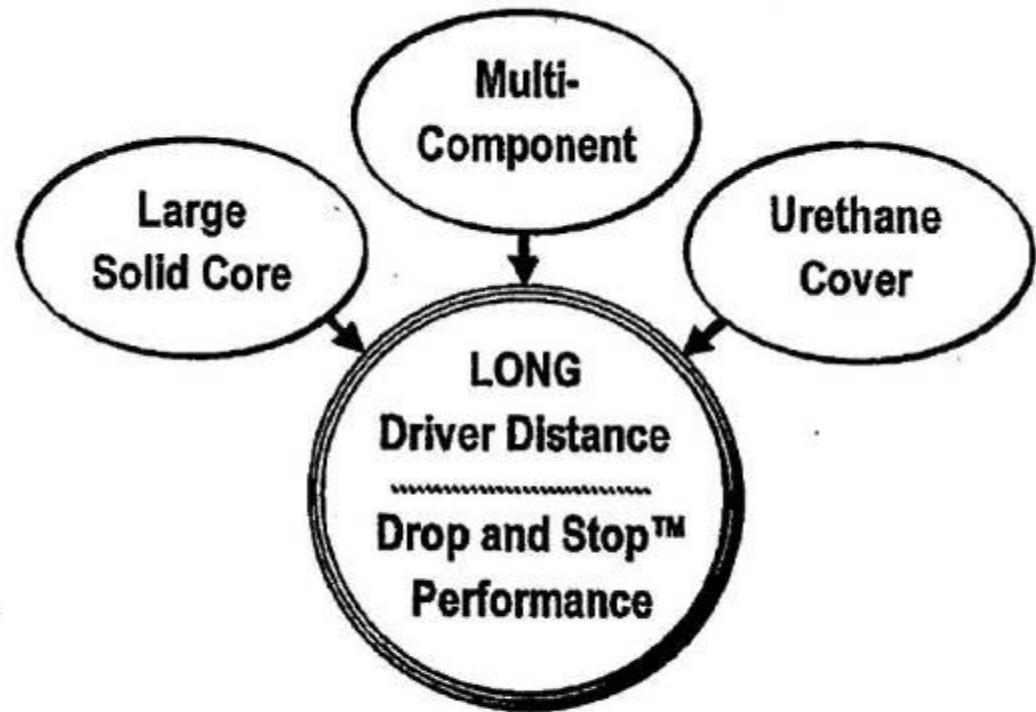
U.S. Patent 5,885,172



- Multilayer Golf Ball with a Thin Thermoplastic Outer Layer
- filed May 27, 1997
- issued March 23, 1999

HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

Pro V1 Three Leading Technologies Combined



PX-583

Before Sullivan Patents Issued, Acushnet Emphasized the Patented Technology

Pro V1 Three Leading Technologies Combined



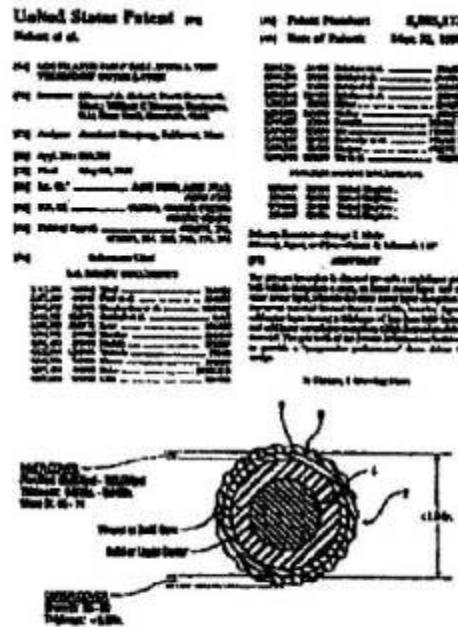
U.S. Patent 5,885,172



- Multilayer Golf Ball with Thin Thermoset Outer Layer
- filed May 27, 1997
- Issued March 23, 1999

HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

U.S. Patent 5,885,172



- Multilayer Golf Ball with a Thin Thermoset Outer Layer
- filed May 27, 1997
- Issued March 23, 1999

ACUSHNET USA

PX-583

Acushnet Advertisement in Golfweek Magazine



ACUSHNET COMPANY

Wally Uthlein
Chairman and Chief Executive Officer

August 2001

ACUSHNET COMPANY

Wally Uthlein
Chairman and Chief Executive Officer

August 2001

Dear Legend Golfers,

As you undoubtedly know, the introduction of the Titleist Pro V1 golf ball has been an unprecedented success. Since its tour debut in October 2000, the Titleist Pro V1 has been the #1 ball on the worldwide professional tours. With this groundswell of tour usage and acceptance, word of Titleist's new high-performance golf ball quickly traveled to players everywhere and demand grew prior to it even being introduced to the marketplace. As a result, we accelerated our planned introduction date by four months, the timing of which did not allow us to build adequate inventory to address the overwhelming consumer demand that would soon follow.

Our manufacturing facilities have been working overtime since the December 2000 marketplace introduction in an effort to supply golf shops with ample Pro V1 inventory. We have had to allocate Pro V1 shipments among all of our valued customers to ensure that each has at least a minimum supply. Unfortunately, we have not been able to meet demand in a timely fashion as they have been on the frontlines answering your questions about the V1 availability and shipment date.

We want to thank you for your understanding and patience while we take the necessary steps to meet the Pro V1 placement demand. This demand has exceeded the Titleist Pro V1 as we sell off more combined units than of our 200 (Over 200 Golf Digest), making it the most sought after golf ball in the industry. We would also like to thank several independent retailers for their contribution to a rapidly increasing inventory position this fall.

Our associates have been working a 24-hour per day, 7-day per week Pro V1 production schedule. Dedicated work crews have continued production through the Memorial Day and Fourth of July holidays as well as during Titleist's traditional two week summer manufacturing shutdown for the first time in company history. The \$1.6 million in overtime and other expenses have delivered an incremental 250,000 dozen Pro V1 golf balls which otherwise would not have been available for sale.

We're investing an additional \$14 million in capital equipment, both in core expansion and urethane elastomer capacity. This significant capital investment will contribute to our expanded capacity this fall as well as prepare us for future demand.

To supply Titleist's 2002 worldwide retail partners in 2001, we've increased manufacturing output of the V1 ball to 3 million dozen, a net 20% increase over last year's total worldwide shipment of 2.5 million dozen.

On behalf of all Titleist associates, we thank you for making the Pro V1 your golf ball of choice and the best selling golf ball in the market. Once again, we appreciate your understanding and support.

Sincerely,

Wally Uthlein

Titleist

PO Box 965
Fairhaven, MA 02719-0965

Sincerely,

Wally Uthlein

Titleist

PO Box 965
Fairhaven, MA 02719-0965

As you undoubtedly know, the introduction of the Titleist Pro V1 golf ball has been an unprecedented success. Since its tour debut in October 2000, the Titleist Pro V1 has been the #1 ball on the worldwide professional tours. With this groundswell of tour usage and acceptance, word of Titleist's new high-performance golf ball quickly traveled to players everywhere and demand grew prior to it even being introduced to the marketplace. As a result, we accelerated our planned introduction date by four months, the timing of which did not allow us to build adequate inventory to address the overwhelming consumer demand that would soon follow.

Our manufacturing facilities have been working overtime since the December 2000 marketplace introduction in an effort to supply golf shops with ample Pro V1 inventory. We have had to allocate Pro V1 shipments among all of our valued customers to ensure that each has at least a minimum supply.

- Our associates have been working a 24-hour per day, 7-day per week Pro V1 production schedule. Dedicated work crews have continued production through the Memorial Day and Fourth of July holidays as well as during Titleist's traditional two week summer manufacturing shutdown for the first time in company history. The \$1.6 million in overtime and other expenses have delivered an incremental 250,000 dozen Pro V1 golf balls which otherwise would not have been available for sale.
- We're investing an additional \$14 million in capital equipment, both in core expansion and urethane elastomer capacity. This significant capital investment will contribute to our expanded capacity this fall as well as prepare us for future demand.

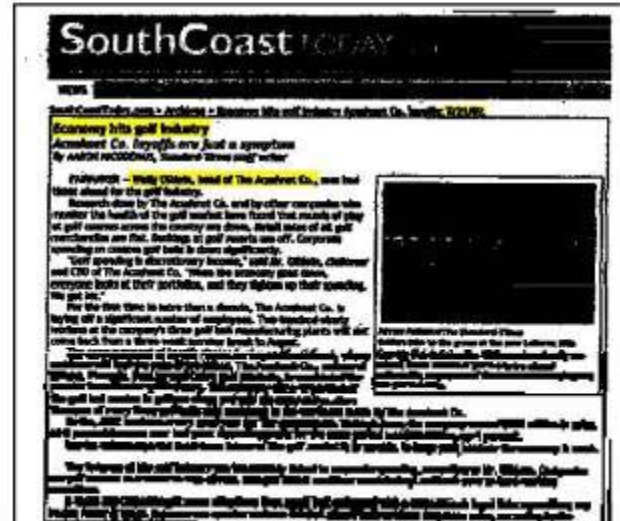
PX-1195

SouthCoast Today

JULY 21, 2002

Economy hits golf industry
Acushnet Co. layoffs are just a symptom
By AARON NICODEMUS, Standard-Times staff writer

FAIRHAVEN -- Wally Uihlein, head of The Acushnet Co., sees bad times ahead for the golf industry.



The Pro V1 saved this company, said Mr. Uihlein. When demand for that golf ball took off in 2000, the company added equipment and employees. With the layoffs, the company's total number of employees is back to where it was in 2000, at 2,086, he said.



PX-723