BASIC REQUIREMENTS FOR PATENT

1. NEW
   Not previously known by others or previously available in the public domain

2. USEFUL
   Must have practical utility to accomplish a useful purpose

3. NONOBVIOUSNESS
   The invention must be considered not obvious to one of ordinary skill in the art
PATENTABLE SUBJECT MATTER

1. BROAD STATUTORY CLASSES OF UTILITY PATENTS
   A. Machines
   B. Compositions of matter
   C. Manufactures
   D. Processes
   E. New uses of A_D

2. PLANT PATENTS

3. DESIGN PATENTS
A. MACHINES

1. May be entire machine
2. May be component part
3. May be mechanism forming part of larger machine
4. may be novel combination of old components
B. COMPOSITIONS OF MATTER

1. New molecules

2. New chemical compounds

3. Mixtures with distinctive properties
   a. alloys
   b. solutions and mixtures with useful properties beyond the constituents

4. Unstable compounds useful as intermediates

5. Monoclonal antibodies

6. Materials with novel surface, structural, mechanical, electrical, optical or other properties
   Examples
   a. Metalized coating which is acid treated to provide pores for bone growth; used in surgical implants
   b. Metals, or other materials, having special grain structures resulting from particular treatments – may result in greater:
      1) strength
      2) elasticity
      3) malleability
      4) wear resistance
      5) electrical properties
      6) improved properties as a substrate
      7) etc
   c. Optical materials having selective electromagnetic, or other radiation transmission, absorption or other properties
   d. Other novel materials

7. Purity alone is not sufficient unless the greater purity allows use where unpurified was not effective
C. MANUFACTURES

1. generally includes all products not considered a machine or composition
2. Articles having non-moving parts
   a. Brackets, tabs, and other parts of various uses and functions
   b. Containers
3. Treated Products
   a. specially prepared furs
   b. borax impregnated orange held not patentable (1931) but this case is not being followed by more recent court decisions
   c. soil treated with water soluble polymer to prevent erosion was patented
   d. processed food products
4. Kits containing parts to be assembled in the field
5. Closures
6. Anchors and mounts
7. Ropes, wire, and fibers
8. Specially configured tickets or markers where either the configuration or the combination of printed information and configuration provide new results
9. Novel buildings or building substructures have not always been recognized as patentable but the modern view is yes
D. MANUFACTURES (CONT)

10. Numerous others
11. Naturally occurring articles may not be patentable unless treated or manufactures in some way which provides greater utility or purity
12. Compositions found in nature are generally not patentable except in purified or altered forms not previously known. eg. Extracts previously not identified in natural form which can accomplish results beyond the natural form.
13. Strain of naturally occurring microbes are not patentable as such, but may as a biologically pure strain having a newly identified utility
14. Hybrid cell lines
15. Recombinant DNA organisms
16. Plants – utility patents
   a) Entire plant
   b) Plant seeds
   c) Plant tissue cultures
   d) Extracted parts of plants may or may not be recognized as patentable; specific processing may support patentability
17. Higher animals - ???
18. Old products produced by new processes are not patentable unless they are different
E. PROCESSES

1. Processes and methods are claimed in patents as a step or combination of steps performed to accomplish a useful result

2. Processes for conversion or reaction of chemicals or materials are patentable
   Examples: a) polymerization b) synthesis reactions c) purification procedures d) treatment of metals for improved properties

3. Processes for achieving useful physical results are patentable
   a) Mechanical treatment or processing
   b) Optical
   c) Electrical
   d) Electronic processes such as signal processing
   e) Combinations of such processes may be novel even

4. Medical processes are now patentable in the U.S.

5. Agricultural processes

6. Many other types of useful processes are patentable

7. Principles describing phenomena are not patentable – there must be an implementation to achieve a useful result - Thus description of scientific principles per se are not patentable, but a machine or process using such principles to accomplish a beneficial result is patentable

8. Patents are not granted for an end result – there must be a process or means for achieving the end result

9. Mathematical relationships and algorithms alone also are not patentable
D. PROCESSES (CONT.)

10. Some computer software processes may be patentable if relationship to machine operation are shown
11. Processes which involve mental steps as the sole novel aspect are not patentable
12. Processes which are solely business plans or business systems are not patentable
E. NEW USES

1. Some small variation in use is usually not sufficient
2. Typical new use is a chemical found to be effective for a new purpose
3. Any patent protection on a new use does not protect the old product or processes
4. New uses which are analogous to old uses are typically considered obvious and not patentable
5. Alteration of the product or process to better accommodate the new use is very significant in supporting patent protection
6. New uses can also be claimed as a new process
II. PLANT PATENTS

A. Basic statutory provisions
   1. Types of plants covered
      a. Common plants – not as broad as biological definition of plant kingdom – bacteria have been excluded
      b. Tuber propagated plants are specially excluded from coverage 1) potato 2) artichoke
      c. Cultivated sports
      d. Cultivated mutants
      e. Cultivated hybrids
      f. Cultivated seedlings
   2. Plant can either be invented or discovered in cultivated state
   3. Plants found in uncultivated state may not be patented
   4. Inventor or discoverer must ASEXUALLY reproduce the plant prior to filing the patent application
   5. The plant must not be distinctive
      a) need not be new species
      b) must have characteristics which distinguish it from prior plants. Such as: 1) habit 2) disease immunity
      3) resistance to cold, drought, heat, wind and soil conditions 4) distinctive color of flower, leaf, stem or fruit
F. PLANT PATENTS (CONT.)

5) Flavor 6) productivity 7) storage qualities 8) perfume 9) form 10) ease of asexual reproduction

B. The exclusive right is to prevent the asexual reproduction of the patented plant

C. Distinguish plant patent protection from:
   1. Utility patents, which are also available, and in many cases will provide better protection
   2. Uniform Plant Variety Protection Act, which protects sexually (seed) produced plants, such as cereal grains and others
   3. Protection may be available for plants through one or more of these three legal forms depending on the circumstances
III. DESIGN PATENTS

1. Basic statutory requirements
   a) New
   b) Original
   c) Ornamental
   d) For an article of manufacture

2. New
   a) Not known or in the public domain as described below under statutory bars – novelty
   b) Design must be considered nonobvious

3. Original
   a) Design is the work of the inventor

4. Ornamental
   a) Design must have ornamental aspects and cannot be dictated solely by functional structural consideration, but must possess some aesthetic consideration
   b) The ornamental features can also serve as functional elements

5. Article of manufacture – Broadly encompasses most things made by man

6. Appearance not function is protected by a design patent