

INVENTION

Leaders of Invention Tell What the World Needs Most

Opening of New Patent Office in Washington Occasion For Scientists to Predict the Next Great Invention

LEADERS in invention and application of science to civilization have given their opinions on what the world needs most at the present time.

As its share in the formal opening of the new U. S. Patent Office at Washington this week, Science Service invited eminent American inventors to express an opinion on: "The Next Great Invention: What does the world need most?"

The U. S. Patent Office, celebrating the opening of its beautiful quarters in the Department of Commerce building, has been operating in its present form for nearly a hundred years. Patents have been issued by the United States Government for a much longer period, however. They are provided for in the first article of the Constitution where Congress is given power "To promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive rights to their respective writings and discoveries."

It was in 1836 that the Patent Office started to number serially the patents issued. By the time the full century has passed, these serial numbers will be larger than two million. Already a patent has been granted bearing the number 1,856,041. During the last fiscal year 44,317 patents were granted, or, if one counts design patents, trade-marks, and so on, the grand total is 62,708. Applications for patents received during the one year numbered 84,097, and the total number of applications filed in the office amounted to 106,893.

And yet inventive ability as indicated by patents issued is not very common. The patents issued in the United States annually amount to only one for every 2,770 of the population.

Sun Power Motor

By **ORVILLE WRIGHT**,
Inventor of Airplane

I WILL not attempt to predict what will be the next "great invention," but as man's physical well-being depends

largely upon the amount of power at his command I would say that "the most needed invention" is a motor which economically converts the latent energy in matter into motive power, or economically derives power directly from the rays of the sun.

Better Government

By **DR. LEO H. BAEKELAND**,
Inventor of Bakelite

A MOST needed invention is a system of Government which does not develop into paradoxical exaggerations which defeat its best purposes.

Our Republic is now being mastered by cunning minorities of Congressmen who, by clever manipulation of existing rules, resort to any available expedients when they start bartering for votes with anyone who is likely to insure their reelection, which is their dominant purpose.

Heat Underfoot

By **DR. LEE de FOREST**,
Radio Engineer and Inventor

I BELIEVE the next great invention (or group, for several inventions are required to solve the problem) will be practical Television, first in the theatre, then in the home, by wire and radio.

But this is not, in my opinion, what the world needs most. The urgent need of mankind is for unlimited sources of

power, at costs so low as to revolutionize our methods and conditions of working and living.

Such power lies a few miles beneath our feet. The next generation will see man delving and boring, not for fuel, coal, nor mineral wealth, but to tap the limitless fountains of heat, by some durable means which will permit us to send down water and get back high temperature steam, or some equivalent energy absorbing and emitting medium.

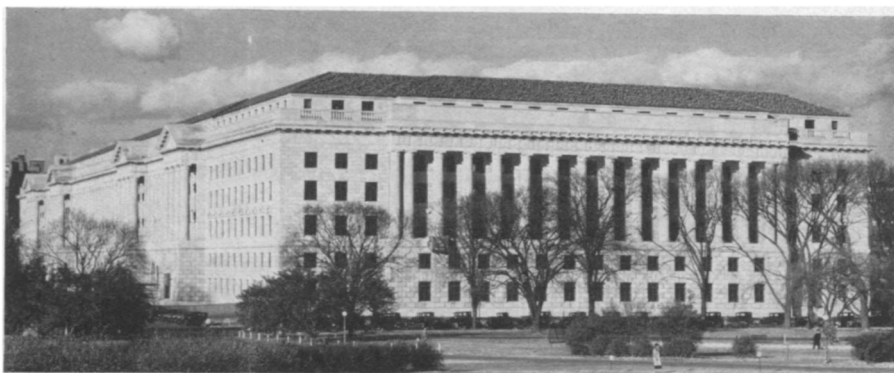
Then electric power will be at our doors for heating, for cooling our houses, for purifying our air, propelling our vehicles (supposing suitable storage batteries)—doing all manual work, in factory, farm, and home, speeding and enormously increasing vegetable and crop growth, illuminating homes, streets and all country roadways with light like that of day.

"Knowledge is Power" the Sage has said; but Power will bring knowledge and leisure to acquire it, and the immeasurable blessings which follow in its train.

Sun's Radiant Energy

By **DR. ELIHU THOMSON**,
Electrical Pioneer and Inventor, Director,
Thomson Research Laboratory,
General Electric Company

SOME people would be inclined to answer that what the world needs most is a more perfect civilization, a better psychology throughout the peoples of the world. If I may be permitted to limit myself to the "greatest future invention," or what the world needs most in the mechanical aspect of things, I would say the "greatest future invention," of which I can conceive the possibility, is some direct method of converting the radiant energy of the sun into electric current with high efficiency. It does seem that such a thing may be a possibility and that solar energy may in years to come be relied upon to fur-



The New Department of Commerce Building which houses the U. S. Patent Office

nish directly the electricity for all the services that are possible with it. I do not think it would be worthwhile to elaborate more upon this idea, although I confess a great deal could be added to this brief comment. There may be other sources of energy of which we know too little, but the radiation from our sun is the most evident source.

Looking forward, I can see no period when the efforts of the inventor or discoverer may not be expected to be fruitful in the service of man.

Homes as Refuge

By **L. W. WALLACE,**

Executive Secretary, American Engineering Council

WHAT does the world need most? In my judgment: Homes—with five acres of ground; Homes—to serve as a place of refuge in old age and during business depressions; Homes—fully equipped with modern appliances and conveniences, costing less than 20 cents per cubic foot; Homes designed to afford a variety of convenient layouts, sizes and appearances, which may be produced by mass production methods and be inexpensive to erect and maintain.

The inventive skill of the nation should be applied to developing designs, including methods of merchandising and financing. The reward is an ever-increasing and rising economic and social life.

Decent Homes

By **ARTHUR D. LITTLE,**

Industrial Chemist

WHAT the world needs most in its present crisis are things of the spirit and changes of heart which, unfortunately, no inventor can supply. There is, however, one fundamental, material need in our own country which stands as a challenge to the inventor and which, in my opinion, affords his greatest present opportunity. It is the provision of decent homes for those families of small means which make up the great majority of our population.

The building trades have not tapped ten per cent. of their potential market. They are where Ford would be if he had limited his output to Lincoln cars. The situation calls for the invention of new types of structural units permitting mass production, ready assembly on the site, and the widest possible adaptation to a variety of plans for attractive, dur-

able, and healthful dwellings at a cost within the reach of the average family head.

Perfect Television

By **DR. E. F. NORTHRUP,**

Physicist and Inventor of Electrical Devices

MOST patentable inventions rest on facts and laws taught by physics and chemistry.

There is a deluge of inventions of this nature, and the "velocity reaction" of things material has become maddening.

These times need inventions, as perfect television, which will promote understanding among normal human beings. The call is for artificial devices, keener than a pointer dog's nose, to locate social misfits and lessen crime.

Inventors are wanted who will teach how higher life-forms may compete more successfully with bacterial and insect predators that are ever present to take food from mouths and torture humanity.

Medical Achievements

By **DR. AMBROSE SWASEY,**

Mechanical Engineer and Designer of Large Telescopes

NO DOUBT, in the coming years there will be great and important discoveries and inventions in the realm of industrial science, as there have been for a half century or more past. At the present time, however, I have not in mind an invention or improvement for which the world seems to be waiting.

Although quite apart from my field endeavor, may I add, that notwithstanding the wonderful achievements in medical science, there are yet some difficult problems which if solved, as now hoped, will bring countless blessings to mankind throughout the world.

Unknown Ether Waves

By **S. M. KINTNER,**

Vice-President, Westinghouse Electric and Manufacturing Co.

THE question of the next great invention somewhat suggests the statement of the Irishman that he wished he knew where he was going to die, because if he did he would not go there. This is the way it is with us, if we knew what the next great invention was going to be we would start on it right now. Most anybody that you would ask this question would say—"television," "air con-

ditioning" or some other development that now offers immediate hope of such an accomplishment, but, in addition to those, one might look forward to biophysical accomplishments in the study of the human body and better control of diseases relating thereto; control of insects by radiations, or they might even think of power transmission by radio means, along with other possible great inventions that will follow the discovery of means for producing and detecting ether waves in the now unknown regions of wave lengths.

In thinking over past inventions, I cannot escape the feeling that has so frequently come to me, of how little we appreciated the need for many of them until after they were here, that is, the world to us appeared just as complete before as after these inventions were made.

More Sanity

By **DR. FRANK B. JEWETT,**

President, Bell Telephone Laboratories

AS TO your query—the Next Great Invention, What does the world need most—I can only say that I have not the ghost of an idea. Even if I had I doubt whether I would be courageous enough to voice it at this time. To my way of thinking, what the world needs most at the present time are not great new inventions, but a good deal more sanity, intelligence and restraint in the handling of its human and economic relations.

New Democracy

By **DR. MICHAEL I. PUPIN,**

Electrical Engineer and Inventor

THE next great invention will be a democracy in which the professional politician of today will find no place. This is what the world needs most.

Science News Letter, April 16, 1932

A world-wide campaign for more knowledge about the little-understood cosmic radiation, whose rays are the most penetrating known, was begun when Dr. Arthur H. Compton of the University of Chicago, noted physicist, left New York for Panama to start the first investigations.

In Panama Dr. Compton will climb Mt. Chico to measure the rays with a new instrument. He will then go to Huancayo in Peru, Mt. Cook in New Zealand, Mt. Kosciusko in Australia, Mauna Loa in Hawaii and Mt. McKinley in Alaska.