

# Italian Inventors at work

A recent communication to the press gave the information that the Fascist Association of Inventors and the Central Commission of the National Research Council had handed to the Under-Secretary of the Party a pamphlet containing a description of 165 of the most important inventions offered to the country by Italian inventors with special reference to resistance to the economic siege.

Before analyzing, even superficially, the most important of these, it should be noted that the work of inventors in developing their ideas is greatly facilitated by the work done by the Fascist Association of Inventors. After carefully studying the inventions, that Association undertakes all the necessary steps with the proper government offices for securing the grant of a patent and for its practical utilisation. In this way, an invention can be placed on the market in a very brief time and the rights of all concerned are fully protected.

The period through which Italy passed during the Abyssinian expedition was most favourable for encouraging inventions, as the manifold requirements which arose under the circumstances, the need of protecting the country against the exodus of its gold reserves and the high ideal tension, afforded inventors a powerful and fruitful stimulus. As happened during the continental blockade of the Napoleonic wars and during the blockade enforced against Germany during the last war, so again in Italy the contribution to progress made by inventors was manifold and valuable.

The basic food problem of the Italian people had been solved by the many initiatives that go under the name of the "wheat campaign", but Italian inventors had to face the problem of supplying textile fibres, carburetant substitutes, agricultural requirements, cellulose and other raw materials either lacking or only

found in insufficient quantities on Italian territory.

The question of textile fibres is a very important one for Italy when we consider that an average of 200 thousand tons of cotton, 50 thousand tons of wool and 70 thousand tons of jute are used each year, while only a thousand tons of cotton and 10 thousand tons of wool, and no jute whatsoever are produced in the country.

To meet this situation, and reduce to a minimum the indispensable imports of textile fibres, measures were taken to improve the chemical and biochemical processes for degumming and retting hemp so as to enable it to replace flax and jute; at the same time broom made its appearance on the textile fibre market.

This shrub grows wild in large quantities in the arid regions of Italy and is largely used by the railway companies, together with robinia, for strengthening the banks of the railway cuttings for fixing loose soil in the Apennines. Three or four kilograms of seed yield from 20 to 22 metric tons of broom per hectare.

The most recent tests and studies show that broom, as a national textile fibre, possesses the invaluable quality of requiring for its chemical and mechanical processing little machinery but a large amount of unskilled labour. Large factories will not be built for the processing of broom and its by-products, but a number of industrial centres will be organised near the places where it grows, and these must necessarily be numerous and scattered wherever the dry and sterile nature of the soil does not lend itself to more valuable crops. Such land is found throughout the Apennines, the islands and the foothills of the Alps.

Among the formidable problems to be solved is that of the supply of cellulose. It is estimated that, on an average, a ton of dry broom will give 450 to 500 kilograms of good paper pulp which, by simple processes, can be produced in the form of raw

cellulose, or, can be converted by ordinary machines into a very strong cardboard of great industrial value.

But to return to textile fibres, a field in which Italian inventive power has obtained brilliant results is that of procuring wool from milk. The production of rayon had to a great extent solved the problem of providing a substitute for cotton, but there remained the urgent and serious problem arising from our inadequate supplies of wool, as the deficiency of our home output had to be met by large imports entailing grave economic drawbacks, due to the fact that the Anglo-Saxon market has practically monopolized the world's supply.

The production of synthetic wool is based on a happy marriage of agriculture with industry. Milk from which the fat content, cream, is removed yields casein, which precipitates when subjected to a very simple chemical treatment. There then remains of the buttermilk with which we started the serum or whey which is an excellent feed for pigs. The casein, treated separately, is converted into a glutinous paste which, driven by pressure through a wire-drawing plate immersed in a coagulating bath, produces a strong elastic soft fibre of any length required.

It is estimated that by next year the factory at Cesano Maderno will have a potential output of 20 tons of synthetic wool per day, and this gives an idea of the great contribution an inventor has made to the solution of one of the most serious economic problems.

As regards petrol substitutes, a whole series of initiatives and proposals show that the solution of this problem cannot be far off; indeed, results already obtained are in some cases quite astonishing. Although facts clearly show that the solution of carburation is being sought for chiefly by the use of alcohol which can be distilled in such large quantities from plants grown in Italy, where also there is an almost permanent over-production of wine, nevertheless combustibles which produce gas are also of great importance.

It would seem that sanctions have shown that standard eleven thousand calory petrol is really not essential for running motors. The gasolene engines now burn straw, olive pits, shavings, chestnut husks, seaweed and agricultural waste products of all kinds. It seems almost impossible that such diverse and poor materials should be a source of such pure and abundant power. But engineers, who know that one calory only, the smallest quantity of heat practically measurable, equals 327 kilograms of power, are not surprised at the fact.

Moreover, besides gasogenous products, devices, tests, studies and wonderful trials are being made with other petrol substitutes such as calcium carbide, compressed methan gas, hydrogen and ammonia. There are also many very promising kinds of alcoholic combustibles, and the devices for the production and utilisation of hydrated ethyl alcohol have made such progress that the use of this substitute alone or mixed with petrol or benzole is now quite safe.

We may also note that our inventors have made such progress with the polymerism of acetylene that the production of synthetic benzole now seems very near.

In agriculture, Italian inventors have given remarkable proof of skill and geniality: machines for improving stony soil, for sowing and spreading fertilizer, for tilling land economically and for utilising waste material. A machine that cuts and softens straw for fodder; another that makes a straw substitute where straw is lacking; pasteurising machines and apparatus for making flour from bananas and all kinds of fruit.

It is especially in the field of mechanics that inventive efforts are being made and it is hoped that in the near future a large number of engines, injectors, pumps and accessories of all kinds will be manufactured on Italian patents. An engine run by the heat of solar rays has been designed; and a candle with a quartz insulator will at last free Italy from the need of making expensive imports of kaolin and insulating porcelain.

In the field of scientific instruments, calculating, statistical and cyphering machines, etc., and machines for testing building material we also find many important patents. Lastly, innumerable inventions have been made connected with building materials, hoisting machines, and all sorts of equipment and accessories.

These efforts made during the last few months reflect only a part

## TECNICI IN ETIOPIA PER ACCERTARE LE POSSIBILITA' IDRO-ELETRICHE

Roma, 5. L'Agenzia "Le Colonie" informa che la Compagnia Nazionale Imprese Elettriche recentemente costituitasi a Milano sotto la presidenza dell'on. Motta, per lo studio e l'attuazione totalitaria del problema idro-elettrico dell'A. O. I. e che — come è noto — raggruppa in sé tutte le imprese elettriche italiane, comprese quelle municipali, è stata autorizzata ad inviare in A. O. I. i propri tecnici per l'accertamento in quei territori ed eventualmente concretare con il Governo Generale le modalita' delle concessioni per la produzione e la distribuzione dell'energia nei diversi centri dell'Impero.

## A Sanskrit Story of the Creation of Woman

In the beginning when God came to the creation of woman, he found that he had exhausted his materials in the making of man and that no solid elements were left. In this dilemma after profound meditation he did as follows:

He took the rotundity of the moon, the twinkling of the stars, the curves of creepers, the clinging of tendrils, the trembling of grass, the slenderness of the reed, the bloom of flowers, the lightness of leaves, the tapering of the elephant's trunk, the glances of deer, the clustering of rows of bees, the joyous gayety of sunbeams, the weeping of clouds, the fickleness of wind, the timidity of the hair, the vanity of the peacock, the softness of the parrot's bosom, the hardness of adamant, the sweetness of honey, the cruelty of the tiger, the warm glow of the fire, the coldness of snow, the chattering of jays, the cooing of kokila, the hypocrisy of the crane, the fidelity of the chakravaka, and compounding all these together, he made woman and gave her to man.

In two weeks the man came crying: "O Mighty Master of Mysteries! Thou who hast made all the wonders of the world, take again the woman that thou gavest me; she teases, tantalizes and tires me; and I cannot live with her any more."

But in two weeks the man came again crying, "Give me back the woman that thou madest; I cannot live without her."

of the contribution Italian inventors have made towards the solution of vital national problems.

For the present, all work done in the field of armaments and new and improved implements of warfare placed at the service of the land, sea and air forces have not been made known.

## ALLA CAMERA FRANCESE VOTI PEL RICONOSCIMENTO DELL'IMPERO ITALIANO D'ETIOPIA

Parigi, 5. Continuando il dibattito sulla politica estera la Camera ha ascoltato stamane il deputato De Kerillis, il quale ha riconosciuto che una certa collaborazione militare con la Russia è necessaria; ma, d'altro lato ha vivacemente criticato l'intervento russo in Spagna. La Francia, continua l'oratore, dovrebbe temere tanto una Spagna nazionale quanto una Spagna bolscevica.

Dopo che la Francia ha armato il Governo di Madrid, Germania e Italia hanno preso lo spunto da questo fatto per occupare presso il generale Franco il posto riservato alla Francia. L'oratore afferma che dalla Francia sono partiti non meno di 12.000 volontari per ingrossare le file dei marxisti spagnoli.

A questo punto il ministro degli Esteri, Delbos, ha fatto rilevare all'oratore che egli parlava di fronte al mondo intero, e che perciò le sue parole avrebbero dovuto essere più prudenti...

De Kerillis ha replicato che le sue non sono rivelazione segrete, dato che i giornalisti di tutto il mondo hanno potuto constatare i fatti da lui denunciati. L'oratore vuole poi far rilevare quale pericolo rappresenti per la Francia le Germania nazista.

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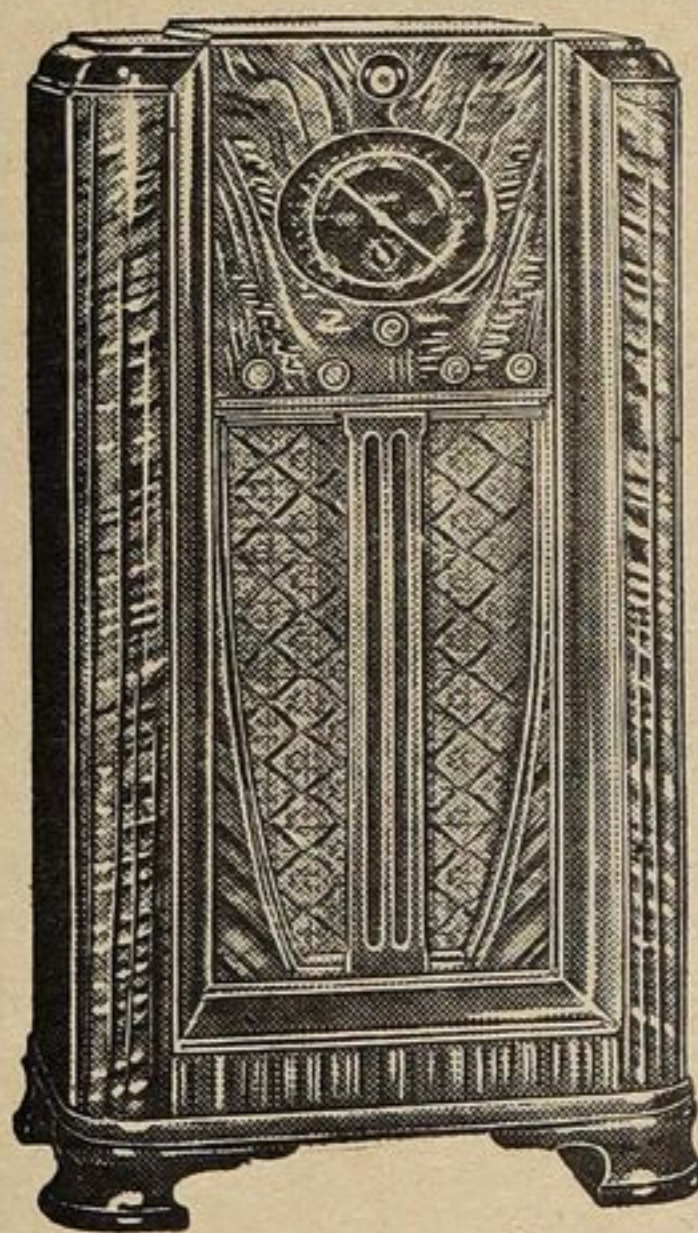
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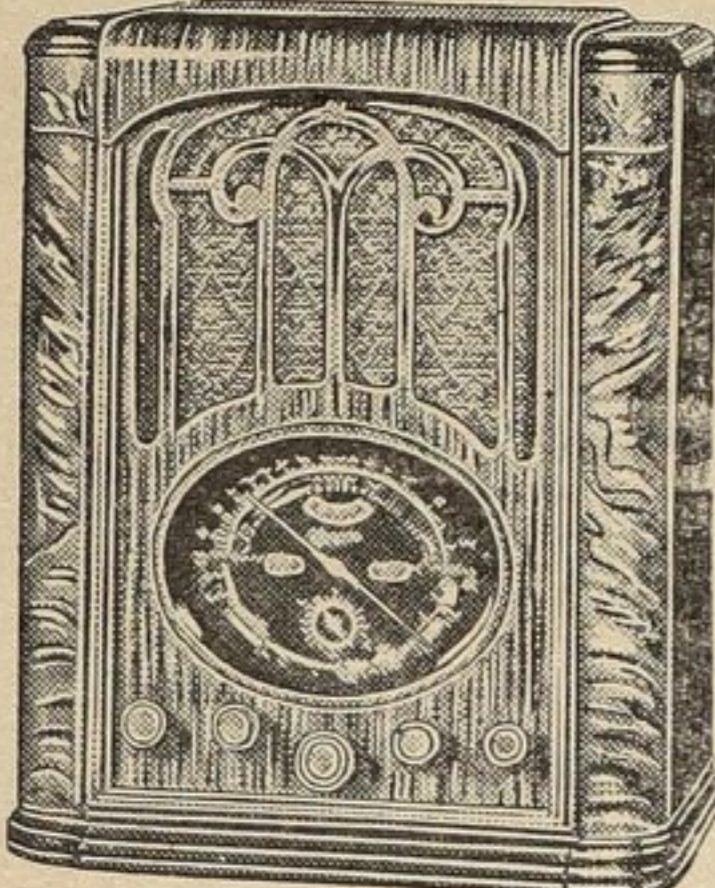


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