Intellectual Property and Patents
Oysters stuffed with honey

Syberis, 500 BC - Exclusive right to dish for 1 year
“Encouragement was held out to all who should discover any new refinement in luxury, the profits arising from which were secured to the inventor by patent for the space of a year” Athenaeus, ~300 AD
(describing the decree granting the exclusive right for the top cook in Syberis)
Venetian Patent Statute of March 19, 1474

Established in the Republic of Venice the first statutory patent system in Europe
Deemed to be the earliest codified patent system in the world
Monopolies of guilds on trade
“To promote the Progress of Science and Useful Art, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”
<table>
<thead>
<tr>
<th>Intellectual Property Right</th>
<th>Patent - Utility - Design - Plant</th>
<th>Trademark</th>
<th>Copyright</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope of protection</strong></td>
<td>- Invention (functional)</td>
<td>Brand</td>
<td>Creative work</td>
<td>Confidential information (business method)</td>
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<tr>
<td></td>
<td>- Ornamental (non-functional)</td>
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<tr>
<td></td>
<td>- Asexually propagated plants</td>
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<tr>
<td></td>
<td>except for tubers</td>
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<tr>
<td><strong>Protection starts</strong></td>
<td>Registration</td>
<td>Use in commerce</td>
<td>Fixation in tangible medium</td>
<td>Creation</td>
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<tr>
<td><strong>Term of protection</strong></td>
<td>Utility and Plant: 20 years</td>
<td>Indefinitely (as long as in use)</td>
<td>Life + 70 years</td>
<td>Indefinitely (as long as secret)</td>
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<td>For work-for-hire: 95 years from date of publication or 120 years from date of creation, whichever expires first</td>
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<td><strong>Examples</strong></td>
<td>Incandescent light bulb</td>
<td>Coca-Cola®</td>
<td>Books</td>
<td>Coca-Cola formula</td>
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<tr>
<td></td>
<td>Coca-Cola bottle shape</td>
<td></td>
<td>Paintings</td>
<td>KFC recipe</td>
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<td></td>
<td>“Roundup Ready” soybeans</td>
<td></td>
<td>Recorded Music</td>
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</table>
Utility Patents

What can be patented?

- Machines, devices, systems
- Compositions of matter
- Processes, methods, new uses
- Articles of manufacture

Cannot be patented:

- Abstract ideas
- Life forms as they occur in nature

Software? Business methods?
CUP HOLDER

Invention: Jay Sorenson, 5616 NE Alberta Ct., Portland, Ore. 97211

Appl. No.: 150,682

Filed: Nov. 9, 1993

Int. Cl. — 39,062/02

U.S. Cl. — 229/294, 229/302


Abstract

A cup holder is disclosed in the form of a sheet with distal ends. A web is formed in one of the ends and a corresponding slot is formed in the other end such that the ends interlock. Thus the cup holder is assembled by rolling the sheet and interlocking the ends. The sheet can be an elongate band of pressed material, preferably pressed paper pulp, and it is preferably formed with multiple nibs and depressions. In one embodiment, the sheet has a top and bottom that are annular and concentric, and matching slots and cups are formed in each end of the sheet, with the cups being perpendicular to the top of the sheet.

6 Claims, 1 Drawing Sheet

U.S. Patent

June 20, 1995

5,425,497
CUP HOLDER

FIELD OF THE INVENTION

The present invention generally relates to holders for cups. More particularly, the invention relates to a pliable cup holder that can be stowed flat and then deployed to support a cup. The resulting cup holder combination increases the gripability and leakproofness of the cup holder.

BACKGROUND ART

A cup holder is a removable device that accomodates a cup, control knob, or similar object. The cup holder is designed to stow flat in a compartment to the rear of the seat. The cup holder can be deployed to support a cup. The deployment of the cup holder is generally accomplished by a handle that actuates a flexible tray that supports a cup.

DETAILED DESCRIPTION AND BEST MODE OF CARRYING OUT THE INVENTION

Referencing FIG. 1, the cup holder 10 is shown in a deployed position. The cup holder 10 is generally comprised of a rectangular paper cup 70, a base 16, and an expansion member 24. The paper cup 70 is open at the top and closed at the bottom. The base 16 is a generally rectangular plate that is disposed above and below the paper cup 70. The expansion member 24 is disposed between the base 16 and the paper cup 70. The expansion member 24 consists of a generally cylindrical sheet and the base 16 is formed of a stiffened paper sheet. The sheet is disposed in an open position in the base 16 and is formed into a generally rectangular shape.

The invention can be configured in such a manner that it provides a cup holder that can be stowed flat and then deployed to support a cup. The resulting cup holder combination increases the gripability and leakproofness of the cup holder.

SUMMARY OF THE INVENTION

The invention cup holder is designed for use with an adhesive cup. The cup is in turn designed for holding hot or cold beverages. The advent of the adhesive cup and the cup holder combination means that the adhesive cup can be easily held by a human hand.

In addition, texture 46 provides an increased gripability to the cup and cup holder combination. Specifically, the adhesive cup provides a grip surface to the exterior of the cup holder, which increases the gripability of the cup holder combination. The cup holder combination is designed to be stowed flat and then deployed to support a cup. The resulting cup holder combination increases the gripability and leakproofness of the cup holder.

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6. A holder for encasing, a liquid-containing cup, to reduce the rate of heat transfer between the liquid contained in the cup and a hand gripping the holder encasing the cup, comprising a band of material formed with an open top and an open bottom through which the cup can extend and an inner surface immediately adjacent to the cup, the band including a plurality of discrete, spaced-apart, approximately semi-spherically shaped depressions distributed on substantially the entire outer surface of the band.

5. The holder of claim 4, wherein the band has an outer surface opposite the inner surface, with a plurality of discrete, spaced-apart, approximately semi-spherically shaped depressions distributed on substantially the entire outer surface of the band.

10. The holder of claim 5, wherein the inner and outer surfaces of the band are mirrored, with each depression on the inner surface defining a nibble on the outer surface and each depression on the outer surface defining a nibble on the inner surface.

5,423,497
1. A cup and holder combination comprising:
   a cup for holding hot or cold liquids; and
   a holder defined by a band mounted on and encircling the cup, the band having an open top and an open bottom through which the cup extends and an inner surface immediately adjacent the cup with a plurality of discrete, spaced-apart, approximately semi-spherically shaped depressions distributed on substantially the entire inner surface of the band so that each depression defines a non-contacting region of the band creating an air gap between the band and the cup, thereby reducing the rate of heat transfer through the holder.

2. The cup and holder combination of claim 1, wherein the band also has an outer surface opposite the inner surface, with a plurality of discrete, spaced-apart, approximately semi-spherically shaped depressions distributed on substantially the entire outer surface of the band.

3. The cup and holder combination of claim 2, wherein the inner and outer surfaces of the band are mirrored, with each depression on the inner surface defining a nubbin on the outer surface and each depression on the outer surface defining a nubbin on the inner surface.

4. A holder for encircling a liquid-containing cup to reduce the rate of heat transfer between the liquid contained in the cup and a hand gripping the holder encircling the cup, comprising a band of material formed with an open top and an open bottom through which the cup can extend and an inner surface immediately adjacent the cup, the band including a plurality of discrete, spaced-apart, approximately semi-spherically shaped depressions distributed on substantially the entire inner surface of the band so that each depression defines a non-contacting region of the band creating an air gap between the band and the cup, thereby reducing the rate of heat transfer through the holder.

5. The holder of claim 4, wherein the band also has an outer surface opposite the inner surface, with a plurality of discrete, spaced-apart, approximately semi-spherically shaped depressions distributed on substantially the entire outer surface of the band.

6. The holder of claim 5, wherein the inner and outer surfaces of the band are mirrored, with each depression on the inner surface defining a nubbin on the outer surface and each depression on the outer surface defining a nubbin on the inner surface.
Varying scopes of patent claims
Application Requirements

 Written Description
 Enablement
 Best mode

 Definite Claims

 Patent

 Invention Requirements

 Utility
 Statutory Subject Matter
 Novelty
 Nonobviousness
Patent timeline

Provisional Application

Initial Filing

6 mos

12 mos

18 mos

24 mos

30 mos

36 mos

42 mos

Non-Provisional Application

Publication

Examination/Prosecution

Objections/Rejections

Responses/Amendments

Allowance

Grant
US Patent System – Legal Framework

Courts
- Supreme Court
- Federal Circuit
- District Courts

USPTO
- Rules
- PTAB
- Examination
- ExParte Reexamination

Congress
- Patent Laws
US Patent System – Legal Framework

Present US law (35 USC)
- Inventorship and Ownership
- 112 - Disclosure requirements
  - description
  - enablement
  - (best mode)
- 102 - Novelty
- 103 - Unobviousness
- 101 – Statutory Subject Matter and Utility

Infringement lawsuit defenses
- Invalidity
  - Inventorship and Ownership
  - Insufficient disclosure
  - Lack of novelty
  - Unobviousness
  - Lack of utility
  - Non patentable subject matter
- Non-infringement
1928: Fleming discovered the antimicrobial properties of penicillin
1939: Florey and Chain started working on developing processes to produce penicillin
1945: All 3 received Nobel Prize in Physiology/Medicine
After Penicillin - Next generation of antibiotics

Streptomycin

Cephalosporin
1965: University of Florida football player Chip Hinton testing Gatorade, pictured next to the leader of its team of inventors, Robert Cade.

Total license revenue from select patents or associated product licenses

- Northwestern University: $1.3B
  - Lyrica (anti-epileptic drug)
- N.Y.U.: $16
  - Remicade (arthritis drug)
- Columbia University: $750M
  - Axel patents (DNA splicing)
- Carnegie-Mellon University: $750M
  - Disk drive noise reduction*
- Emory University: $525M
  - Emtriva (HIV drug)
- University of Minnesota: $450M
  - Ziaen (HIV drug)
- University of Rochester: $350M
  - Prevnar (pneumococcal vaccine)
- Stanford University: $336M
  - Google**
- University of Florida: $288M
  - Gatorade
- University of Florida: $260M
  - Trusopt (glaucoma drug)

* Infringement settlement based on lost royalties.
** Stock sale. Stanford received shares of Google stock in exchange for search algorithm patent license.

Source: Merrill et al., Billions at Stake in University Patent Fights, Bloomberg, 2016
In 1991 there were 1,307 U.S. patents issued to universities. By 2014 there were 5,898.

In 1991 gross annual patent licensing revenue for universities was $130 million. By 2014 revenue was $2.2B.

Source: Merrill et al., Billions at Stake in University Patent Fights, Bloomberg, 2016
CRISPR Cas9 (white) uses Guide RNA to locate and cut the Target DNA sequence. Source: WikiMedia
Marvell Technology to pay Carnegie Mellon $750 million over patents

By Jonathan Stempel

(Reuters) - Marvell Technology Group Ltd on Wednesday said it will pay Carnegie Mellon University $750 million to settle a nearly seven-year-old lawsuit accusing it of infringing two hard disk drive patents held by the Pittsburgh school.
WE ARE NOKERO

We believe people should be able to thrive after dusk. We exist to bring light to the energy poor so rural communities are safe, happy, healthy and productive. By inventing, engineering, and producing the world’s most efficient solar lights, we affordably lift 1.2 billion people out of the dark. We are Nokero (no kerosene) and are on a global mission to eliminate kerosene lamps.
Patents for humanity

Golden Rice Project
Golden Rice Humanitarian Board
Creation and innovation can transform the world

Source: USPTO
Questions?