

# Current U.S. Patents

The flow of traffic on city streets can be controlled by electronic devices which regulate timing of stoplights to meet traffic needs most effectively.

► A WIDE RANGE of devices for controlling the flow of traffic received several patents from the U.S. Patent Office.

The devices are already in use. Some of them are inside a typewriter-sized box near stoplights and quickly switch the light to green if cars pass by when there is no opposing traffic.

When traffic is heavy, the devices can be used to change the timing of stoplights in order to permit the fastest possible flow of traffic in all directions. During rush hour, this is done by a remotely situated master control. At other times, the local traffic controls the stoplight's signal.

Printed electronic circuits are used to make the devices compact. The traffic control devices earned patents 3,241,103 through 3,241,109 for Charles L. Du Vivier of Darien, Conn., and patent 3,241,110 for Harry A. Wilcox of Westport, Conn., chief engineer of the Automatic Signal Division of the Laboratory for Electronics, Inc., Boston, which was assigned rights to all eight.

The devices are flexible in their operation and can be used to control traffic flow on a grid of streets as well as locally. One of them covers a sys-

tem that will reverse the traffic flow of the center lane on a multi-lane highway to the direction carrying the highest number of vehicles.

## Gravity Stabilized Satellite

A method of using the earth's gravitational field to stabilize an orbiting satellite in the desired position earned patent 3,241,142 for Dr. Herbert P. Raabe of St. Paul, Minn., who assigned rights to Litton Systems, Inc., Beverly Hills, Calif.

Dr. Raabe told *SCIENCE SERVICE* that his technique gives complete control over the satellite's roll, pitch and yaw. He said the orientation obtained was more accurate than attainable with the methods now being evaluated by the National Aeronautics and Space Administration.

Dr. Raabe's invention provides stabilization after orbit is reached, by deploying from the main satellite another object of the same mass some distance from it in space. The two are connected by a wire. Such a damping scheme could be used to stabilize telescopes in orbit, Dr. Raabe said.

## Other Interesting Patents

A system that partially or totally paralyzed persons could use to control an electric typewriter was granted patent 3,241,115. Inventor Reginald George Maling of Aylesbury, England, noted that his control method responds even to the relatively small pressure exerted by breathing.

To determine the loss of blood occurring during operations or deliveries, Lars Erik Ohlin of Solna, Sweden, devised a photometric measuring method that earned patent 3,240,110. He assigned rights to Ab Lars Ljungberg & Company, Stockholm.

Aircraft would not go out of control when the hydraulic system fails if the invention granted patent 3,240,124 is adopted. It covers two completely independent hydraulic systems within a single unit so that a failure or malfunction of one leaves the other system free to operate alone. Robert G. Howard of Northridge, Calif., and Howard D. Kurtz of Los Angeles assigned rights to Lockheed Aircraft Corporation, Burbank, Calif.

Two devices that could be used as the fluid logic components in computers were awarded patents 3,240,219 and 3,240,220. Donnie Roland Jones and Edwin M. Dexter of Silver Spring, Md., assigned rights to Bowles Engineering Corporation, also of Silver Spring.

# Antibiotic Discolors Children's Teeth

► PERMANENTLY discolored teeth in more than 150 elementary and secondary school children have resulted from treatment with several widely-used antibiotics.

The antibiotics are tetracyclines and related compounds, which contain pigment that "becomes incorporated in the developing of enamel," reported Dr. M. Michael Cohen, assistant professor of oral pathology at the Tufts School of Dental Medicine, Boston.

Though the teeth, which become brown, are otherwise normal, the stain "cannot be removed by any cleaning procedure now available." The discoloration usually takes place between infancy and age four. Sometimes it does not appear until several years after the drug has been taken, Dr. Cohen said.

Dr. Cohen warned that tetracyclines taken by women in the late stages of pregnancy can cause discoloration in the teeth of their offspring.

More than 1,000 children from 9 to 13 years of age were studied in Burlington, Mass., a Boston suburb.

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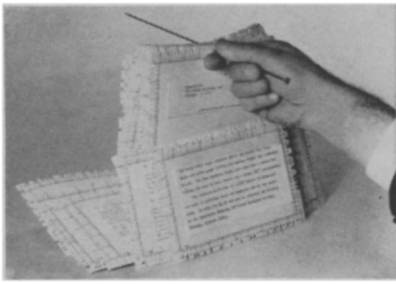
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