TOM REEL 275
~~(Original Designation BM-48)~~
CONTENTS: FIAT FINAL REPORT NO. 1272

UNITED STATES
BUREAU OF MINES
COAL TO OIL DEMONSTRATION BRANCH
OFFICE OF SYNTHETIC LIQUID FUELS
LOUISIANA, MISSOURI

I.G. RIGHTS IN THE HYDROGENATION FIELD
PART E. SCHUTZRECHTE
BY O. GOHRE

TRANSLATED BY
W. M. STERNBERG

WITH THE ORIGINAL GERMAN TEXT
(PB 93328)

THE JOINT CHIEFS OF STAFF
WASHINGTON 25, D. C.

Joint Intelligence
Objectives Agency

26 November 1948

JIOA 3957

SUBJECT: Transmittal of Report

TO: Synthetic Liquid Fuels
Room 4424, Interior Bldg.
Washington 25, D. C.
ATTENTION: Mr. L. L. Newman

1. Reference is made to telephone conversation (Mr. Newman - Mrs Klumfoot) of 19 November 1948, regarding a report entitled "I.G. Rights in the Hydrogenation Field E. Schutzrechte," by Mr. O. Gohre. FIAT FINAL REPORT NO. 1272

2. The above mentioned report is transmitted, herewith, for incorporation into the TOM reel series, this action was requested by Mr. John C. Green, of O.T.S. It is requested that upon completion of the reel, the inclosed report be returned to the Joint Intelligence Objectives Agency, for publication.

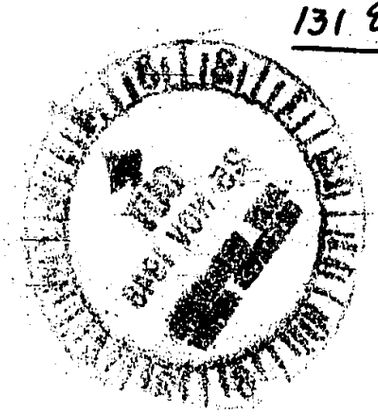
3. Your cooperation in this matter will be greatly appreciated.

FOR THE DIRECTOR, JOINT INTELLIGENCE OBJECTIVES AGENCY:

WILLIAM J. CASEY
Major, USAF
Chief, Scientific Reports Div

1 Incl
Report

131 Ext 2879



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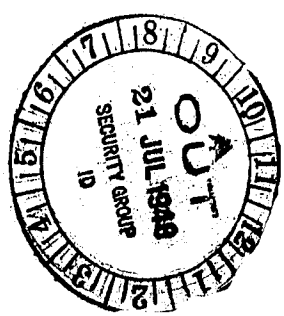

I.G. RIGHTS IN THE HYDROGENATION FIELD

By O. Göhre

INDEX

The developments in the field of hydrogenation to their present stage is represented in over a 1,000 patent applications of the I. G. Farbenindustrie Aktiengesellschaft. These applications were made in Germany and, depending on their importance, also abroad. There are at present over 3,000 patents in the world on hydrogenation belonging to I. G. The Ruhr mining industry fought a bitter patent fight against the German hydrogenation applications, and as a result, before the patent peace of 1936 had been concluded no patents have been obtained on a number of German applications for purely formal reasons. This is the reason why only foreign patents exist on some of the inventions.

The basic patents date from the years 1925-1926. In the course of development especially of active catalysts many process improvements have been discovered, and have been applied in all the modern hydrogenation plants.

We will mention first the development work, in the years 1927-1928, when applications of pressure hydrogenation had been widened and many industrial advances made. E.g., the refining hydrogenation, the pre-hydrogenation, the use of several converters connected in series, operations with hydrogen in a gas circuit and the joint heating of the raw materials with hydrogen in gas heated tubular preheaters, all were developed at that time.

Next followed improvements in hydrogenation catalysts which were of deciding importance for the industrial realization of the process. First came the preparation of highly active sulfides, next the discovery of the so-called dilute catalyst which offer the advantages of increased yield, improved quality of the gasolines, combined with a considerable saving in valuable metals such as tungsten. The preparation and use of these catalysts is protected in almost all countries. These patents will remain for some time yet under the patent protection; patents on a number of special processes in the field of hydrogenation and related fields have been taken out, e.g. the TTH process, the DHD process, the preferential use of which is decided from consideration of the properties of raw material and of the required end products.

The text below gives the principal patents and their development. For this purpose the patents have been arranged in the following groups:

I. Catalysts

a)	catalysts:	general	)
b)	catalysts:	halogens and acids	) Treated
c)	catalysts:	iron - tungsten	) together
d)	catalysts:	synthetic silicates	) in the
e)	catalysts:	reactivation	) text

II. Operating Methods

- a_1) vapor phase (treated together with b and c in the text)
- a_2) aromatization
- a_3) dehydrogenation
- a_4) DHD process
- b) liquid phase (treated together with a_1) and c))
- c) pressure range (treated together with a_1) and b))
- d) multi-stage processes
- e) pretreatment
- f) refining hydrogenation
- g) production of lubricating oil by hydrogenation
- h) TEH process
- i) pressure extraction
- k) the use of prehydrogenated coal for the production of coke

III. Raw Materials and Finished Products

- a) special starting materials
- b) hydrogen and hydrogenation off-gas
- c) the working-up of hydrogenation products
- d) the use of hydrogenation products
- e) the production of low-boiling aromatic hydrocarbons
- f) the production of definite polynuclear compounds
- g) production of phenols

IV. Combination Processes

Hydrogenation and cracking

V. Technical

- a) materials
- a_1) equipment
- a_2) Wickelofen
- b) heating

A list of German, French, English and American patents or patent applications arranged in these groups is to be found in the appendix, and their principal features are mentioned.

Inhaltsverzeichnis
zu Band 9.

B. Schutzrechte.