

# Current Patents

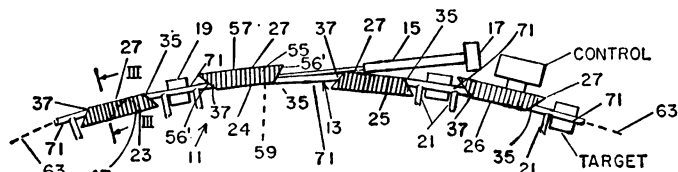


Fig. 4

## HIGH ENERGY ACCELERATORS

### Wedge-Shaped Magnetic Field

Using a magnetic bar that is wedge-shaped at both ends to help maintain the magnetic focus necessary to confine a beam of high-energy particles in an atomic accelerator was granted patent No. 3,203,426.

Dr. Richard A. Beth of Brookhaven National Laboratory, Upton, N. Y., assigned patent rights to the Government through the Atomic Energy Commission. The wedge shaped magnets are useful both for accelerators and for storage rings, a device for containing a circulating particle beam for a relatively long time.

With properly selected magnet poles and wedge-shaped ends laid out in a circle, Dr. Beth has found, the desired bending and focusing fields can be maintained up to about 21,000 gauss. The physical length of the tapered magnet is determined by the ratio of the required magnetic flux to the highest value of the magnetic field that can be obtained in the iron.

## FLUIDICS

### Turbine Fuel Control

A fluidic fuel control system for gas turbine engines received patent No. 3,302,398 last week. Inventors

Lael B. Taplin, Walter F. Datwyler, Joseph P. Madurski and Thomas E. Thompson assigned the patent to the Bendix Corp.

Fluid control systems, a newly developing technology (SN: 1/21; p. 69), employ fluids under pressure to perform many functions previously carried out by electronic circuits. Fluidic systems have great advantages of durability and high-temperature performance, as well as simple construction and light weight.

The newly patented fuel control system senses how fast the engine turbine is moving, compares it with the speed the throttle is set for, and feeds either more or less fuel into the combustion chamber until the actual speed matches the desired speed.

The system also has controls which prevent the temperature in the combustion chamber from getting either too hot, which could damage the engine, or too cold, which could cause flame-out.

A third control feature of the system guards against surge, a condition that comes from increasing fuel flow too fast, causing the turbine compressor to vibrate.

## AERODYNAMICS

### High Velocity Fluid Accelerator

A method and apparatus for the supersonic acceleration of air and other fluids, for testing models in wind tunnels, earned patent No. 3,302,866 for Antonio Ferri of Rockville Centre, New York, who assigned rights to Polytechnic Institute of Brooklyn, N.Y.

His method provides for accelerating the desired fluid to supersonic velocities, under conditions of constant temperature and pressure, by means of an axial flow compressor.

# New Ideas and Gadgets

New Ideas and Gadgets is an editorial service to readers; more information on items can be secured from the manufacturers.

## Illumination Meter

Light levels in classrooms, at the blackboard, laboratory table or library can be quickly determined by a small handy unit to help provide the best illumination for students. The meter has an easy-to-read white dial graduated from zero to 300-foot-candles. Light-reading recommendations for nine different situations are given on the base of the meter.

Edmund Scientific Co., 104 E. Gloucester Pike, Barrington, N.J. 08007

## Birth Series Models

The birth of a baby is reproduced in a series of six life-size three-dimensional models made of high-impact lightweight polystyrene. Designed as teaching aids for colleges, hospitals or medical schools, the models, based on thousands of life studies, are detailed and scientifically accurate.

Dr. John Beeston, Director, Cleveland Health Museum, 8911 Euclid Avenue, Cleveland, Ohio 44106

## Concentration Computer

The concentration of a solution as shown by a spectrophotometer is automatically calculated and displayed on a built-in meter by this time-saving concentration computer. The instrument which can be attached to

most spectrophotometers, reduces chance of error by eliminating the need to translate transmittance percentages mathematically.

Bausch & Lomb, Rochester, N.Y. 14602

## Golf Club Cleaner

Golf irons can be easily kept clear by a lightweight sturdy rectangular device that can be mounted on a garage, basement or back porch wall. The club face to be cleaned is placed firmly against a brass bristle brush, contained in the 4x4½x6-inch device. The brush, rotated by hand, reaches into the grooves and slots digging out dirt or grass which are loosened by water added to the unit. No soaps are necessary. A convenient towel holder is attached to the housing.

Postula Products Inc., Marshall, Mich.

## Portable Battery Charger

Life in dead boat batteries can be quickly restored with a portable, 14x14x18-inch alternator battery charger of brushless design weighing only 48 pounds. Equipped with a 3.5 hp engine, it is useful at any dock-side, or other locations where no electric outlets are available.

Merc-O-Tronic Instruments Corp., 215 Branch St. Almont, Mich. 48003