

hands of the inventor awaiting the answer to some Patent Office query. Prompt handling of the application by the inventor can help speed it through the Patent Office in less than two years, in some cases.

After you have applied for a patent, you can start querying manufacturers. Few will discuss your idea until you at least have filed a patent application.

Thomas Register of American Manufacturers, available at many libraries and business offices, provides a classified list of companies who make various products, including weed-pullers. Each company is a potential buyer of your idea. Thus under the heading of "Weeders," about 30 companies and their addresses are listed.

You may be unsuccessful in persuading a company to make your device. That is the "calculated risk" you take. But on the other hand, you may be successful. And that extra income should be handy.

The Patent Office has discontinued its "Register of Patents" that it formerly circulated to many manufacturers. But your invention could come to the attention of manufacturers in two ways, other than by your personal efforts: through the Official Gazette, published every week by the Patent Office, and through a circular of the Small Business Administration. The Official Gazette carries selected claims from each of the thousand or more patents granted weekly by the Patent Office. The "Products Lists" circular of the Small Business Administration, at the request of the inventor, carries a description of inventions that appear to be especially worth while. Both the Gazette, by subscription, and the Products Lists circulate among manufacturers.

A search through Patent Office records

reveals the breadth of patented inventions (a valuable source of ideas). An automatic hat-tipper, for instance, was awarded patent number 556,248, years ago. The device clamped inside bowler hats and rested on the wearer's head. By merely nodding at a passing lady, the wearer caused his hat to tip a salute.

A "better mousetrap" received patent number 883,611. The gadget was designed to frighten mice away rather than kill them. Bait enticed the mouse to stick his head through a hole in the cage-like affair. A spring collar surrounded the hole. Attached to the collar was a small bell. When the mouse stuck his head through, the collar clamped around the mouse's neck. The inventor believed other mice would be scared away when the tinkling mouse returned to the nest.

One inventor received patent number 323,416 on a pair of suspenders having a long cord attached to them. The idea was that if the wearer ever got trapped in a burning building with no means of escape, he could detach the cord and lower it to the ground where a rope could be tied to it. Then he could haul up the rope and escape.

Those patents may seem incredible. But perhaps they give you an idea of just what sort of thing CAN be patented.

The device you worked out to help you around the house probably is more practical. Chance are that many other home owners would like to have a labor-saver just like yours. And the bigger the market is for your device, the greater your chance is of turning your inventive genius into cash.

• Science News Letter, 82:42 July 21, 1962

Probe), a 125-pound payload to study the radiation environment of cislunar space and develop a solar flare capability for the Apollo program; extend man's knowledge of solar-terrestrial relationships and study the properties of the interplanetary magnetic field and its relationship with particle fluxes from the sun.

3. Relay, a spin stabilized, medium-altitude, 168-pound active communications satellite jointly sponsored by the United States, Great Britain, France, Germany and Brazil.

4. Syncom, a stationary 55-pound, narrow band, active repeater communications satellite with attitude and position controls and a capability to handle one full duplex radio-telephone channel. Cooperating with NASA in the Syncom program is the Department of Defense which will provide transportable ground communications stations.

• Science News Letter, 82:43 July 21, 1962

EDUCATION

British Invite U.S. Youth to Manchester

► U.S. MEMBERS of Science Clubs of America who can be in England Aug. 29 to Sept. 5 are invited to attend the annual meeting of the British Association for the Advancement of Science at Manchester. An invitation was extended to SCA members through SCIENCE SERVICE. Some delegations from European countries will be in attendance, and several thousand British students will be present.

The announcement of the British Association meeting describes the young people's program as follows:

A program for young people from schools and colleges in Manchester and the adjoining areas is being arranged by the Local Committee through a specially appointed advisory committee representing authorities, schools, colleges, the Manchester Federation of Scientific Societies, the Science Masters' Association and the Association of Women Science Teachers.

Seven illustrated lectures to young people will be given by eminent scientists during the mornings and afternoons of the week of the Meeting. In addition, ten sixth-form students will be speaking in a series of lectures on their own recent research.

On the evening of Monday, September 3, at an Open Forum for adults and young people, eminent scientists and others will answer questions put to them by the audience.

A Science Fair is being arranged at which a large variety of schools will exhibit group and individual work representing the special scientific or geographical interests of students.

Those who intend to attend should apply for membership in the Manchester BAAS meeting, remitting two guineas (\$6) to BAAS, 3 Sanctuary Buildings, Great Smith St., London S.W. 1, and after Aug. 28 at Manchester University.

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Some 300,000 persons in the United States, most of them over age 50, are believed afflicted with *Parkinson's* disease.

SPACE

Delta Rocket Successful

► THE QUEEN of the U.S. space program is a three-stage rocket named Delta.

In less than two years, after ten straight successful flights, topped by the most recent—Telstar I—Delta has pitched over a ton of satellites into orbit and earned for itself a record of reliability unmatched by any space booster. (See p. 37.)

Delta's queenly attributes go back to the early Thor-Able rocket and the still earlier Vanguard, from which it acquired its upper stages. Although today's Delta contains vastly different hardware, experience gained from these early programs has resulted in what National Aeronautics and Space Administration Administrator, James E. Webb, recently called, "the greatest record of reliability of any of our launch vehicles."

Delta was intended originally to be an interim booster vehicle. The initial contract for 12 Deltas was signed with Douglas Aircraft Company in April, 1959. Since then, because of its exceptional reliability and versatility, a total of 31 payloads have been programmed for Delta.

The Delta first stage is a 60-foot modification of the Air Force-developed Thor which generates 150,000 pounds of thrust during

the two and two-thirds minutes its 50 tons of propellant burn.

The second stage is 17 feet tall and weighs a little more than two and one-half tons. It is powered by an Aerojet-General liquid engine, which develops 7,500 pounds of thrust during its slightly less than two minutes of burning time.

Delta's one-half ton, solid propellant third stage is only five feet high and uses an engine with a thrust rating of 3,000 pounds. Its burning time is 40 seconds.

Fully assembled on its launch stand at Cape Canaveral, Delta towers nine stories and weighs 57 tons.

In addition to continuing assignments to boost Tiros, Orbiting Solar Observatory and Telstar payloads, new programs now assigned to Delta space boosters include:

1. The S-6, Atmospheric Structure Satellite, a 375-pound orbiting laboratory designed for basic research in the physics of the atmosphere. Studies to be conducted by S-6 include measurement of atmospheric pressures, densities and temperatures; the composition of neutral particles, and electron and ion temperatures and densities.

2. IMP (Interplanetary Monitoring