

Examination Of Inventions Based on the Fischer-Tropsch Synthesis

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An Introduction to the USPTO

- Article 1, Section 8 of the United States Constitution empowers Congress to promote the progress of science and the useful arts by securing for limited times to inventors the exclusive right to their respective discoveries.
- Title 35 of the United States Code contains the basic authorities for administration of patent laws.

An Introduction to the USPTO

Since 1991, under the Omnibus Budget Reconciliation Act of 1990, the USPTO has operated in much the same way as a private business, providing valued products and services to our customers in exchange for fees which are used to fully fund our operations.

The USPTO Mission

- Administering the laws relating to Patents and Trademarks.
- Granting and issuing patents and the registration of trademarks.
- Disseminating to the public information with respect to patents and trademarks.

The USPTO Profile

The USPTO is located in Arlington, Virginia and occupies about 1.4 million square feet in numerous buildings. It employs over 6000 full time staff members, about half of whom are Patent Examiners and Trademark Examining Attorneys.

What can be Patented?

- Any new and useful process, machine, manufacture or composition of matter, or any new and useful improvement thereof.

Who may apply for a Patent?

- Only the inventor may apply for a Patent.
- If two or more persons make an Invention jointly, they apply for the Patent as joint inventors.

Exceptions:

- The inventor is dead. Legal representatives e.g. the administrator or executor of the estate may apply.
- The inventor is insane. A legal guardian may apply.
- The inventor refuses to apply or cannot be found. A person having a proprietary interest in the Invention may apply.

Technology Center 1600

The examination of Patent Applications is divided among six Technology Centers. Technology Center 1600 examines Biotechnology and Organic Chemistry related Patent Applications. The Technology Center Comprises 3 Directors and 380 Examiners in 29 Art Units along with support staff.

Fischer-Tropsch technology is examined in Art Unit 1621.

Art Unit Profile

- Art Unit 1621, at the beginning of this fiscal year, had 17 Examiners, 7 with a Ph.D., 5 with a Masters and the remaining 5 with a Bachelors Degree.

Classification of Fischer-Tropsch Technology

- Fischer-Tropsch synthesis is currently classified in Class 518.
- Class 518 was established in 1981. Prior to that it was a part of class 260, which was established in 1922.
- Class 518 consists of Subclasses 700-728

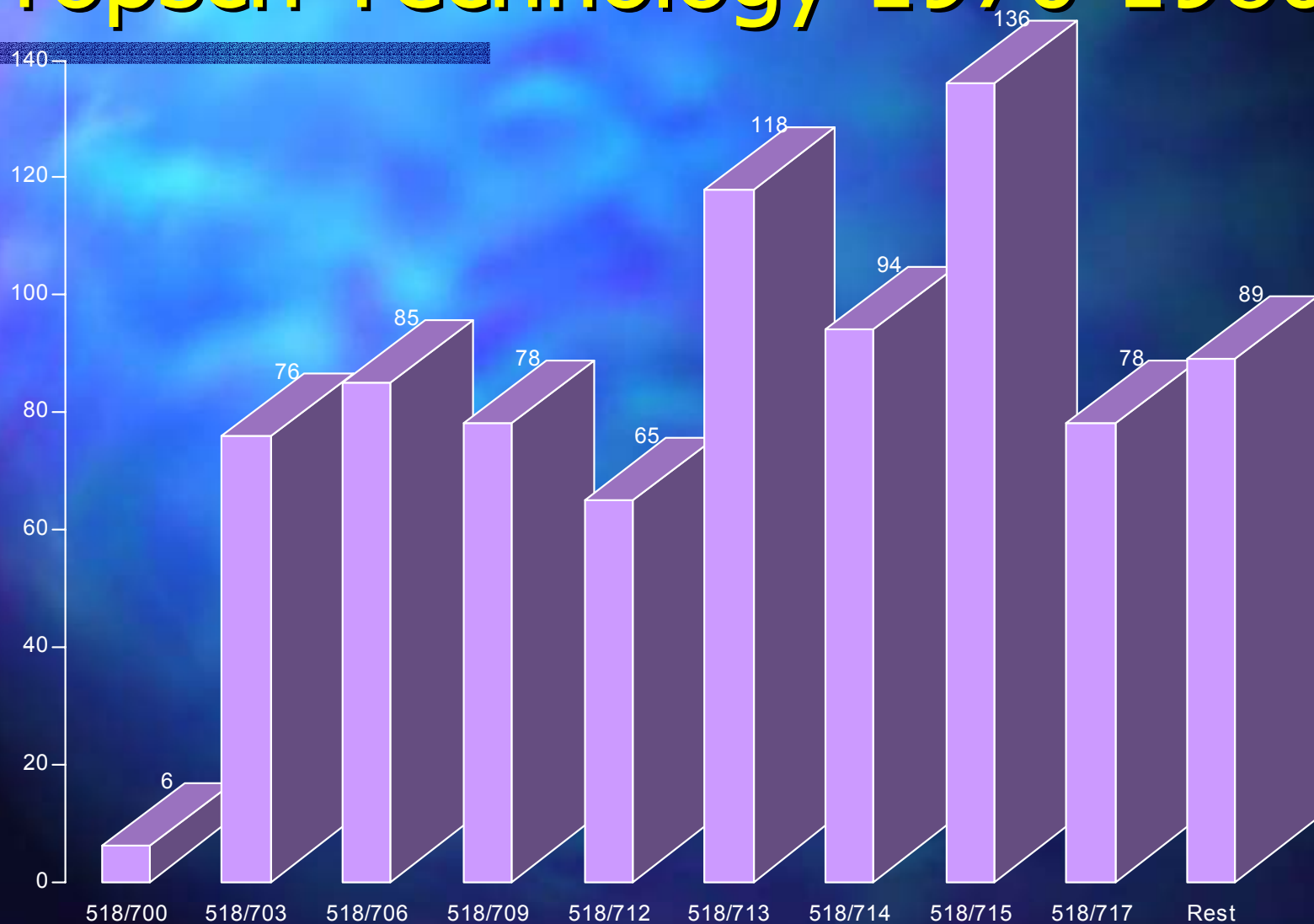
Class 518 Definition

This class provides for processes which include

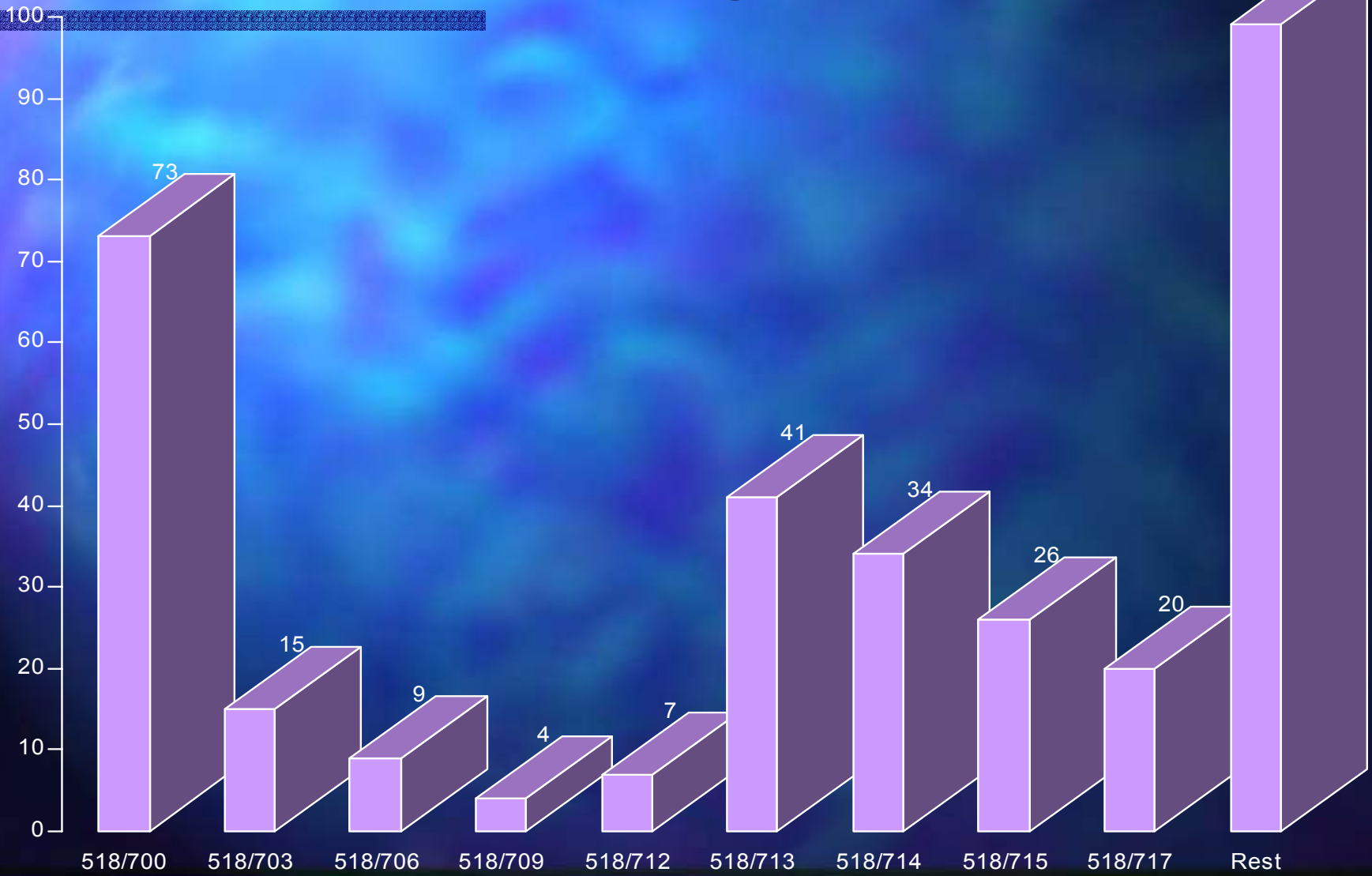
- a) The reaction of Hydrogen with Carbon Monoxide, Carbon Dioxide or mixtures of these Carbon Oxides to yield one or more carbon compounds, e.g., Hydrocarbons, Alcohols, Esters, Acids, Ketones, Aldehydes etc. or...
- b) The Purification, Separation, Conversion or treatment of one or more of the products resulting from the Fischer-Tropsch synthesis, such as by Saponification, Oxidation, Adsorption, Solvent extraction etc.

700	LIQUID PHASE FISCHER-TROPSCH REACTION
701	. Rhodium containing catalyst utilized
702	WITH PRELIMINARY REACTION TO FORM HYDROGEN OR A CARBON OXIDE
703	. Gaseous oxygen utilized in the preliminary reaction
704	. Water utilized in the preliminary reaction
705	TREATMENT OF FEED OR RECYCLE STREAM
706	PLURAL ZONES EACH HAVING A FISCHER-TROPSCH REACTION
707	. Diverse catalysts utilized in at least two zones
708	. Water utilized
709	INCLUDING REGENERATION OF CATALYST
710	. Solvent utilized in the regeneration
711	WATER UTILIZED DURING THE FISCHER-TROPSCH STEP OF THE PROCESS
712	TEMPERATURE CONTROL OR REGULATION OF THE FISCHER-TROPSCH REACTION
	GROUP IB METAL CONTAINING CATALYST UTILIZED FOR THE FISCHER-TROPSCH REACTION
713	(I.E., CU, AG, OR AU)
	GROUP VIB METAL CONTAINING CATALYST UTILIZED FOR THE FISCHER-TROPSCH REACTION
714	(I.E., CR, MO, OR W)
	GROUP VIII METAL CONTAINING CATALYST UTILIZED FOR THE FISCHER-TROPSCH REACTION
715	(I.E., FE, CO, NI, RU, RH, PD, OS, IR, OR PT)
716	. Rhodium containing catalyst
	. Group IA or IIA light metal containing material utilized during the Fischer Tropsch step of the
717	process (i.e., Li, Na, K, Rb, Cs, Be, Mg, Ca, Sr, or Ba)
718	.. In the form of a salt
719	. Iron containing catalyst
720	.. Pretreatment of the catalyst
	.. The catalyst contains a metal in addition to the iron, or another material utilized contains a
721	metal other than iron (e.g., as a promoter, retarder, etc.)
722	ADSORPTION WITH A SOLID MATERIAL
723	SALT CONTAINING EXTRACTANT UTILIZED
724	SOLVENT EXTRACTION UTILIZED
725	. Alcohol containing extractant utilized
726	HYDROGENATION WITH GASEOUS HYDROGEN TO PURIFY OR RECOVER
	FORMING SALTS OR OXIMES OF OXYGEN CONTAINING COMPOUNDS TO PURIFY OR RECOVER
727	
728	MISCELLANEOUS

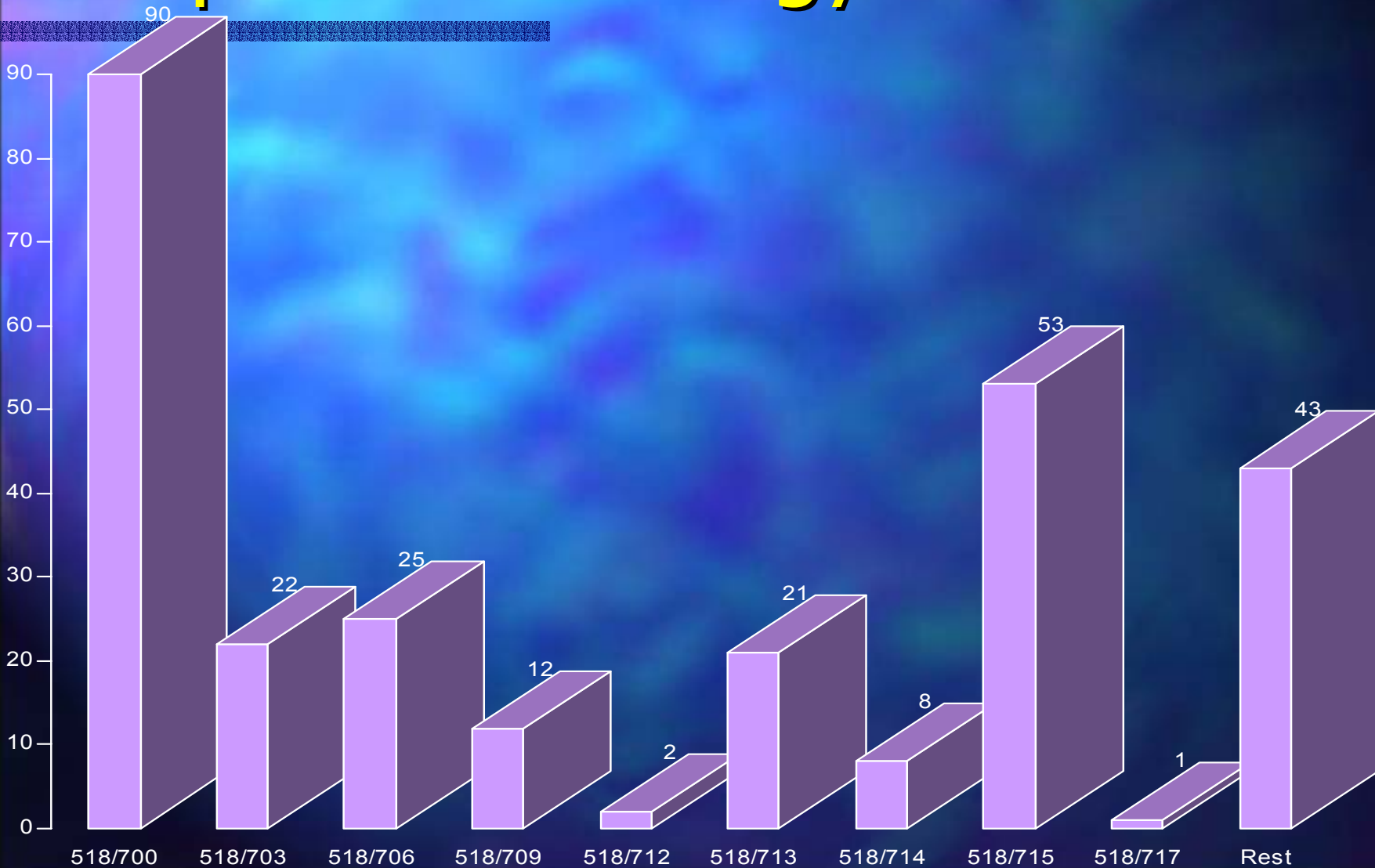
Most Active Fields of Fischer-Tropsch Technology 1970-1980



Most Active Fields of Fischer-Tropsch Technology 1981-1990



Most Active Fields of Fischer-Tropsch Technology 1991-2003



Most Active Fields of Fischer-Tropsch Technology 1922-2003



Search Tools

- **USPAT/PGPUB**

EAST/WEST. Includes the full-text of patents from 1976 and images (searchable only by class or number) from 1790 to the current week, plus published applications from 2001 to present.

- **US OCR**

EAST/WEST. Contains the full text of 2.5 million patents dating from 1920 through 1970, plus approximately 100,000 patents issued during 1971-1979 that were not electronically captured when the text database was first created.

- **Derwent World Patents Index**

EAST/WEST. English abstracts database of patent documents from more than 40 patent-issuing authorities. Years of coverage vary, nominally 1970-present.

- **EPO Abstracts Text Search**

EAST/WEST. English abstracts database of published unexamined applications from EPO, WO/PCT, United Kingdom, France, Germany, and Switzerland, about 1978 - present.

- **JPO Abstracts Text Search**

EAST/WEST. English abstracts database of published unexamined applications, 1976 - present.

- **STN**

STN is the Scientific & Technical Information Network. It is operated in cooperation with CAS in North America, FIZ Karlsruhe in Europe, and JST in Japan. More than 200 databases it brings you are operated by some of the most respected scientific organizations in the world.

- **Dialog**

Command-driven, line oriented interface to more than 500,000 sources of scientific, technical, medical, business, news and intellectual property information.

Contents of a typical Fischer-Tropsch Patent Application

- Specification contains a description of the invention and claims.
- An oath or declaration.
- A drawing in those cases in which a drawing is necessary.
- Filing fee.

The specification should have the following sections in order:

1. Title of the invention.
2. Cross references to it's related applications, if any.
3. Statement of Federally sponsored research or development, if any.
4. Background of the Invention.
5. Brief summary of the Invention
6. Brief description of the several views of drawings, if any.
7. Detailed description of the Invention.
8. Claims
9. Abstract of disclosure