

# Patent Law

Prof. Roger Ford

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Class 2: Introduction – mechanics

# Recap

# Recap

→ Justifying the patent system

**Today's agenda**

# Today's agenda

- Patent mechanics and institutions
- Architecture of the patent document

**Patent mechanics  
and institutions**

# Patent mechanics and institutions

→ 35 U.S.C. § 101:

- “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”

# Patent mechanics and institutions

→ Limited property rights

- Negative rights: right to exclude
- Positive rights: right to sell/license
- No positive right to practice

# Patent mechanics and institutions

## → Discussion question:

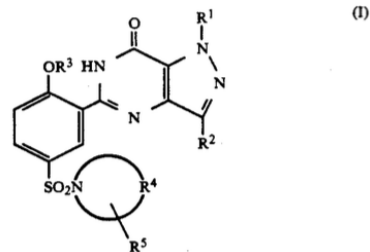
- What are some reasons a patent holder would **not** have the right to practice her invention?

## Sildenafil citrate

Claim 1 of U.S.  
patent 5,250,534

We claim:

1. A compound of the formula:

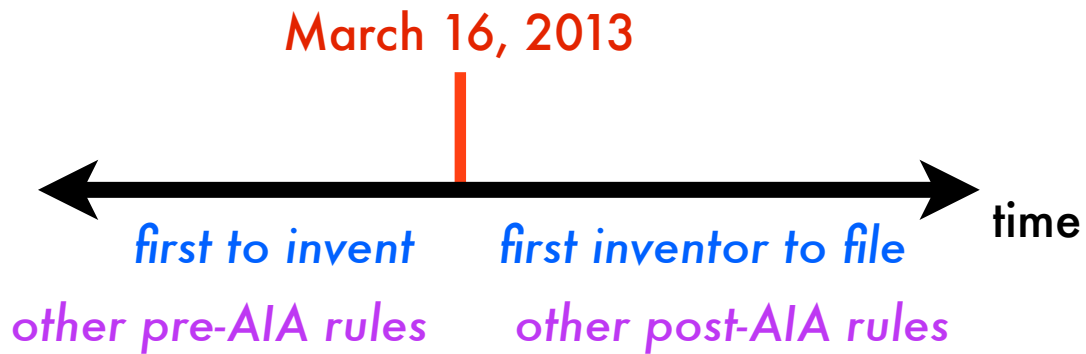


wherein

- R<sup>1</sup> is H, C<sub>1</sub>-C<sub>3</sub> alkyl, C<sub>3</sub>-C<sub>5</sub> cycloalkyl or C<sub>1</sub>-C<sub>3</sub> perfluoroalkyl;  
R<sup>2</sup> is H, C<sub>1</sub>-C<sub>6</sub> alkyl optionally substituted by OH, C<sub>1</sub>-C<sub>3</sub> alkoxy or C<sub>3</sub>-C<sub>6</sub> cycloalkyl, or C<sub>1</sub>-C<sub>3</sub> perfluoroalkyl;  
R<sup>3</sup> is C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>6</sub> alkenyl, C<sub>3</sub>-C<sub>6</sub> alkynyl, C<sub>3</sub>-C<sub>7</sub> cycloalkyl, C<sub>1</sub>-C<sub>6</sub> perfluoroalkyl or (C<sub>3</sub>-C<sub>6</sub> cycloalkyl)C<sub>1</sub>-C<sub>6</sub> alkyl;  
R<sup>4</sup> taken together with the nitrogen atom to which it is attached completes a 4-N-(R<sup>6</sup>)-piperazinyl group;  
R<sup>5</sup> is H, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>3</sub> alkoxy, NR<sup>7</sup>R<sup>8</sup>, or CONR<sup>7</sup>R<sup>8</sup>;  
R<sup>6</sup> is H, C<sub>1</sub>-C<sub>6</sub> alkyl, (C<sub>1</sub>-C<sub>3</sub> alkoxy) C<sub>2</sub>-C<sub>6</sub> alkyl hydroxy C<sub>2</sub>-C<sub>6</sub> alkyl, (R<sup>7</sup>R<sup>8</sup>N)C<sub>2</sub>-C<sub>6</sub> alkyl, (R<sup>7</sup>R<sup>8</sup>NCO)C<sub>1</sub>-C<sub>6</sub> alkyl, CONR<sup>7</sup>R<sup>8</sup>, CSNR<sup>7</sup>R<sup>8</sup> or C(NH)NR<sup>7</sup>R<sup>8</sup>;  
R<sup>7</sup> and R<sup>8</sup> are each independently H, C<sub>1</sub>-C<sub>4</sub> alkyl, (C<sub>1</sub>-C<sub>3</sub> alkoxy)C<sub>2</sub>-C<sub>4</sub> alkyl or hydroxy C<sub>2</sub>-C<sub>4</sub> alkyl; and

pharmaceutically acceptable salts thereof.

# Patent mechanics and institutions



# Patent mechanics and institutions

→ **Discussion questions:**

- What are the advantages and disadvantages of a first-to-invent system?
- What are the advantages and disadvantages of a first-to-file system?
- Why do you think the US switched?

# Patent mechanics and institutions

- Patent and Trademark Office (PTO)
  - Examines patent applications
  - Decides administrative disputes and appeals
- Federal courts
  - Enforce patent rights
  - Interpret patent law
- Congress
  - Sets patent policy

# Patent mechanics and institutions

- PTO
  - Examination-based
  - Negotiation creates [prosecution history](#)
  - Appeals to PTAB and then Federal Circuit
  - Or, you can bring a claim in federal district court

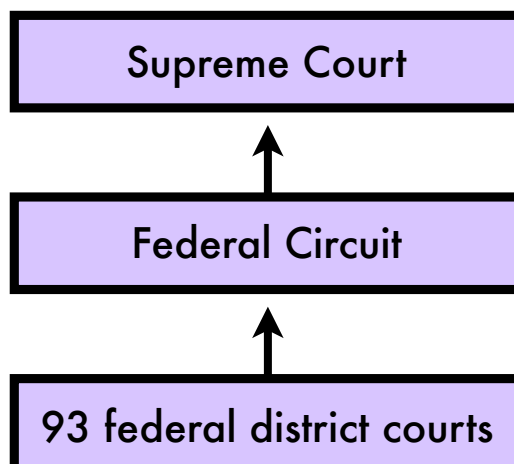
# Patent mechanics and institutions

→ PTO review of patent validity:

- Post-grant review: Ex parte review within nine months of issuance of AIA patents
- Inter partes review: Review, with both sides playing a role, after the time for post-grant review has expired
- Covered-business-method review: for post-grant review of certain business-method patents
- Reexamination: ex parte or inter partes

# Patent mechanics and institutions

→ Courts





# Patent mechanics and institutions

- International Trade Commission (ITC)
  - Popular venue for electronics cases
  - Remedy: blocking imports of accused products
  - Cannot award money damages
- Food and Drug Administration
  - Peripherally relevant in pharma cases

**Architecture of the patent document**

US005205473A

**United States Patent** [19]      [11] Patent Number: **5,205,473**  
**Coffin, Sr.**      [45] Date of Patent: **Apr. 27, 1993**

[54] **RECYCLABLE CORRUGATED BEVERAGE CONTAINER AND HOLDER**      2,661,889 12/1953 Phinney ..... 229/4.5  
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[75] Inventor: **David W. Coffin, Sr., Fayetteville, N.Y.**

[73] Assignee: **Design By Us Company, Philadelphia, Pa.**

[21] Appl. No.: **854,425**

[22] Filed: **Mar. 19, 1992**

[51] Int. Cl. 7 ..... **B65D 3/28**

[52] U.S. Cl. .... **229/1.5 B; 206/813; 220/441; 220/DIG. 30; 229/1.5 H; 229/DIG. 2; 493/296; 493/907**

[58] Field of Search ..... **229/1.5 B, 1.5 H, 4.5, 229/DIG. 2; 220/441, 671, 737-739; DIG. 30; 493/287, 296, 907, 908; 209/8, 47, 215; 206/813**

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**[57] ABSTRACT**  
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**18 Claims, 8 Drawing Sheets**

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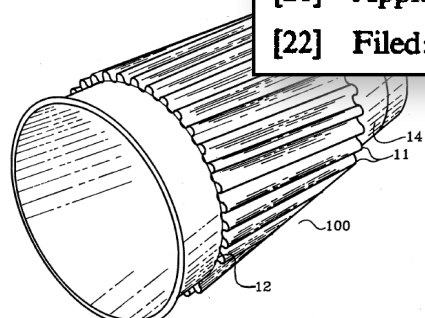
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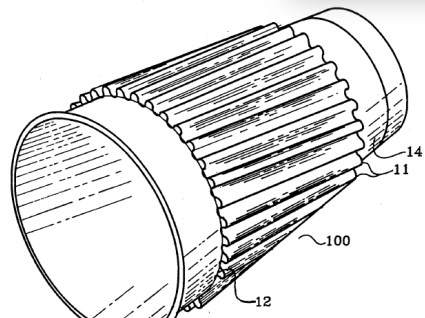
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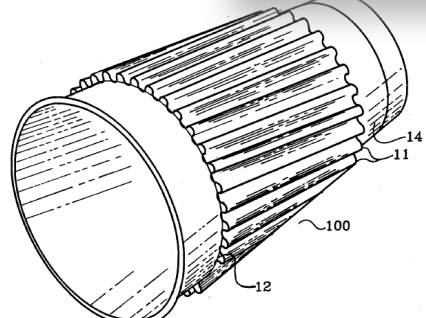
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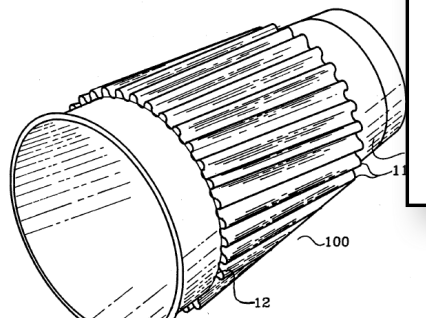
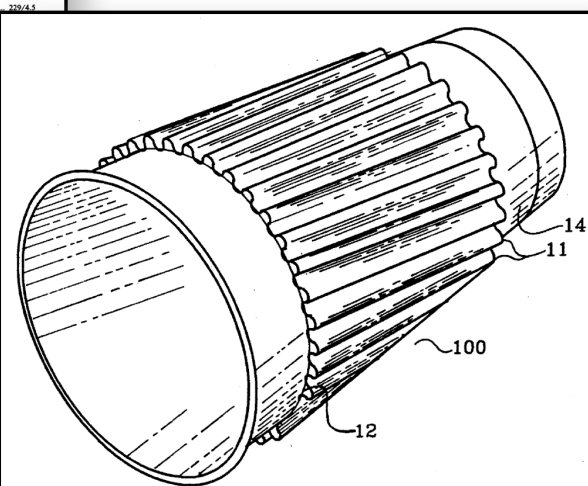
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[21] Appl. No.: 854,425

[22] Filed: Mar. 19, 1992

[51] Int. Cl. B65D 3/28

[52] U.S. Cl. 229/1.5 B; 206/813; 220/441; 220/DIG. 30; 229/1.5 H; 229/DIG. 2; 493/296; 493/907

[58] Field of Search 229/1.5 B, 1.5 H, 4.5, 229/DIG. 2; 220/441, 671, 737-739, DIG. 30; 493/287, 296, 907, 908; 209/8, 47, 215; 206/813

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Corrugated beverage containers for containing easy to hold and maintain than polystyrene

18 Cl.

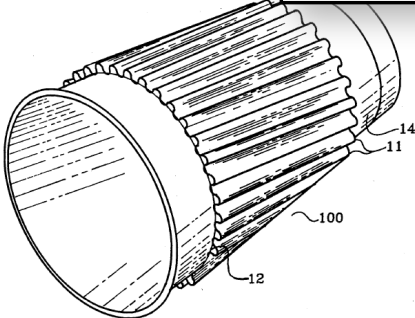
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**RECYCLABLE CORRUGATED BEVERAGE CONTAINER AND HOLDER**

**FIELD OF THE INVENTION**

This invention relates to insulating containers, and especially those which are recyclable and made of cellulosic materials.

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United States Patent [19] Coffin, Sr.

[11] Patent Number: 5,205,473  
 [45] Date of Patent: Apr. 27, 1993

US005205473A

[54] RECYCLABLE CORRUGATED BEVERAGE CONTAINER AND HOLDER 2,661,889 12/1988  
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[75] Inventor: David W. Coffin, Sr., Fayetteville, N.Y.

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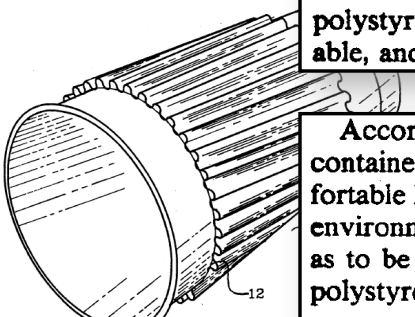
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**BACKGROUND OF THE INVENTION**

Hot beverage containers have traditionally been constructed of two materials: wax-coated paper and polystyrene. Although both products have received wide spread implementation by fast food restaurants and consumers, they each have their own specialized drawbacks which have yet to be overcome.

Polystyrene is an excellent insulator, and because of its unique moldability, can be formed into a myriad of different shapes and sizes. Unfortunately, however, polystyrene is neither easily recyclable nor biodegradable, and must be disposed in a sanitary landfill.

Accordingly, there is a need for a food and beverage container which provides adequate insulation for comfortable handling, but which is generally friendly to the environment. Such a container must be inexpensive, so as to be a cost effective substitute for either paper or polystyrene alternatives.



US05205473A

**United States Patent** [19] **5,205,473**  
**Coffin, Sr.** [45] **Date of Patent:** Apr. 27, 1992

[54] **RECYCLABLE CORRUGATED BEVERAGE CONTAINER AND HOLDER**  
 [75] **Inventor:** David W. Coffin, Sr., Fayetteville, N.Y.  
 [73] **Assignee:** Design By Us Company, Philadelphia, Pa.  
 [21] **Appl. No.:** 854,425  
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[58] **Field of Search:** 220/441, 671, 737-739, DIG. 30; 493/287, 296, 907, 908; 209/8, 47, 215; 206/813

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 Primary Examiner—Gary E. Elkins  
 Attorney, Agent, or Firm—Synnestvedt & Lechner

[57] **ABSTRACT**  
 Corrugated beverage containers and holders are employed which employ recyclable materials, but provide fluting structures for containing insulating air. These products are easy to hold and have a lesser impact on the environment than polystyrene containers.

**18 Claims, 8 Drawing Sheets**

**SUMMARY OF THE INVENTION**

This invention provides recyclable, corrugated containers and container holders which can be made from existing cellululosic materials, such as paper. The preferred recyclable, corrugated hot beverage container includes a lip and an internal cavity for containing a hot or cold medium. The container includes fluting means, such as fluting adhesively attached to one or more liners, for thermally spacing the hands of the user from the harsh temperatures of the contents of the container.

In the preferred holders of this invention, a corrugated tubular member is provided having at least a first opening for receiving and retaining a cup, or the like. The tubular member's corrugation, like that for the container above, includes fluting means for providing insulating air pockets. The holder can also be fashioned to be collapsible about two or more pivot points for flat storage.

Accordingly, the deficiencies of both paper and polystyrene are overcome at a minimum expense. The containers of this invention can be used for comfortably holding a variety of beverages, such as hot chocolate, soup, or coffee. The provided holders can be used in conjunction with paper cups, aluminum cans, or other beverage containers, without the discomfort associated with condensation and extreme temperatures.

US05205473A

**United States Patent** [19] **5,205,473**  
**Coffin, Sr.** [45] **Date of Patent:** Apr. 27, 1992

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[58] **Field of Search:** 220/441, 671, 737-739, DIG. 30; 493/287, 296, 907, 908; 209/8, 47, 215; 206/813

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**ABSTRACT**  
 Corrugated beverage containers and holders are employed which employ recyclable materials, but provide fluting structures for containing insulating air. These products are easy to hold and have a lesser impact on the environment than polystyrene containers.

**18 Claims, 8 Drawing Sheets**

**BRIEF DESCRIPTION OF THE DRAWINGS**

The accompanying drawings illustrate preferred embodiments of the invention according to the practical application of the principles thereof, and in which:

**FIG. 1:** is a top planar view of a preferred beverage container holder of this invention;

**FIG. 2:** is a bottom planar view of the preferred beverage container holder of FIG. 1;

**FIG. 3:** is a perspective view of the preferred beverage container holder of FIG. 1 disposed around a paper cup;

**FIG. 4:** is a top view of the preferred beverage container holder of FIG. 1 in a collapsed and flattened condition;

United States Patent [19]  
Coffin, Sr.

[11] Patent N  
[45] Date of

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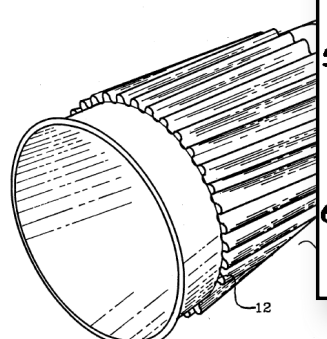
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John Wiley & Sons, pp  
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Attorney, Agent, or Fir

[57] A

Corrugated beverage c  
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18 Claims



## DETAILED DESCRIPTION OF THE INVENTION

45 This invention provides corrugated beverage container holders and beverage containers which are environmentally friendly and which provide adequate insulation properties approaching those of polystyrene. The corrugated tubes of these products preferably contain

50 longitudinally extending flutes and include a generally tapered or conical structure, typical of beverage containers. The corrugation can be made of cellulosic materials, including craft paper, sulfite paper, or recycled paper. Ideally, the fluting and liners of this invention are

55 adhered to one another with a recyclable, and preferably, a biodegradable adhesive, for example, R130 adhesive by Fasson Inc., Grand Rapids, MI.

60 With reference to FIGS. 1-5, there is shown, in multiple views, a preferred beverage container holder 100 of this invention. The preferred holder 100 includes a tubular structure having an inner liner 12 and sinuous fluting 11 disposed around the periphery of the liner 12.

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Coffin, Sr.

[11] Patent N  
[45] Date of

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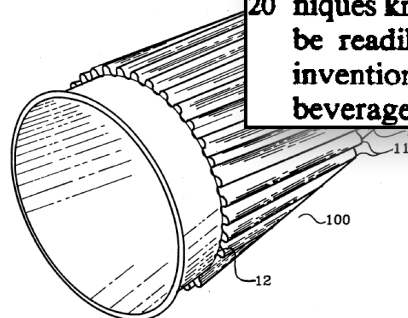
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[57] A

Corrugated beverage c  
employ recyclable mat  
ter for containing ins  
easy to hold and have  
ment than polystyrene

18 Claims



10 While this discussion has primarily focused upon the application of this invention to beverage container holders, a further preferred embodiment is described in FIGS. 11-13, which illustrate a corrugated container or cup. The corrugated beverage container 300 contains a

15 drinking lip 113, fluting 111, inner liner 122, and an optional exterior liner 124. Preferably, the inner liner 122 is coated with a water-resisting or water-proof agent at least on the surface that is to be exposed to a beverage, as disclosed earlier. The construction techniques known in the industry for making paper cups can

20 be readily adapted to the preferred materials of this invention for manufacturing the preferred corrugated beverage container 300.



United States Patent [19] Coffin, Sr.

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3,906,262 6  
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4,203,880 3  
4,146,660 3  
4,176,054 11  
5,026,216 4  
5,092,485 3

Primary Examiner: *Greg F. Eilmer*  
Attorney Agent: *John Wiley & Sons*

[57] Corrugated beverage containers for containing liquid are known to be difficult to hold and to collapse under pressure. The present invention provides a corrugated beverage container holder comprising a corrugated tubular member comprising cellululosic material and at least a first opening therein for receiving and retaining a beverage container, said corrugated tubular member comprising fluting means for containing insulating air; said fluting means comprising fluting adhesively attached to a liner with a recyclable adhesive.

18 Claims, 8 Drawing Sheets

1. A recyclable, insulating beverage container holder, comprising a corrugated tubular member comprising cellululosic material and at least a first opening therein for receiving and retaining a beverage container, said corrugated tubular member comprising fluting means for containing insulating air; said fluting means comprising

4. The holder of claim 1, wherein said tubular member comprises at least two pivot axes for permitting said tubular member to fold into a flattened condition.

5. The holder of claim 1, wherein a surface of said liner is coated with a water-resisting agent.

6. The holder of claim 1, wherein said fluting comprises sinuous fluting.

8. A recyclable collapsible beverage container holder comprising a corrugated tube

# Architecture of the patent document

→ Group questions:

- Why have multiple claims?
- When are broad claims helpful?
- When are narrow claims helpful?

# Next time

## Next time

- Introduction: Patent claims
  - Homework due Tuesday
  - Have a great long weekend!