PATENTS and TRADE MARKS

Under the Company's exclusive world-wide license with Electric Fuel Propulsion Corporation (EFP), the Company has been granted licenses on 22 new inventions, one of which is the Fifth Generation Lead Cobalt Battery for which the Company has now applied for a patent. EFP also assigned proprietary information and delivered engineering drawings and designs on 37 patents, now expired, which were granted in 14 countries to its inventors on batteries, electric propulsion systems & components and vehicles. Under the EFP/EAC license agreement, any improvement patents which may be granted to EFP in the future are covered by the license agreement.

The Company owns one trademark and is applying for several others.

United States Patent Office

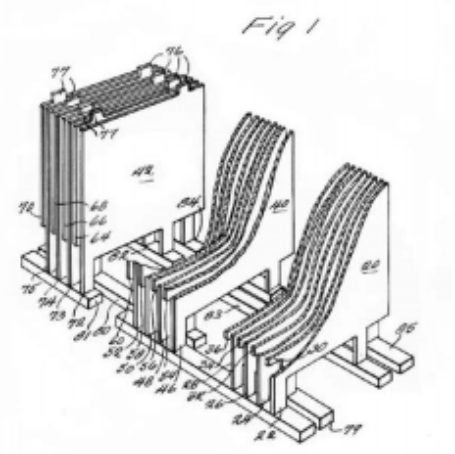
3,518,127
Patented June 30, 1970

3,518,127

FLOOR INTERCONNECTING BATTERY CELLS

Robert R. Aronson, Ferndale, Mich., assignor, by mesne assignments, to Electric Fuel Propulsion, Inc., Ferndale, Mich., a corporation of Delaware

Filed Dec. 26, 1967, Ser. No 693,274
INT. CL. H01m 35/32
U.S. CL. 136-134 **13 Claims**



United States Patent [19]

Aronson

[11] **3,928,080**

[45] **Dec. 23, 1975**

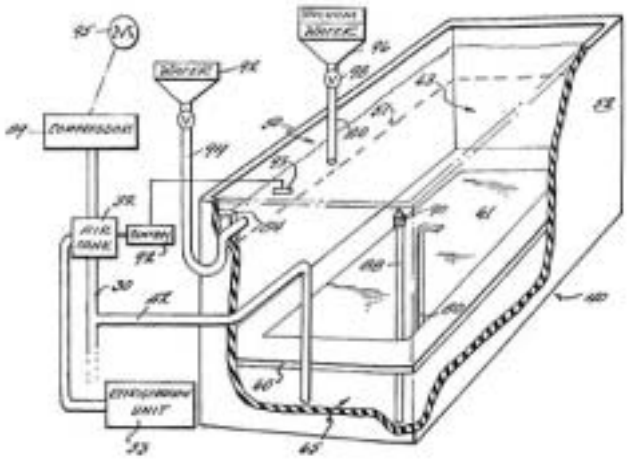
[54] **PANCAKE BATTERY**

[75] Inventor**: Robert R. Aronson,** Ferndale, Mich.

[73] Assignee**: Electric Fuel Propulsion Incorporated,** Troy, Mich.

[22] Filed**: Aug. 3, 1973**

[21] Appl. No.**: 385,324**



United States Patent [19]

Aronson

[11] **4,074,021**

[45] Feb. 14, 1978

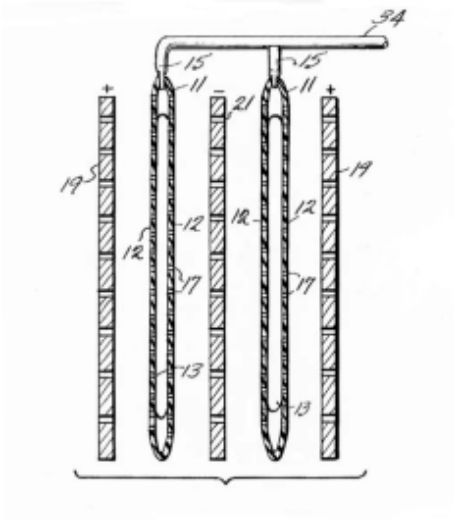
[54] **HIGH DISCHARGE BATTERY WITH DEPOLARIZED PLATES**

[75] Inventor**:** Robert R Aronson, West Bloomfield, Mich.

[73] Assignee**: Electric Fuel Propulsion Corporation,** Detroit, Mich.

[21] Appl. No.**: 733,842**

[22] Filed: **Oct. 19, 1976**



United States Patent

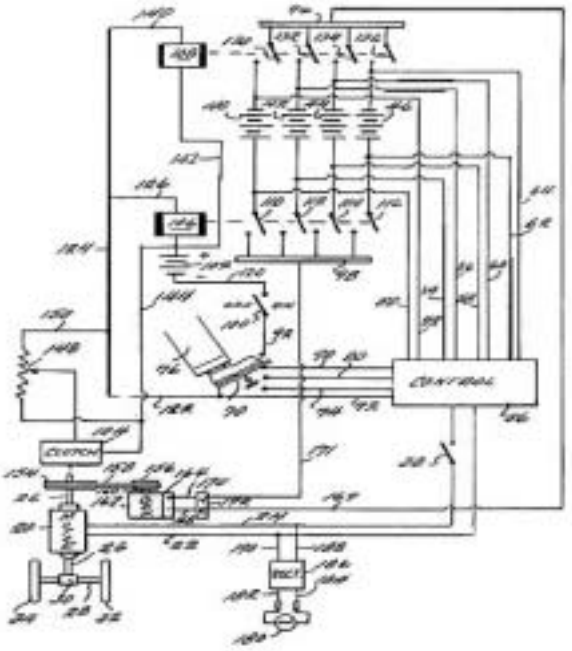
3,530,356
Patented Sept. 22, 1970

3,530, 356

REGENERATIVE SYSTEM FOR ELECTRIC VEHICLE

Robert R. Aronson, Ferndale, Mich., assignor to Electric Fuel Propulsion, Incorporated, Ferndale, Mich., A corporation of Delaware

Filed Dec. 26, 1967, Ser. No. 693, 433
Int. CL. H02j 7/14



United States Patent

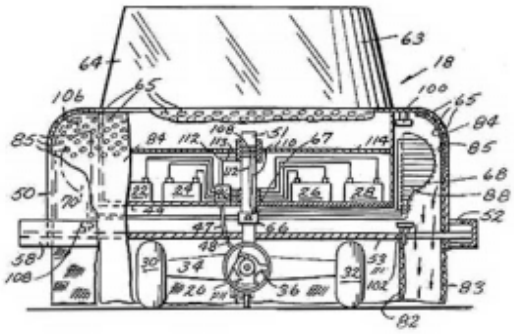
[11] **3,548,968**

[72] Inventor **Robert R. Aronson**, Ferndale, Mich.

[21] Appl. No. **706,157**

[22] Filed **Feb. 16, 1968**

[45] Patented **Dec. 22, 1970**



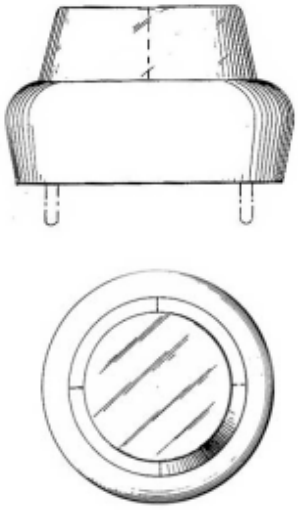
[73] Assignee **Electric Fuel Propulsion, Incorporated** Ferndale, Mich., a corporation of Delaware

[54] **AIR SUPPORTED ELECTRIC VEHICLE**
9 Claims, 3 Drawing Figs.

United States Patent Office

Des. 210,520
Patented Mar. 19, 1968

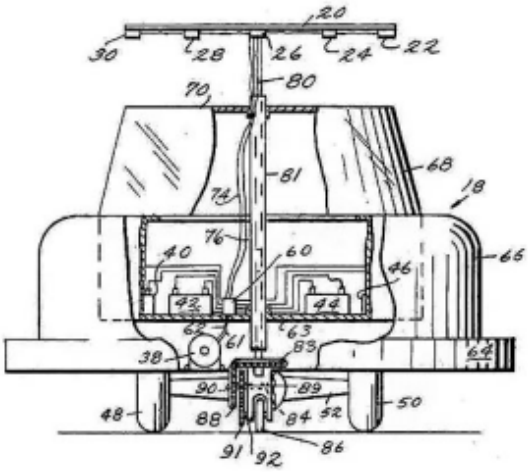
210,520
AUTOMOBILE
Robert R. Aronson, Ferndale Mich., assignor to Electric Fuel Propulsion, Incorporated, Ferndale, Mich., a corporation of Delaware.
Filed Mar. 3, 1967, Ser. No. 6,048
Term of patent 14 years
(CL. D14--3)



United States Patent Office

3,507,348
Patented Apr. 21, 1970

1
3,507,348
IONIZING APPARATUS FOR REDUCING AIR RESISTANCE
Robert Aronson, Ferndale, Mich., assignor to Electric Fuel Propulsion, Incorporated, Ferndale, Mich., a corporation of Delaware
Filed Feb. 16, 1968, Ser. No. 706,159
Int. CL. B60v *18/00*
U.S. CL. 180—65 **12 Claims**



United States Patent [19]

Iseard

[11] **4,522,896**

[45] **Jun, 11, 1985**

[54] AUTOMATIC WATERING SYSTEM FOR BATTERIES AND FUEL CELLS

[75] Inventor: **Barry S. Iseard**, Freeport, The Bahamas

[73] Assignee: **Anglo-American Research Ltd.,** Freeport, The Bahamas

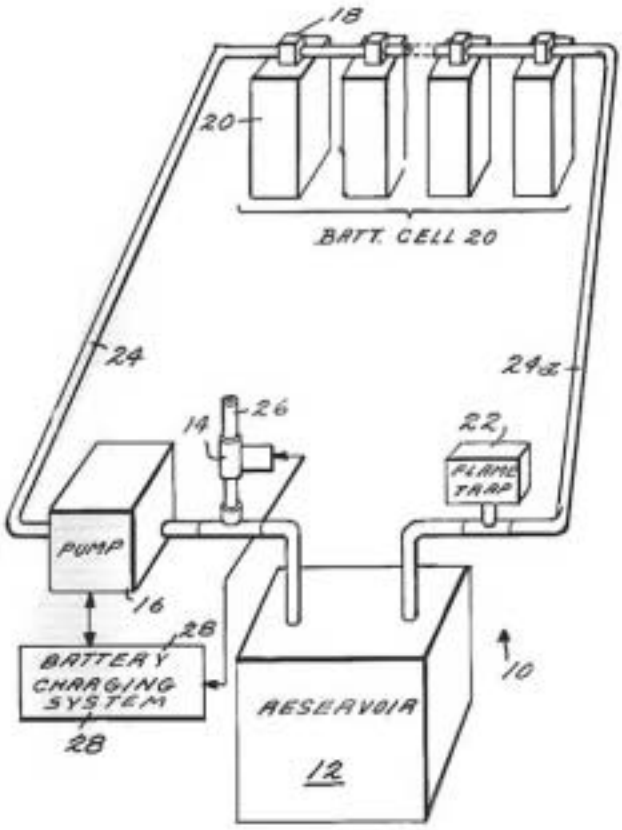
[21] Appl. No.: **478,091**

[22] Filed: **Mar. 23, 1983**

[51] **Int. CL.³..... H01M 2/36**

[52] **U.S. CL.** **429/63;** 429/78

[58] **Field of Search** 429/63, 77, 78, 88, 429/72, 67



United States Patent [19]

Rippel

[11] **3,808,481**

[45] **Apr. 30, 1974**

[54] COMMUTATING CIRCUIT FOR ELECTRICAL VEHICLE

[75] Inventor**: Wally E. Rippel,** Hollywood, Calif.

[73] Assignee**: Electric Fuel Propulsion Corporation,** Ferndale, Mich.

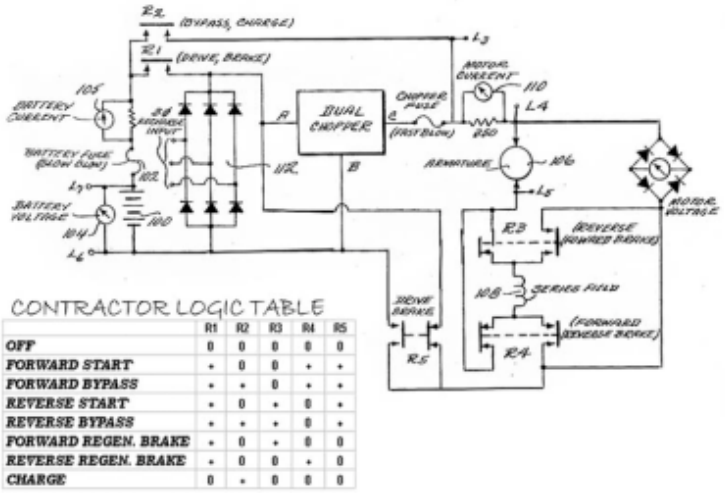
[22] Filed**: Apr. 14, 1972**

[21] Appl. No. **: 243,941**

[52] **U.S. CL.** **318/139,** 318/341**,** 290/50, 318/138

[51] **Int. CL..... H02p 1/100**

[58] **Field of Search** 318/138, 139, 341; 290/50



CONTRACTOR LOGIC TABLE

	R1	R2	R3	R4	R5
OFF	0	0	0	0	0
FORWARD START	+	0	0	+	+
FORWARD BYPASS	+	+	0	+	+
REVERSE START	+	0	+	0	+
REVERSE BYPASS	+	+	+	0	+
FORWARD REGEN. BRAKE	+	0	+	0	0
REVERSE REGEN. BRAKE	+	0	0	+	0
CHARGE	0	+	0	0	0

United States Patent

Rippel

[15] **3,641,364**

[45] **Feb. 8, 1872**

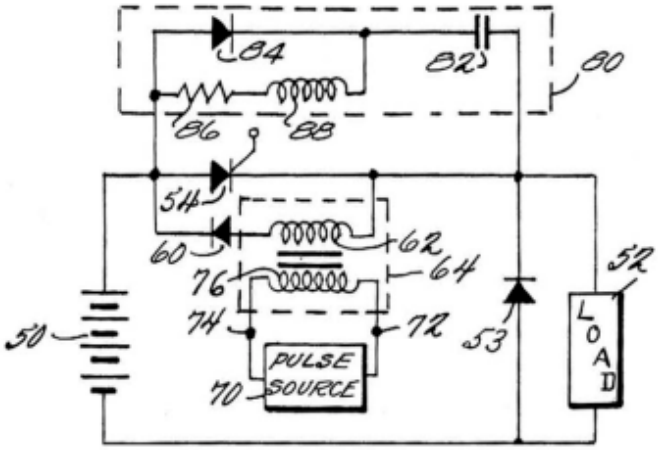
[54] **SCR CHOPPER CIRCUIT**

[72] Inventor**: Wally E. Rippel**, Ithaca, N.Y.

[73] Assignee**: Electric Fuel Propulsion, Inc.,** Ferndale, Mich.

[22] Filed**: July 18, 1969**

[21] Appl. No.**: 843,032**



United States Patent [19]

Lauve

[11] **4,310,872**

[45] **Jan. 12, 1982**

[54] **AUTOMOBILE FRONT END**

[75] Inventor**: Henry D. Lauve,** Troy, Mich.

[73] Assignee**: Electric Fuel Propulsion Corp**., Troy, Mich.

[**] Term**: 14 Years**

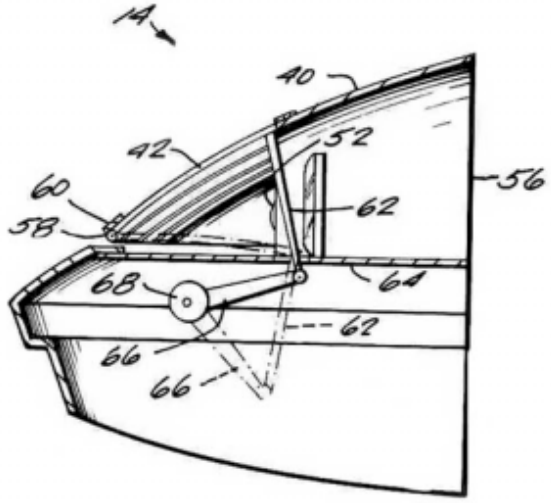
[21] Appl. No.**: 87,621**

[22] Filed**: Oct. 23, 1979**

[51] **Int. CL.** B60Q 1/100

[52] **U.S. CL.** **362/82;** 362/284; 362/311

[58] **Field of Search** 362/82, 284, 311



United States Patent [19]

Lauve

[11] **Des. 264,068**

[45] **** Apr. 27, 1982**

[54] **AUTOMOBILE**

[75] Inventor**: Henry D. Lauve,** Troy, Mich.

[73] Assignee**: Electric Fuel Propulsion Corp**., Troy, Mich.

[**] Term**: 14 Years**

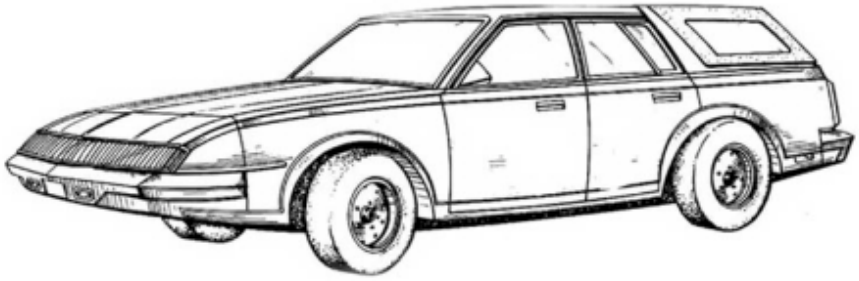
[21] Appl. No.**: 87,623**

[22] Filed**: Oct. 23, 1979**

[51] **Int. CL.** ..... **D12—08**

[52] **U.S. CL.** **D12/91**

[58] **Field of Search** D12/91, 92; 296/185; D21/136



United States Patent [19]

Lauve

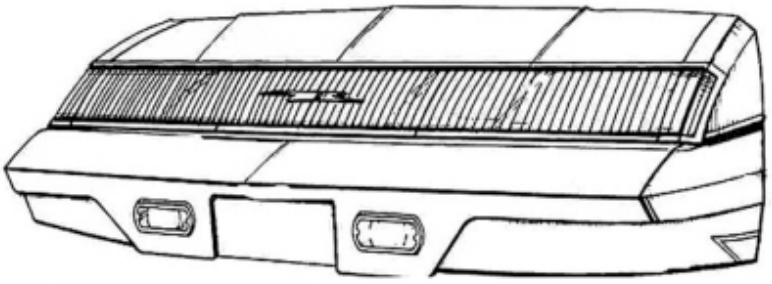
[11] **Des. 264,459**

[45] **** May. 18, 1982**

[54] **AUTOMOBILE FRONT END**

[75] Inventor**: Henry D. Lauve,** Troy, Mich.

[73] Assignee**: Electric Fuel Propulsion Corp**., Troy, Mich.



[**] Term**: 14 Years**

[21] Appl. No.**: 87,622**

[22] Filed**: Oct. 23, 1979**

[51] **Int. CL.** **D12--08**

[52] **U.S. CL.** **D12/196**

[58] **Field of Search** D12/90, 91, 92, 196, D12/173,164; D21/136; 296/185, 194, 197

United States Patent [19]

Lauve

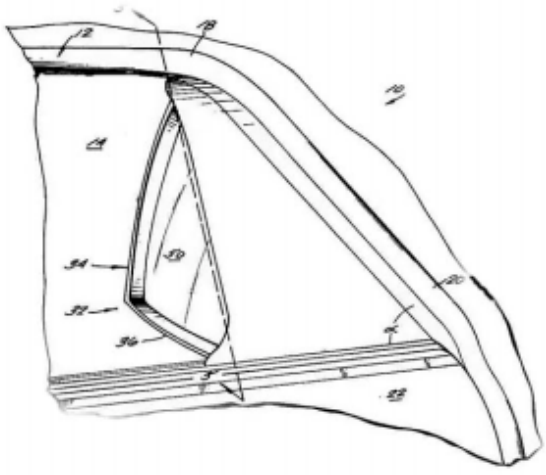
[11] **4,257,681**

[45] Mar. 24, 1981

[54] **AUTOMOBILE REAR VIEW MIRROR**

[75] Inventor**: Henry D. Lauve,** Troy, Mich.

[73] Assignee**: Electric Fuel Propulsion Corp**., Troy, Mich.



[**] Term**: 14 Years**

[21] Appl. No.**: 87,624**

[22] Filed**: Oct. 23, 1979**

[51] **Int. CL.**³ **G02B 7/18**

[52] **U.S. CL.** ..... **350/307;** 74/501 M; 248/481

[58] **Field of Search** ..... 350/307, 293, 303, 304; 248/467, 481, 482, 483, 475 R, 476; 74/501 M

UNITED STATES PATENT OFFICE

2,669,598

PROCESS FOR MANUFACTURING POROUS CARBON ELECTRODES

Adolf Marko and Karl Kordesch, Vienna, Austria, assignors to Olga Burkli, née Bleuler, Zurich, Switzerland

No Drawing, Application May 14, 1952, Serial No. 287,812
Claims priority, application Austria March 24, 1949
7 Claims (CL. 136--122)

United States Patent Office

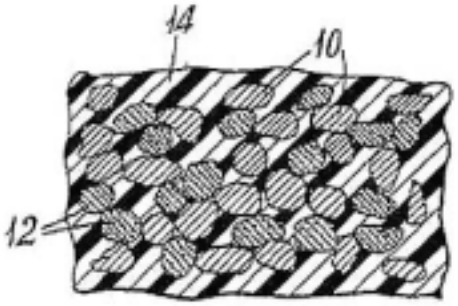
3,042,732
Patented July 3, 1962

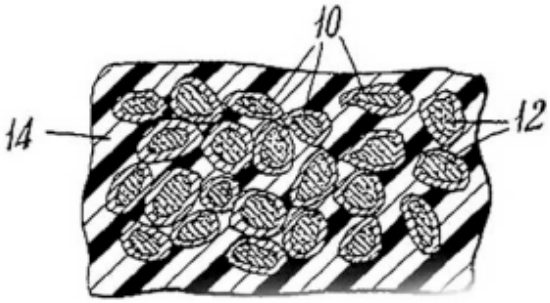
3,042,732

ANODES FOR ALKALINE CELLS

Karl Kordesch, Lakewood, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Filed Oct. 14, 1959, Ser. No. 846,420





United States Patent Office 3,077,507
Patented Feb 12, 1963

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3,077,507

FUEL CELL ELECTRODE

Karl V. Kordesch, Lakewood, and Elmer M. King, Beren,
Ohio, assignors to Union Corporation, a corporation Of New York

No Drawing. Filed May 16, 1960, Ser. No. 29,176
13 Claims (CL. 136--86)

United States Patent Office 3,188,242
Patented June 8, 1965

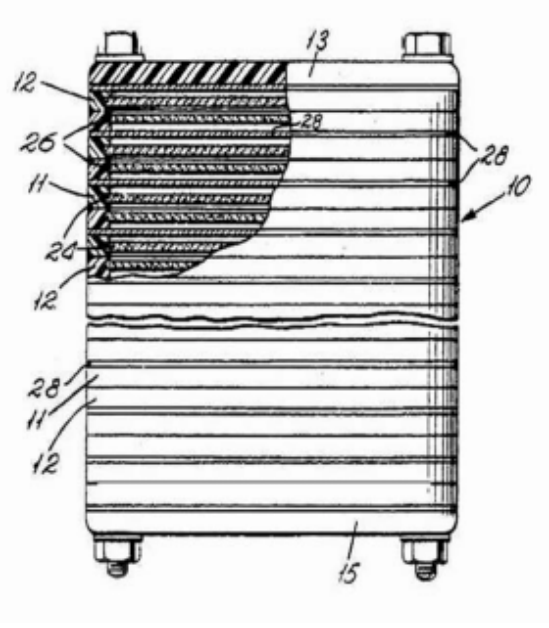
1

3,188,242

FUEL CELL BATTERY CONTAINING FLAT CARBON ELECTRODES

Karl Kordesch, Lakewood, Samuel H. S. Raub, Bay Village, and Lawrence J. Uline, Lakewood, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Original application Jan 22, 1959, Ser No. 788,390,
Divided and this application July 13, 1962,
Ser. No. 209,580



United States Patent [19]

Kordesch et al.

[11] **Patent Number: 4,925,747**

[45] Date of Patent: May. 15, 1990

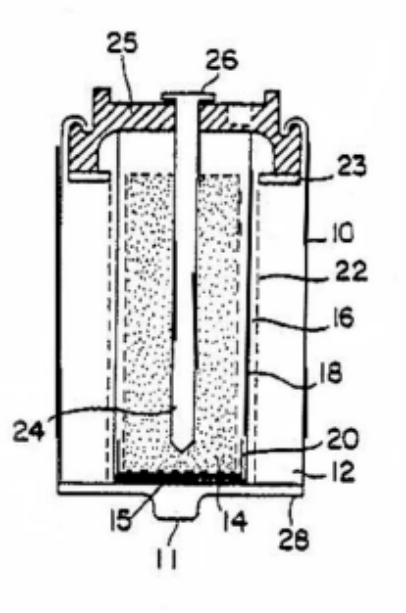
[54] **CATALYTIC RECOMBINATION OF CORROSION EVOLVED HYDROGEN IN ALKALINE CELLS**

[75] Inventor**: Karl Kordesch,** Graz, Austria; Klaus Tomantschger, Mississauga, Canada

[73] Assignee**: Battery Technology Inc.,** Mississauga, Canada

[21] Appl. No.**: 375,888**

[22] Filed**: Jul. 6, 1989**



United States Patent [19]

Kordesch et al.

[11] **3,847,673**

[45] **Nov. 12, 1974**

[54] **HYDRAZINE CONCENTRATION SENSING CELL FOR FUEL CELL ELECTROLYTE**

[75] Inventor**: Karl V. Kordesch,** Lakewood; **Milton B. Clark,** North Royalton, both of Ohio

[73] Assignee**: Union Carbide Corporation,** New York, N.Y.

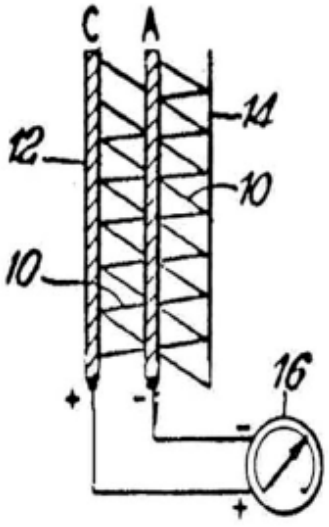
[22] Filed**: Aug. 22, 1968**

[21] Appl. No.**: 754,560**

[52] **U.S. CL.** ..... **136/86 B**

[51] **Int. CL.** **HO1m 27/100**

[58] **Field of Search** 136/86



United States Patent Office

3,364,071

Patented Jan. 16, 1968

1

3,64,071

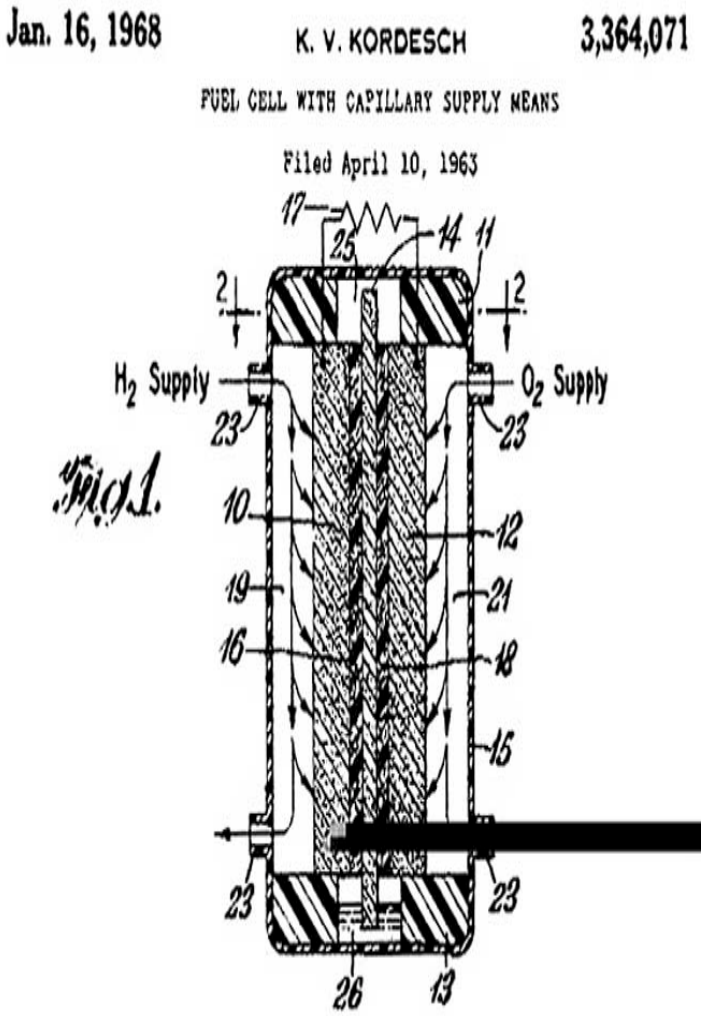
FUEL CELL WITH CAPILLARY SUPPLY MEANS

Karl V. Kordesch, Lakewood, Ohio, assignor to Union Carbide Corporation, a corp. of New York

Filed Apr. 10, 1963, Ser. No. 272,102

13 Claims, (CL. 136--86)

This invention... The present invention is useful not only in fuel cells employing gaseous fuels such as hydrogen, but also in cells utilizing liquid fuels such as alcohols. Since such organic liquids tend to leak across the electrolyte and attack the wet-proofing on the cathode, the operation of such a cell is substantially improved by using the subject separator-reservoir member to prevent such cross-leakage. This particular feature is useful in cells in which useful chemical products are produced as well as electrical power; the chemical products formed at the cathode and anode can be physically separated and removed with-out contamination.



Int. Cl.:12

Prior U.S. Cls.: 19 and 21

Reg. No. 1,229,579

United States Patent and Trademark Office **Registered Mar. 8, 1983**

Int. Cl.:12

Prior U.S. Cls.: 19 and 21

Reg. No. 1,229,577

United States Patent and Trademark Office **Registered Mar. 8, 1983**