

THE ROLE OF ENGINEERS IN CREATING INTELLECTUAL PROPERTY

Patents & Trade Secrets

- Work Product Protection
- Career & Business Protection

Presented to
ASME Central Region
Intellectual Property Seminars
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WORK PRODUCT: inventions / patents / trade secrets

- ◆ Patents
- ◆ Trade secrets
- ◆ Documentation
- ◆ Ownership

CAREER AND BUSINESS PROTECTION:

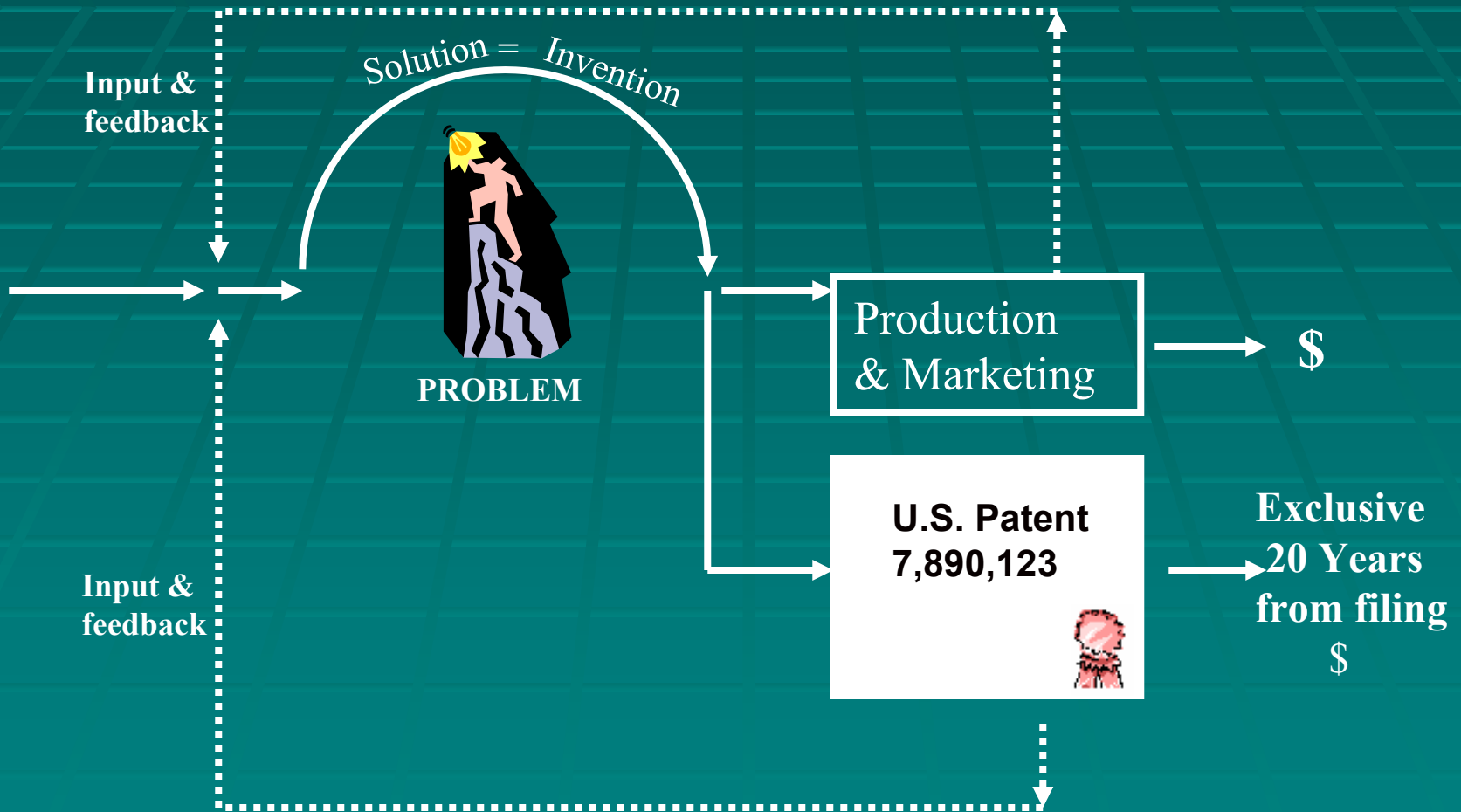
Why Should Engineers Be Interested In Patents?

- ◆ Being a named inventor on a patent may entitle you and your company to recognition and financial rewards.
- ◆ Your company may offer financial incentives to its staff for commercially successful inventions
- ◆ Patents can help your company to stake out a competitive advantage in industry and/or to obtain royalty income through licensing.

GOLDILOCKS SCHOOL OF PATENTS

- ◆ “I have a concept” (too soon)
- ◆ “In the last 2 years this product has really taken off!” (too late)
- ◆ “I’ve tested prototype in secret & plan to go to market” (just right)

THE INVENTIVE PROCESS



The Engineer's Biggest Patent Mistake

“All I did was solve the problem.”



“It can't be patentable.”

Or can it?

THE INVENTOR'S CONSTITUTIONAL RIGHTS

- ◆ The Constitution of the United States guarantees:

The Congress shall have power... 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.

THE REAL WORLD

- ◆ **Inventions made in the scope of your employment generally will belong to your employer.**
- ◆ **Employment agreements**
 - Obligation to assign
 - Confidentiality agreements
 - Covenant not to compete
- ◆ **Common law**
- ◆ **The need for employers to provide incentives to invent and to disclose inventions**

TYPES OF PATENTS

Patents protect inventions and improvements

◆ **Utility Patents**

Technology protected by a U.S. and/or foreign patent, classified broadly as chemical, mechanical, electrical/computer including software or biotechnical and then into more detailed classes and subclasses.

◆ **Design Patents**

A new, original, and ornamental design for an article of manufacture.

◆ **Plant Patents (e.g., hybrids)**

An invention or discovery that asexually reproduces any distinct and new variety of plant.

US Design Patent 374,252



US00D374252S

United States Patent [19]

Stambolic et al.

[11] **Patent Number:** **Des. 374,252**

[45] **Date of Patent:** ****Oct. 1, 1996**

[54] **HAND-HELD ELECTRONIC GAME HOUSING**

[75] **Inventors:** **Zarko Stambolic, Oak Park; Shari L. Smith, Chicago; Howard J. Morrison, Riverwoods, all of Ill.**

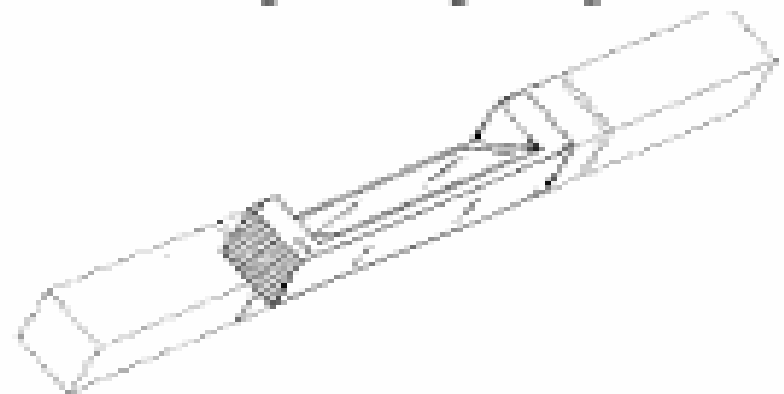
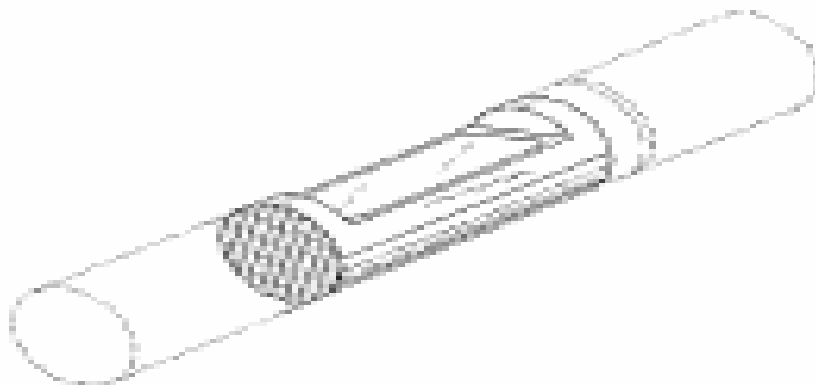
[73] **Assignee:** **Tiger Electronics, Inc., Vernon Hills, Ill.**

[57] **CLAIM**

The ornamental design for the hand-held electronic game housing, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a first embodiment of a hand-held electronic game housing showing our new design;



US Utility Patent 6,708,821

(12) **United States Patent**
Tucker et al.

(10) **Patent No.:** US 6,708,821 B2
(45) **Date of Patent:** Mar. 23, 2004

(54) **FASTENER COLLATION STRIP AND
DEBRIS EXHAUST MECHANISM**

(75) **Inventors:** Kevin M. Tucker, Chicago, IL (US);
Frank K. Villari, Oak Park, IL (US)

(73) **Assignee:** Illinois Tool Works Inc., Glenview, IL
(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.

(21) **Appl. No.:** 10/224,998

(22) **Filed:** Aug. 21, 2002

(65) **Prior Publication Data**

US 2004/0035901 A1 Feb. 26, 2004

(51) **Int. CL³** B65D 85/24

(52) **U.S. CL** 206/345; 206/347; 227/120;
227/19; 227/127; 227/135; 227/136; 227/137

(58) **Field of Search** 227/120, 19, 127,
227/129, 135-137; 206/345, 347

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,069,340 A 12/1991 Ernst et al.
5,836,732 A 11/1998 Gupta et al.
5,931,622 A 8/1999 Gupta et al.
5,988,477 A 11/1999 Deieso et al.
6,164,510 A 12/2000 Deieso et al.
6,394,268 B1 * 5/2002 Dill et al. 206/347

* cited by examiner

Primary Examiner—Rinaldi I. Rada

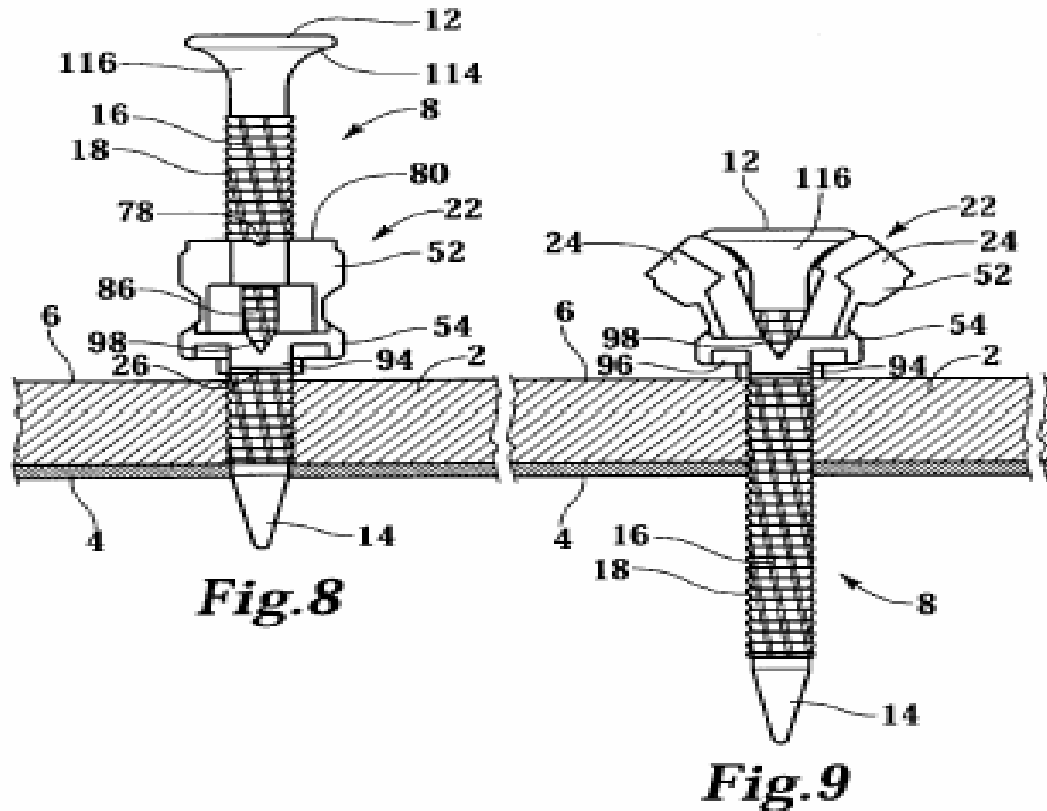
Assistant Examiner—Michelle Lopez

(74) *Attorney, Agent, or Firm*—Lisa M. Soltis; Mark W.
Croll; Donald J. Breh

(57) **ABSTRACT**

For use in a fastener driving tool, a fastener assembly includes a plurality of fasteners arranged in a row, each fastener including a head and an elongated shank and a carrier including a plurality of connected carrier sleeves for receiving and surrounding a portion of an associated fastener. Each of the carrier sleeves includes an axis, an upper breakable portion, a middle portion, a lower breakable portion, a pedestal associated with the lower breakable portion, the pedestal axially extending away from the lower breakable collar, and a pair of notches in the lower breakable portion, the pair of notches opening toward the head of the associated fastener.

US Pat 6,708,821 - Drawings



US Pat 6,708,821 – Specification

Detailed Description

DETAILED DESCRIPTION OF THE INVENTION

• • •

The steps by which fastener 8 and sleeve 22 undergo as fastener 8 is driven are shown in FIGS. 8 through 11. Fastener 8 is driven in the driving direction faster than sleeve 22 is so that shank 16 of fastener slides through bore 64 of sleeve. Because the diameter of shank 16 increases up shank 16 due to the taper described above, shank 16 acts as a wedge within sleeve 22 and creates tension along breaking plane 76. Eventually a bottom surface 114 of fastener head 12 comes into contact with upper surface 80 of sleeve 22 so that both fastener 8 and sleeve 22 move together.

Fastener 8 and sleeve 22 continue to be driven in the driving direction until bottom surface 26 of pedestal 94 comes into contact with surface 6 of substrate 2. At this point, sleeve 22 cannot be driven in the driving direction any farther, but fastener 8 continues to be driven into substrate 2. The tapered portion 116 of bugle head 12 acts as a wedge to split sleeve 22 into two pieces 24 along breaking plane 76, as shown in FIGS. 9 through 11.

• • •

US Pat 6,708,821 – First Claim

What is claimed is:

1. A fastener assembly, comprising:

a plurality of fasteners arranged in a row, each one of the plurality of fasteners including a head and an elongated shank; and

a plastic carrier including a plurality of connected plastic carrier sleeves, wherein each one of the plurality of connected plastic carrier sleeves is for receiving and surrounding a portion of an associated fastener and for orienting the associated fastener;

wherein each one of the plurality of connected plastic carrier sleeves includes an axis, an upper breakable portion, a middle wall portion, a lower breakable portion, a pedestal associated with the lower breakable portion, the pedestal extending axially away from the lower breakable portion, and a pair of notches in the lower breakable portion opening toward the head of the associated fastener, wherein the pair of notches facilitates splitting the corresponding one of the plurality of connected plastic carrier sleeves along a corresponding breaking plane.

• • •

WHAT RIGHTS ARE GRANTED BY A U.S. PATENT?

- ◆ A U.S. patent provides the right to exclude others from making, using or selling the invention in the U.S.
- ◆ Term: 20 years from the date of filing the patent application
- ◆ Infringement: Remedies include damages not less than a reasonable royalty
- ◆ Injunction

WHAT IS PATENTABLE?

- ◆ **Any “invention” that**
 - **Is new (even if it is a combination of old elements)**
 - **Is not obvious, and**
 - **Is useful**
- ◆ **Software often is patentable, assuming that it has any practical use whatsoever.**
- ◆ **Business methods**
 - **Amazon One-Click Shopping Cart**
 - **Newly patentable (since the 90’s)**
 - **Criticized and scrutinized**

Conditions for Patentability

35 U.S.C. § 102 Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless—

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the application for patent, or
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States....

Conditions for Patentability

35 U.S.C. § 103 Conditions for patentability; nonobvious subject matter

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

IS IT A PATENTABLE INVENTION?

- ◆ **Many engineers and scientists fail to appreciate their own inventions. You don't have to be an Edison, an Einstein, or a rocket scientist to make a patentable invention.**
- ◆ **Don't "filter" your invention disclosure: If you make any development that might be new and might be useful, submit an invention disclosure. Let the Company and the Patent Office determine patentability.**

HOW TO OBTAIN A PATENT

I. INVENTION DISCLOSURE

- ◆ Use your Company's invention disclosure form and process, if available
- ◆ Write up the invention – be detailed
- ◆ Contact supervisor and/or patent attorney

RECORDKEEPING (1 OF 2)

- ◆ Maintaining technical notebooks
 - Signing and dating your work
 - Having a witness sign and date your notebook entries
 - “Read and understood by _____
[legible signature], dated _____.”

RECORDKEEPING (2 OF 2)

- ◆ Using “Electronic notebooks”
 - E-mail repository for disclosures
 - Read by managers
 - Back-up storage
 - Electronic signatures
 - HTML (data/drawings) attachments

PREPARING INVENTION DISCLOSURE

(1 OF 2)

- ◆ The importance of detail in the invention disclosure
- ◆ Sketches or drawings
- ◆ Data
- ◆ Examples
- ◆ Background including prior art and problems with prior art
- ◆ Objectives of the invention

PREPARING INVENTION DISCLOSURE

(2 OF 2)

- ◆ What problems does the invention solve?
- ◆ What advantages does the invention have?
- ◆ What problems did you overcome in making the invention?
- ◆ What did you try that didn't work?
- ◆ Details on any public disclosure or offers to sell the invention with relevant dates

II. **SEARCHING (Prior Art)**

- ◆ **Patentability (novelty)**
- ◆ **Infringement clearance (“right to use”)**

III. HOW WE PREPARE AND FILE A PATENT APPLICATION (1 OF 2)

- ◆ Review the invention disclosure and obtain additional details from the inventor
- ◆ Search and analyze prior art
- ◆ Obtain patent drawings
- ◆ Draft claims

III. HOW WE PREPARE AND FILE A PATENT APPLICATION (2 OF 2)

- ◆ Draft the summary of invention
- ◆ Draft background and detailed description
- ◆ Obtain and incorporate inventor comments
- ◆ Obtain inventor's signature
- ◆ File the patent application
- ◆ Disclose prior art to the Patent Office

U.S. Codes for Patent Applications

35 U.S.C. 112 Specification

In addition, the patent application must include a full and complete detailed written description of the claimed invention sufficient to enable one of ordinary skill in the art to make, use and practice the claimed invention. The best mode known to the inventor must be disclosed. The specification must conclude with one or more claims distinctly setting forth that which the inventor believes to be his invention.

DISCLOSURE OF PRIOR ART

37 CFR § 1.56

- ◆ The inventor, the company and the patent attorney must disclose material information, e.g., all known relevant prior art
- ◆ Big penalties for non-disclosure of material information
- ◆ Duty of candor continues until the patent issues

AFTER THE PATENT APPLICATION IS FILED

- ◆ The examiner conducts an independent search of the prior art
- ◆ The first office action
- ◆ The response to the office action may include amendments of the claims and arguments
- ◆ Interviews (optional after the first office action)
- ◆ Final office action or notice of allowance
- ◆ Payment of the issue fee
- ◆ If all goes well, a U.S. patent issues with a gold seal, a red ribbon and your name is on it

INTERNATIONAL PATENT APPLICATIONS (1 OF 2)

- ◆ Require “absolute novelty” in most countries
- ◆ Usually must file U.S. patent application before any public disclosure or sale of invention
- ◆ Treaties: Usually can “buy time” (12 – 30 months) after filing U.S. patent application
- ◆ Expensive to obtain worldwide patent rights

INTERNATIONAL PATENT APPLICATIONS (2 OF 2)

What countries?

- ◆ Consider commercial significance of invention
- ◆ Consider importance of the market in the country of interest
- ◆ Consider where your competition is located
- ◆ Is the U.S. patent enough?
(most bang for your buck)

SENSE OF URGENCY

- ◆ **Win race to Patent Office to beat out competitors**
 - US has “first to invent” system
 - But “first to file” presumptively wins
- ◆ **Statutory bars:**
 - Most foreign countries require “absolute novelty”
 - In US, 1st public disclosure or commercial activity starts clock on one year “grace period”
 - Key date (for US and foreign rights) is filing date of US patent application
 - Foreign utility applications usually can claim benefit of US filing date if filed within one year after US filing

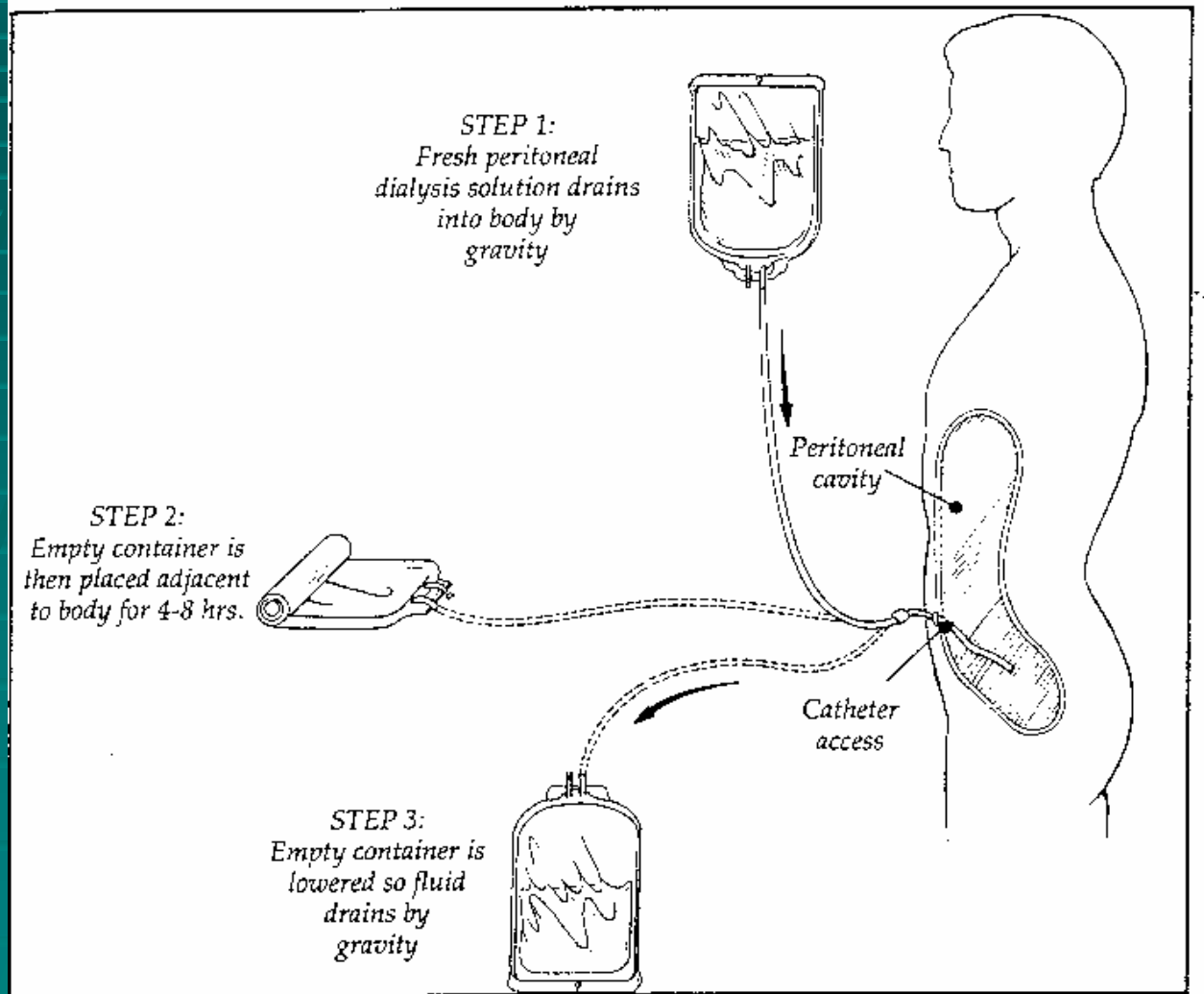
TRADE SECRETS

- ◆ Any information that derives independent economic value from not being generally known or readily ascertainable
- ◆ Information that could provide an unfair advantage to the competition
- ◆ Patents begin life as trade secrets
- ◆ Patent Applications are maintained in confidence by the Patent Office until about 18 months after filing
- ◆ Examples are:
 - processes
 - blueprints
 - formulae
 - methods and techniques
 - chemical recipes
 - customer lists
 - pricing information
 - methodologies
 - source code
 - non-public financial data

PROTECT TRADE SECRETS

- ◆ **Keep it secret!**
- ◆ **Use confidentiality agreements**
- ◆ **Mark documents “confidential”**

Invention & Patent Exercise (1 of 2)



Invention & Patent Exercise (2 of 2)

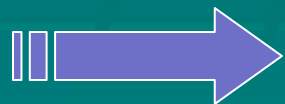
- ◆ Background: Peritoneal dialysis can be administered manually for patients having chronic end-stage kidney failure. See above. In step 1, fresh dialysate (2 liters of saline solution) is infused into the peritoneal cavity. During step 2, impurities in the blood diffuse through capillaries in the peritoneal membrane into the dialysate. In step 3, spent dialysate is drained from the patient. A patient can go for up to 24 hours between treatments, but four treatment cycles, each taking a minimum of 1-1/2 hours, are required in every 24 hour period. Patients can find it difficult and embarrassing to carry bags of dialysate and administer peritoneal dialysis in everyday life, e.g. at the office, on the factory floor, or while traveling or enjoying a day on the golf course.
- ◆ Assignment: Invent a system for ***automatic*** peritoneal dialysis treatments that will permit patients to manage the infusion and subsequent recovery of fluid without supervision of medical personnel. Consider health, safety, comfort, convenience and cost.

CONCLUSIONS

◆ Inventions?

- Think patents
- Exclusive right to make, use & sell

◆ Trade secrets? Think secret



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