Patents

What the Engineering Designer Needs to Know

Sit with your team
Today’s Goals

• Understand what a patent is
• Understand why patents are important to engineers and technology businesses
• Learn how to read a patent
• Learn how to find patents
Are Patents Important?

Medtronic will pay $1.35 billion to settle patent lawsuit

Memphis Business Journal
Jury rules against Boston Scientific in drug-coated stent patent lawsuit

A jury in Texas has ruled that Boston Scientific’s drug-coated stents infringe on a 1997 patent issued to a radiologist and has awarded the inventor $431 million in damages, Boston Scientific said Tuesday. The suit by the patent holder, Dr. Bruce Saffran of Princeton, New Jersey, did not seek layers of polymer on top of a metal stent.

The case appears to be a long way from resolution and the shares of Boston Scientific rose after the announcement.

In afternoon trading Tuesday on the New York Stock Exchange, Boston Scientific was up 18 cents, or 1.5 percent, at $12.59.

Saffran’s patent primarily described how Saffran filed his infringement lawsuit against Boston Scientific in 2005. He recently filed a similar lawsuit against Boston Scientific’s main rival, the Cordis division of Johnson & Johnson.

Eric Albritton, Saffran’s lawyer, declined to

Published: February 12, 2008
Q: We would like to know what the long-term business strategy is for Boston Scientific.

A: “That’s easy, just look at the past three years of published patent applications from our company.”

Bruce KenKnight, VP Research, BSCI
Feb 6, 2009
IP is Critical

• Value of company is in its intellectual property and the ability of staff to generate IP, not in the products
• VCs look at people more than at concept
• IP, utility patents
  – Provisional Patent
  – Patent Application
  – Issued Patent
Intellectual property

Product of the mind: idea, invention, artistic expression, name, business process, chemical formula, ...
Patent

• Grants inventor a limited term monopoly
• Invention must be disclosed
• Gives inventor right to exclude others from “make, use or sell”
• It’s up to the inventor to protect the patent
• 20 years from filing date
• You have 1 year to file after publicly disclosing the invention (0 years in Europe)
“To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries;”
Patent requirements

• New
• Useful
• Non-obvious

• Can be reduced to practice (made)
• Is not a perpetual motion machine
Why You Care

• Learn
• Protect
• Avoid infringement
How To Read a Patent

• Front matter
• Drawings
• Specification
• Claims

To avoid infringing

• To learn
• To protect
A disposable agitator (12, 12A) for a food mixer (10) includes an elongate hollow sleeve stem (16, 24) which fits over and rotates with an elongate rotatable shaft (11, 11A) of the mixer (10). An agitator blade (17, 28) configured in the shape of a bowl of a spoon is positioned at the bottom of the stem (16, 24). In one embodiment a detent (18) in the stem (16) engages a recess (14) in the shaft (11) while in another embodiment; a barb (29) engages a flange (23) on the shaft to longitudinally position the agitator (13) on the shaft (11). The agitator is used by sliding the hollow stem (16, 24) upwardly over the shaft (11, 11A) to one embodiment; to cause the detent (18) to engage the recess (14), and in the other embodiment to cause the barb (29) to engage the flange (23). After mixing the food product, the user is induced to remove the agitator (12, 12A), because the blade (17, 28) is configured like the bowl of a spoon, by sliding the stem (16, 24) downwardly away from the shaft (11, 11A).

15 Claims, 3 Drawing Sheets
AGITATOR FOR A FOOD MIXER AND METHOD OF USE THEREOF

Inventors: John K. Barnard, Bay Village; David A. Brown, Rocky River, both of Ohio

Assignees: Vita-Mix Corporation; Flurry International, Cleveland, Ohio

Appl. No.: 373,459
Filed: Jun. 30, 1989

Related U.S. Application Data

Int. Cl. 8 B01F 7/16
U.S. Cl. 366/343
Field of Search 366/344, 343, 247, 249, 366/251, 241, 242, 245

References Cited
U.S. PATENT DOCUMENTS
1,407,789 2/1922 Erhardt 366/344
1,460,125 6/1923 Coleman 366/344
2,485,303 10/1949 Marcus
2,637,537 5/1953 Ernst 366/343
2,833,576 5/1958 Cirone
3,369,265 2/1968 Halberstadt
3,910,596 10/1975 Ekstrom

Primary Examiner—Robert W. Jenkins
Attorney, Agent, or Firm—Renner, Kenner, Greive, Bobak, Taylor & Weber

ABSTRACT
A disposable agitator (12, 12A) for a food mixer (10) includes an elongate hollow sleeve stem (16, 24) which fits over and rotates with an elongate rotatable shaft (11, 11A) of the mixer (10). An agitator blade (17, 25) configured in the shape of a bowl of a spoon is positioned at the bottom of the stem (16, 24). In one embodiment a detent (18) in the stem (16) engages a recess (14) in the shaft (11) while in another embodiment a barb (29) engages a flange (23) on the shaft to longitudinally position the agitator (12) on the shaft (11). The agitator is used by sliding the hollow stem (16, 24) upwardly over the shaft (11, 11A) to, in one embodiment, to cause the detent (18) to engage the recess (14), and in the other embodiment to cause the barb (29) to engage the flange (23). After mixing the food product, the user is induced to remove the agitator (12, 12A), because the blade (17, 25) is configured like the bowl of a spoon, by sliding the stem (16, 24) downwardly away from the shaft (11, 11A).

15 Claims, 3 Drawing Sheets
TECHNICAL FIELD

This invention relates to an agitator for a food mixer, such as a mixer of the type which will blend candy or other condiments into ice cream, milk shakes or the like. More particularly, this invention relates to an agitator, and its method of use, which is disposable insuring sanitary conditions without having to clean the agitator between usages, and which is readily positioned on the food mixer and removed therefrom by the user and subsequently used by the user to consume the food product.

BACKGROUND ART

For many years mixers with agitator shafts extending downwardly have been used to mix food items, such as milk shakes, right in a cup. More recently, similar mixers have been used to mix solid food chunks, such as candy and the like, into soft serve ice cream and other foods of similar texture. Since such mixers have permanent agitator shafts, frequent cleaning, most often between each use, is required because it is highly likely that each user will be blending different materials.

Such cleaning is quite time consuming for the commercial establishment which blends the product for the consumer and thus there is a need for a disposable agitator which could be quickly attached to the food mixer and readily and economically discarded after each use.
The agitator shown in U.S. Pat. No. 2,833,576 represents an attempt to satisfy such need, however, it is impractical for many reasons. For example, were the device of that patent made of a material inexpensive enough to be economically disposable, the long unsupported agitator shaft would be so flimsy that first, it could not mix viscous food materials and second, at high speed operation it would flop around or oscillate outwardly possibly doing damage to the cup containing the food. In addition, the complex attachment of the agitator to the food mixer is not conducive to or com-
Thus, to date, no one has developed an agitator assembly which is truly and economically disposable, which cannot represent a potential safety hazard to the user, and which by its configuration, will induce the user to remove it from the food mixer upon completion of the mixing.

DISCLOSURE OF THE INVENTION

It is thus a primary object of the present invention to provide an agitator for a food mixing device which can be manufactured sufficiently economically so as to be disposable and yet be strong enough to mix food materials.

It is another object of the present invention to provide an agitator, as above, which through its method of use can be readily utilized by the consumer himself without fear of injury.

It is a further object of the present invention to provide an agitator, as above, which is in the shape of a spoon so that by its method of use the consumer is induced to remove the same from the food mixer and utilize it as a utensil to eat the food product.

It is still another object of the present invention to provide an agitator, as above, in which the bowl of the spoon is axially offset from the shaft thereof to increase mixing action.

It is yet another object of the present invention to provide a method of using an agitator, as above, which is simple and suitable for performance by the ultimate consumer of the food product.
The embodiment of agitator 12 used with the embodiment of shaft 11 shown in FIG. 2 is best shown in FIG. 3 and is preferably made of an inexpensive material, such as many common plastics, so that it can be economically discarded after use. Agitator 12 includes a hollow sleeve stem portion 16 at one end and an agitator blade portion 17 at the other end. Stem 16 is shown as being tapered to correspond to the taper shown for shaft 11 although it will be appreciated that if shaft 11 were not tapered, stem 16 would also not be tapered but would rather correspond in configuration to that of shaft 11. Because stem 16 is a long hollow member and since it is intended to be economically disposable, the plastic material from which it is made needs the full support of shaft 11 so as to adequately mix even the most viscous food materials.

An annular detent 18 is provided internally of stem 16 near the top thereof for locking engagement with recess 14 of shaft 11 to secure agitator 12 longitudinally of
I claim:

1. A disposable food mixer agitator for use by a consumer, the agitator being engageable with a rotatable elongate shaft, the shaft tapering downwardly from a larger cross section to a smaller cross section and including coupling means, the agitator comprising, an elongate plastic stem, said stem being hollow along its entire length and being adapted to fit over substantially the entire shaft and be strengthened thereby, said stem tapering downwardly from a larger cross section to a smaller cross section corresponding to the taper of the shaft, blade means on the lower end of said stem configured to induce the consumer to remove said stem from the shaft and use the agitator to consume the food, said blade means being in the shape of a bowl of a spoon and closing the lower end of said stem to prevent contamination of the shaft, and means on said stem to temporarily engage the coupling means of the shaft to temporarily position said hollow stem longitudinally on the shaft and permit rotation of said stem and said blade means with the shaft so that said blade means will mix the food after which time the consumer is induced by said blade means to remove said stem from the shaft and consume the food with the agitator thereby preventing contamination of the shaft from exposure to different food items.
Finding Patents

• Issued
• Applications
  – Public 18 months after filing
• Search strategy
  – Key word
  – Class & sub-class
  – Forward and reverse citations
Patent search

• To get ideas
• To see if your idea infringes on prior art

• On-line: www.uspto.gov
• Search by keyword AND by class/subclass
• Online full text starts ~1972
Google, [http://www.google.com/patents](http://www.google.com/patents)
Warning

Full text and keyword search, covers 1972 and forward only
Oxo Salad Spinner
Forward & Reverse Citations

US 6018883

http://www.google.com/advanced_patent_search
Search by Class

United States Patent [19]
Barnard et al.

[54] AGITATOR FOR A FOOD MIXER AND METHOD OF USE THEREOF

[75] Inventors: John K. Barnard, Bay Village; David A. Brown, Rocky River, both of Ohio

[73] Assignees: Vita-Mix Corporation; Flurry International, Cleveland, Ohio

[21] Appl. No.: 373,459
[22] Filed: Jun. 30, 1989

Related U.S. Application Data

[51] Int. Cl. 3 .............................................. D03F 7/10
[52] U.S. Cl. .................................................. 366/343
[58] Field of Search .................. 366/344, 343, 247, 249, 366/251, 241, 242, 245

[56] References Cited
U.S. PATENT DOCUMENTS
1,407,789 2/1922 Erhardt ....................... 366/344
1,460,125 6/1923 Coleman ....................... 366/344
2,485,303 10/1949 Marcus ......................
2,637,537 5/1953 Ernst ......................... 366/343
2,833,576 5/1958 Cirone ......................
3,369,265 2/1968 Halberstadt ..............
3,910,590 10/1975 Ekstrom ..............

www.uspto.gov/go/classification/
U*DANCE

http://www.hasbro.com/udance/

http://www.amazon.com/o/ASIN/B00168ISYA/gg0069-20
Using Patents to Reverse Engineer

US 5521616
US 5288078