

Manufacture of Modern Drugs Forging Ahead But Menaced by Patent Laws

Saheb Singh Sokhey

Major General Sokhey had already initiated the manufacture of sulpha and synthetic antimalarial drugs when he was the Director of Haffkine Institute in Bombay. Deputed by the Government of India to visit drug plants in Europe and America, he had worked in the Toronto University penicillin plant and prepared detailed project reports and blueprints for setting up penicillin, sulpha drugs and anti-malarial drug plants in India. The Government approved these projects but could not find the finance to implement them.

Later, when he joined WHO as Assistant Director General, Sokhey took the initiative on behalf of W H O to provide the know-how and equipment to such member nations as desired to put up their own penicillin plants. Thus with funds from W H O and V N I C E F, the Hindustan Antibiotics at Pirn-pri was put up from the ready-made project report.

Through an uptodate though small, but technically highly efficient plant in Belgium, which came forward to render necessary assistance to W H O, Sokhey could work out the detailed methods for the commercial production of penicillin, streptomycin and aureomycin. This was the first time that these met/tods were ever written up; so far they had remained strict trade secrets. He also obtained working cultures of the moulds for the production of these antibiotics. Copies of these documents and the cultures were made available to Czechoslovakia, Poland, Soviet Union and China. Three of these countries started producing streptomycin only after they received this material; the Soviet Union which had already taken up production was able to increase its yield ten-fold by using the mould cultures sent from the Belgium plant.

This assistance, among other factors, brought back the Soviet Union and the People's Republics in Eastern Europe to WHO from which they had resigned earlier because U S A, which had developed production of penicillin and streptomycin, had refused to give know-how or even sell equipment.

After so much effort and waiting, is India to be deprived of the benefits of cheap drugs because of the Patent Acts? The author is afraid that she might, considering the operation of patents disclosed by the Kefauver Committee in the U S A. Neither the one-man committee of Justice Ayyangar to enquire into the Patents Act nor the Health Enquiry Committee presided over by Dr Mudaliar seems to have given adequate attention to the problem.

It was welcome news indeed, which Shri N Sen, Chairman of the Indian Drugs and Pharmaceuticals Ltd, gave to a press conference at Madras the other day, that work on the four drug projects to be set up in the public sector with Soviet collaboration would commence "immediately", and the projected plants would come into operation in 1965. Let us hope that he has been correctly reported, and that Government give the word "immediately" the same meaning as we common citizens do, especially when it is the question of modern life saving drugs. Strong hope is needed, because unfortunately we remember that Shri Manubhai Shah, Union Minister for Industry, had told us at the 10th Annual Meeting of the Indian Pharmaceutical Congress at Bombay something to the effect that Government had decided to set up (to take steps to set up) the necessary plants to make synthetic drugs, vitamins, and antibiotics etc as a

State enterprise during 1958! However, better late than never. We are still dependent for our supplies of antibiotics,¹ except for the small quantities of penicillin made at the State plant at Pimpri, sulpha drugs, vitamins and what not, on foreign countries. The exorbitant prices charged put them beyond the reach of most of our people. Even the public hospitals cannot use some of these drugs, especially the important broad-spectrum antibiotics, unless the patients can afford to pay for them which of course most of them cannot, and deaths result which could otherwise be prevented.

The Plants

The largest of the four plants will be the antibiotic plant at Rishikesh (UP). It will produce all the usually used broad-spectrum antibiotics, such as aureomycin, tetra-

¹ Since 1958, several production units have been started in the private sector e.g. Standard Pharmaceutical, Pfizer, etc.

mycin, Chloromycetin, tetracycline etc and also penicillin and streptomycin and any other antibiotics that may be found to be of use by the time the plant goes up. Of course, the plant will have the facilities to discover new antibiotics and to put them into production. At present a production of 300 tons a year is planned, but the plant is so designed that it could be easily enlarged to increase production to twice that quantity. This production would fully meet the needs of the expanding health organisations and the needs of animal husbandry.

It is to be noted, however, that after the Ministry of Industry had obtained the consent of the Soviet Government to put up the antibiotic plant in the public sector it gave licences to two American firms — Pfizer and Squibbs—to put up two plants to manufacture tetracycline. It is to be hoped that these American firms will put up the plants actually to manufacture

and not use their licences merely to provide themselves with a channel to bring into India ready-made penultimate products from U S A to queer the pitch for the State plant.

A synthetic drug plant at Hyderabad, will produce 800 tons a year of twenty drugs named by the Ministry of Industry. Originally the Soviet and Indian experts had suggested some 2500 odd tons of 52 drugs or so. The drugs removed from the Soviet project will now be made, we are told, by private firms.

A plant will be put up at Neriamaingam in Kerala, to make drugs from medicinal plant in which India is particularly rich. West Bengal and Kashmir Governments are already cultivating these plants, and should prove of great assistance to the Kerala plant for obtaining its raw material. Collection of wild plants is not a sound proposition as the supplies remain uncertain and the strength of the active principals varies enormously. When resort is had to cultivation, plants with good quantities of the desired principal can be multiplied at will. This plant will make large quantities of caffeine and a large number of other alkaloids used in medicine.

Then there will be a plant at Guindy, Madras, to make surgical instruments. It will produce surgical instruments and such useful things as syringes and needles by the million.

Exorbitant Prices under Patent Monopoly

All the four plants will cost about 35 crores of rupees to build and of this sum the Soviet Union is providing a credit of 80 million roubles (about 10 crores of rupees) for the equipment and technical services, but will provide all know-how entirely free of charge and will train hundreds of scientists and technicians in plants in the Soviet Union, so that Indian personnel can take full charge of the plants from the word go. At the time when the Soviet Drug Project was drawn up in 1956, it was estimated that these plants would save the country over Rs 35 crores worth of foreign exchange a year.

Now that the public sector and the private industry are planning to

make in the country all essential drugs like antibiotics, vitamins, synthetic drugs, alkaloids etc, and make the country self-sufficient and independent of imports from foreign countries, it would be possible to provide them at reasonable prices, somewhere near the cost of production. But the development of all industries and the prices of their products, particularly those of the drug industry, are affected by the patent laws in force in the country. Under the existing law even when we put up our own plants we shall have to pay royalties to foreign firms who have taken out patents on the processes of making drugs, even though we shall not go to them for know-how, which is going to be made available to us free of charge by Soviet Union in this case. Besides charging royalties, the patentees usually impose a number of other terms in their licences which enhance prices. But since our Government is undertaking industrialisation on a large scale and would not like its development to be hindered by the existing patent laws, and especially as they would not like the patents to add to the cost of drugs, they appointed a one-man Committee of Shri Justice Rajgopala Ayyangar in 1959 to see if our Patent Act was conducive to national interests and to make necessary recommendations.

Kefauver Committee Report

Justice Ayyangar submitted his report in September 1959 covering the problem of patents in all industries including the drug industry. But later, on June 27, 1961, was published the Report of the American Senate Committee, under the Chairmanship of Senator Estes Kefauver, on Administered Prices in the Drug Industry (Report No. 448, 87th Congress). This Senate Committee had conducted a very exhaustive enquiry into all aspects of ethical drugs, that is, drugs not advertised to the layman, but sold only on the prescription of a physician. This enquiry lasted over two years during which numerous public hearings were held, at which leading professors from medical schools, research scientists, and the representatives of leading drug manufacturers of the United States gave evidence and had their full say. The Committee's

report throws a flood of light on the practices of the drug manufacturers and how they exploit drug patents to rigidly control the market to make excessive profits—more than double of those made by the U S manufacturing industries as a whole, including oil steel, automobiles and chemicals.

Justice Ayyangar did not have the benefit of the findings of this American enquiry, and he himself could not have conducted a worthwhile enquiry into the operation of patents in the drug industry. He did not have the facilities, very largely because there is yet little or no drug industry in India to investigate. But now that the findings of this very exhaustive American enquiry are available they should be given due weight in the drawing up of the clauses relating to patents in drugs in our new Patent Bill.

India the Victim of Drug Patents

Senator Kefauver Committee cites India as an example of the disastrous effect of patents² on the prices of drugs. It says:

"India which does grant patents on drugs' provides an interesting case example. The prices in India for the broad spectrum antibiotics, aureomycin and achromycin are among the highest in the world. As a matter of fact, in drugs generally, India ranks among the highest priced nations of the world—a case of an inverse relationship between per capita income and the level of drug prices" (Italics mine).

Kefauver Committee paid special attention to the production and sale of antibiotics, corticosteroids, oral antidiabetics and tranquilizers which constitute in money value the largest portion of the total sale of drugs in the United States.

Antibiotics account for more than half of the total ethical drug sales, and tetracycline, one of the broad-spectrum antibiotics, accounted in 1956 for 24 per cent of the industry's

³ It should be understood we are not talking of patent drugs, but of essential drugs which are sold to patient only on doctors' prescription and are advertised only in medical journals. These drugs are produced by processes which are patented by the inventors under the Patent Act.

Sales. The practices of the manufacturers of broad-spectrum antibiotics reveal some of the worst features of the drug trade. Three of the broad-spectrum antibiotics are produced and sold exclusively by one company—*aureomycin* by American Cyanamid, *Chloromycetin* by Parke Davis and *tetramycin* by Pfizer. And *tetracycline* is produced by three; companies Bristol, American Cyanamid and Pfizer—and is sold by five companies under five different brand names, i e *Achromycin*, *Tetracyclin*, *Polycycline Stecline* and *Parmycin*. All these antibiotics, the Committee found, are sold (1960) by these companies to the druggists at exactly the same price of 8 5.10 for 16 capsules of 250 mg. each with suggested price of \$ 8.50 to the consumer. The Committee at a lavish estimate calculates the cost of the production of *tetracycline* in 1958 at 46 cents for 16 capsules, and this gives a mark up above cost of 1,730 per cent to the consumer, i e more than 17 times the cost of production.

The Committee notes the fact that in 1959 the same firms sold 16 capsules to chemists in India, which grants product patents, at \$6.50, and to chemists in Argentina, which controls drug prices, at 8 1.19, i e 134 per cent and 23 per cent respectively of the United States price. The representative of the American Cyanamid admitted at the hearing that they made a profit even at the sale price of 8 1.19,

The most serious feature of the sale of *aureomycin*, *Chloromycetin*, *tetramycin* and *tetracycline*, which are produced under patents, is that their unreasonably high prices have been kept unaltered between 1951 and 1960—only recently a reduction of 15 per cent has been made—while during the same period the bulk prices of *unpatented antibiotics penicillin and streptomycin*, have fallen from 25 cents to 2.1 cents per mega unit and from 32 cents to 3.6 cents per gramme, respectively.

In August 1961 the Justice Department of U S A, on a charge of conspiracy to fix prices and limit competition, won a grand jury indictment against three of the nation's largest antibiotic producers and their chief executives—American Cyanamid, Charles Pfizer and Bristol-Myers. They were also charged by

the Federal Trade Commission with having submitted false affidavits to get the patent for *tetracycline*. As a result of these arrangements, says the Government, Cyanamid, Pfizer and Bristol-Myers were able to maintain "non-competitive and unreasonably high profits" for all their broad-spectrum antibiotics. The case has now gone to court and drug companies are liable to be fined up to \$ 150,000 each, and their executives may get as much as one year in jail plus \$50,000 fine each.

Corticosteroids and Oilier Drugs

The Committee took up *prednisolone* and *prednisone* as typical examples of corticosteroids. *Prednisolone*, an anti-arthritis drug much in demand, synthesised and patented by Schering Corporation in competition with Merck's *cortisone* is marketed under the brand name of *Medieortclone*. Schering licensed Upjohn Company to make it for them, who charged them \$ 1.19 per 100 tablets of 5 mg each. Schering's cost after bottling came to \$1.57 per bottle of 100 tablets. They sold it to wholesalers at \$ 14.32 who retail it to the druggists at \$ 17.00 with a suggested price to the consumer of 8 29.83 per bottle—a mark up above cost of 1,800 per cent to the consumer, i e, 18 times the cost of production. The same drug is sold by arrangement with Schering under a variety of other brand names by Upjohn (*Delta'* Cortell, Merck (*Hydeltra*), Pfizer (*Stecane*) and Parke Davis (*Paracorteh*) all at the same wholesale and suggested retail and consumer prices as indicated above. The case of *prednisone* is identical. It is made by Syntex and sold by different firms under different brand names with a mark up above cost of 1,982 per cent to the consumer, i e approximately 20 times the cost of production.

Stranger still, a 100 tablet bottle of this drug, which is sold by Merck to the druggists in U S A at \$17.00 is sold by the same firm in England for \$7.53 and in Tokyo for \$ 27.78, i e, 42 per cent and 155 per cent respectively of the U S A price.

Oral antidiabetics and tranquilizers also tell the same tale. Oral antidiabetic *tolbutamide* marketed by Upjohn under the brand name of "Orinase" and sold to the consumer

at over 17 times the cost of production. Similarly, *meprobamate*, a widely used mild tranquilizer, is marketed by Carter Products under the brand name of *Miltown* and by American Home Products under the brand name of *Equanil*, and both are sold to the consumer at about 15 times the cost of production' Note again, that Carter, who sell a bottle of 50 tablets to druggists in U S A for \$3.25 sell it to the druggists in Argentina for \$0.75, in England for \$1.48 and in India for \$4.79, i e 23 per cent, 45 per cent and 147 per cent of the American price respectively.

Prices' in Countries with and without Patents

The Committee finds that drug prices tend to be substantially higher in countries which award patents on drug products as compared with those which do not. Of the 17 foreign countries for which usable price information was obtained for the Committee, 6 grant patents on drug products; while 11 do not. In these countries, in the case of 12 drugs (selected by the Committee for their (importance) prices were higher by 118.2 per cent to 355.0 per cent in countries with product patents-. To take a few examples:

Rhone Foulie of France sells *prochlorperazine* (*Compazine*) 50 tablets of 25 mg each for \$3.03 in U S A through Smith Kline and French!, for \$ 1.61 in Belgium but for only 80.80 in France. American Home Products sells *Promazine* (*Sparine*) at \$ 3.00 in U S A, at \$3.15 in Canada and at 81.32 in Italy. American Home Products sells *Miltown* for \$ 3.25 in Belgium, for \$ 1.77 in Italy and for only \$ 1.38 in Germany. Ciba of Switzerland sells *Serpasil* for \$4.50 in USA but only for \$ 1.05 in Germany and \$ 0.83 in France.

The difference in prices between Brazil and Panama, both under-developed and close to U S A—Brazil does not award patents in drug products while Panama does—makes the contrast striking. *Meticortin*. Brazil \$ 14.15, Panama \$ 22.00; *Miltown*, Brazil 8 2.20, Panama 84.79; *Chlorpropamide* (*Diahinesc*) Brazil 8 4.59. Panama \$ 6.64; *Penicillin V* (*V Cillin*). Brazil 88.67, Panama 8 15.00; *Achromycin*, Brazil 83.40 Panama 8 5.40.

The Committee gives several other examples and in each case the price is higher in Panama than in Brazil.

Research Expenses Not a Factor in High Prices

Research expenditure is often cited as the principal justification for high drug prices, but the Committee shows this contention to be utterly unfounded. Detailed financial statements of 22 leading American drug companies for 1958 showed that they spent as little as 6.3 per cent on research and as much as 24.8 per cent on advertising and sales promotion of their \$ 2.3 billion income for the year. Eleven of these companies spent 5 to 11 times as much on advertising and sales promotion as they did on research. Even then most of this small sum is directed to achieve slight molecular modifications just enough to get a patentable derivative of an effective and already well established drug. Not much attention is paid to basic research; as little as 1 per cent of the research funds are directed to it. The Committee says, in U S A resources are directed at wrong objective" with the result that the physicians are snowed under large number of drugs of miserable quality with built in obsolescence which sell for a little while and then disappear from the market.

Advertising and Sales Promotion

The United States drug industry spent in 1958 as much as \$ 750 million on advertising and sales promotion, while the total budget of all the medical schools in the United States in 1957 was only \$200 million. These very large amounts are spent by drug firms on frequent visits of salesmen to practising physicians, printing of circulars and brochures, advertisements in medical journals and on exhibitions. The worst aspect of the whole advertising business is that barring the literature of a few companies- the brochures, circulars etc are misleading if not utterly false. As many as 300 medical journals published in the United States are sustained almost entirely by drug advertisements. They readily seem to publish almost anything sent to them on behalf of advertising companies. A witness said that some drug companies get a junior physician to make observations on the use of a

new drug and his sketchy and uncritical data are turned over to the company. There a medical writer employed by the Company writes the paper which is sent back to the original physician for publication. As soon as the paper is published its contents become authoritative in the eyes of most physicians, they are extensively used by companies in their brochures and circulars. The postage alone costs the companies \$ 12 million a year. This sum could enable the United States to build 3 large hospitals a year. Better still, if printing of these brochures and circulars etc, was not undertaken at all the United States could build 50 large new hospitals a year from the money so saved. And all this wasteful expenditure is indulged in, not to inform the physicians but to mislead them. The attempt is to brainwash them to think in terms of brand names of drugs, and to automatically prescribe in brand names rather than in generic names of drugs, and thereby exploit the patent monopolies to charge very high prices.

Patent System Detrimental

Even his own investigations led Justice Ayyangar to say that *"Although the Patent System in India has been in existence for over 100 years it has failed to serve its object which is to benefit the trade and industry of this country and the System has been generally detrimental to the national economy. Over 85% of the patents granted (almost 100% for essential drugs) are owned by foreigners"* (Italics mine). And in spite of his considered view that the considerations which are said to constitute *quid pro quo* for the errant patent monopoly do not benefit India, *he suggests that the patent system should not be abrogated but continued with suitable modification*" because according to him *"notwithstanding the handicaps which the Patent System involves in underdeveloped countries, the system continues to be still the best method of encouraging inventions and has been universally adopted"* (Italics mine).

Patents Do Not Encourage Inventions in Drugs

The Kefauver Committee after a very exhaustive enquiry such as was not within the reach of Justice Ayyangar, emphatically controvert

his view. The Committee says: *"The conclusion would appear to be warranted that in this industry the mere existence of patent protection is not a guarantee of invention, nor is its absence much of a barrier"* (Italics mine). The Committee lists and groups into two classes all the drugs invented since 1875 when the patent system was first introduced, that is those made in countries without and with patents. It finds that "drugs discovered in foreign countries without product patents outnumber those discovered in countries with such protection, in the order of 10 to 1" They further find it "surprising that a large number of the most important drugs and the most widely used (drugs) in the world were discovered in countries which have never awarded patents on pharmaceutical products". What is still more significant, all the great drug break-throughs of modern times such as insulin, vitamins, the first sulphadiazine (sulphanilamide) and the first antibiotic (penicillin) were discovered in public laboratories by scientists who were not working for monetary gain, and did not take out patents. As regards the United States the Committee notes that the U S A has made some outstanding discoveries in drugs only since 1939. It raises the issue that "if patents are in fact the key to the unlocking of new drug discoveries why has it functioned effectively in this, country only for the last 20 years? For over a century foreign countries which do not grant patent protection have been making important new discoveries. The fact that they were doing so prior to the last 20 years while the United States, which has granted full patent protection since 1790, was failing to develop an important drug industry of its own only serves to cast further doubt on the essentiality of patent grants to scientific progress in this country."

No Reward for the Inventor

The beneficiary of the patent grant' has become the corporation, not the individual inventor. The situation today is very different from what it was three hundred years ago when England introduced the patents system to encourage inventions by rewarding inventors. Then there were no public laboratories and no

A few
of
the

8,000,000

electrical products manufactured by **Westinghouse**

TURBINES
GENERATORS
SWITCHGEAR
SUBSTATIONS
RECTIFIERS
REGULATORS
TRANSFORMERS
INSULATORS
MOTORS
TRANSMISSION EQUIPMENT
CONTROLS
CIRCUIT BREAKERS
SAFETY SWITCHES

AIR WASHERS
FANS
BLOWERS
HEATING EQUIPMENT
VENTILATING EQUIPMENT
COMPRESSORS
DEHUMIDIFIERS
HOME APPLIANCES
KITCHEN & LAUNDRY EQUIPMENT
ELEVATORS
ELECTRIC STAIRWAYS
AIR CONDITIONERS
COMMERCIAL REFRIGERATION

ELECTRONIC AIR CLEANERS
MICARTA
ELECTRONIC TUBES
RADIO & TELEVISION
X-RAY APPARATUS
METERS
PANELBOARDS
LAMPS
LIGHTING EQUIPMENT
SPEED REDUCERS
WELDERS
RELAYS
STATIC CONTROLS

Behind these quality products stand the skills and resources of

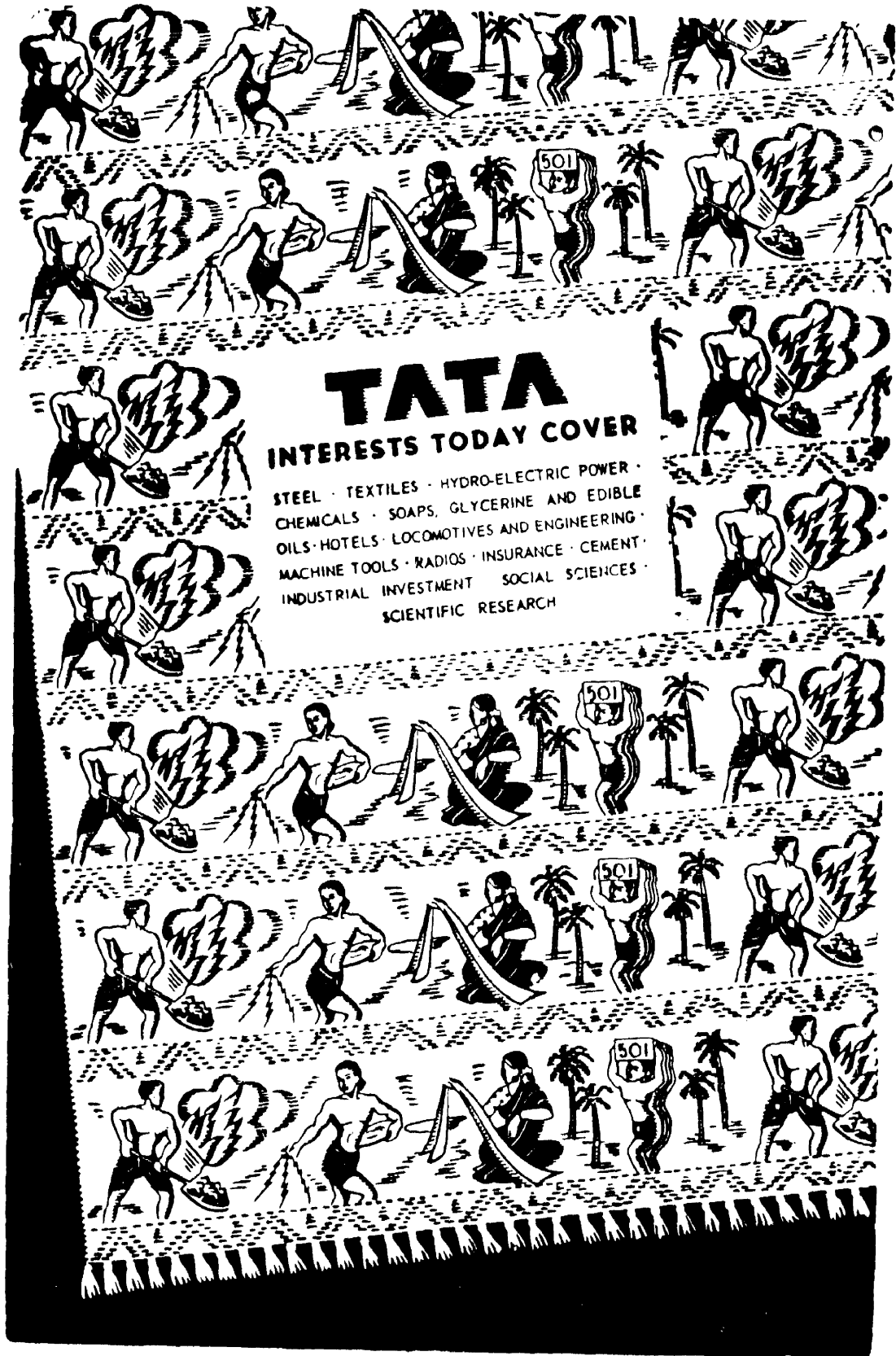
Wherever you may be, a Westinghouse representative is ready to help you with products and services for every industry.

For information, call your Westinghouse distributor or write:
WESTINGHOUSE ELECTRIC INTERNATIONAL COMPANY
40 Wall Street, New York 5, U.S.A.

114,000 people
106 plants
200 laboratories
300 distributors
23 field offices throughout the world



You can be sure . . . if it's **Westinghouse**



big industries. Inventions were made by individuals at their own expense of time, effort and money. They were given the monopoly right to exploit their inventions to their own financial advantage for 15 years or so both to encourage them to make more inventions and to induce them to disclose the secret of their inventions by making them file patent specifications. Today technology is so highly developed and the cost of putting up plants so huge that no individual scientist can undertake research or manufacture on his own. He has to take up a job with one of the big corporations or in a public laboratory and has to agree in writing to assign all his inventions to his employers. Thus his work becomes a pawn in the business struggle; and the nature and quality of his work — including the lines of enquiry he may follow — are largely dictated by the expectations of businessmen untrained in science, as to what areas appear to hold the greatest promise of commercial gains.

The extent to which the patent has been transformed in the drug industry from a reward to the individual inventor to an instrument of market control can be seen through a delineation of the various ways in which patents have been used to limit competition. In some cases the exclusion of competition is total, in others it licenses one other firm establishing a "duopoly". In still others several large firms become licencees creating oligopoly, when several firms apply for a patent, and they mutually agree to work together. Patents are also used to establish international cartels.

Only Solution

Senator Kefauver public hearings have started public agitation in America for the abrogation of drug patents. Indian scientists have been recommending similar action for several years. The 20 year old Pharmaceutical and Drug Research Committee of the Council of Scientific and Industrial Research of the Government of India, on which are represented important agencies engaged in research on and the manufacture of drugs, both in the public and private sectors, have during the last several years unanimously passed resolutions asking Government to abrogate drug pat-

ents. Similarly the Panel of Scientists of the Planning Commission called to consider Justice Ayyangar's recommendations expressed the view that the minor changes suggested by Justice Ayyangar in drug patents did not meet the situation and 47 out of 50 members attending considered that in the new Patent Bill inventions relating to drugs and foods should be made *non-patentable, both as regards the product and the process*, in the same way as Justice Ayyangar has recommended in the case of inventions in the field of atomic energy. Any permissive law which abolishes only product patents no matter how strict, would still leave the way open for powerful rich firms, who own 100 per cent of the patents on essential drugs, to exact exorbitant royalties, or to conduct protracted litigation in courts to delay and damage the development of the drug industry.

There are no international patents. Each country enacts patent laws to suit its own needs. Thus there is no obstacle to the abrogation of drug patents and there are excellent precedents. Most countries of the world do not grant product patents, while Italy does not grant either product or process patents, and of course no socialist country does either.

Abrogation of Patents Imperative

Now is the time to set the matter right. The country is making a great effort to attain self-sufficiency in drugs and a new Patents Bill is in the offing. We should see to it that inventions relating to drugs and foods are made non-patentable both as regards the product and process.

If the drug patents are not abrogated we shall have to pay crores of rupees every year as royalties to foreign firms which own almost 100 per cent drug process patents. And the licencees they will issue will for certain impose onerous terms which will make as part of their drug racket.

The new drug plants will be built with Soviet know how to be provided to us entirely free of charge and by our own efforts; the patent holders will contribute nothing. We must avoid such unpardonable waste of foreign exchange as is involved in the agreement entered into by the Ministry of Commerce

and Industry with Merck. We shall have to pay them almost 2 crores of rupees in dollars for the supply of know-how to produce streptomycin at Hindustan Antibiotics, Pimpri, although no valid patents exist to entitle Merck to demand this royalty. And what is worse, under the terms of the licence, we are debarred from employing any scientist or allowing anyone to enter the plant unless he is screened in accordance with the conditions dictated by Merck. This in spite of the fact that our Government accepted the collaboration of W H O and the U N I C E F under a solemn commitment to keep the plant open so that any country whatsoever either of its own or at the initiative of these international bodies, could send their technicians to the plant for training without let or hindrance. The Soviet Union had agreed to provide know how entirely free of charge long before Merck was brought into the picture. Even I was in a position to provide the know-how as I provided it to four countries in 1952 and helped them to take up the production of streptomycin. However, the Soviet Union will now help us to build a very large antibiotic plant at Rishikesh which will produce 300 tons of all antibiotics including streptomycin and will provide all know how free of charge and yet oddly enough we shall still be paying royalties to Merck.

If the drug patent are abrogated by the time the new drug plants in the public sector begin to function, and we are thereby freed from the obligation to pay royalties and to comply with the terms likely to be imposed by foreign patent holders, our plants would be in a position to sell broad-spectrum antibiotics and other modern life-saving drugs mentioned at something like 1/10 (one-tenth) of the present selling prices. Otherwise the royalty we pay will add enormously to the cost of drugs to our people. Drug industry without doubt is the one field of industrial endeavour from which profit should be kept out. more particularly in a poor country like ours. Even in U S A, the richest country, the Kefauver Committee considers "profits might also be expected to be relatively smaller" as drugs "deal quite literally in matters of life and death,"

Assistance to Small Industries

Are you a small industrialist or wish to start a small scale industry? Various agencies have been set up to assist you in this regard as indicated below:—

1. **THE NATIONAL SMALL INDUSTRIES CORPORATION LTD., RANI JHANSI ROAD, NEW DELHI.**

- * Supply of machines on easy instalment payment basis.
- * Assistance in securing contracts from D. G. S. & D. and Railways for supply of stores.
- * Assistance for internal marketing of footwear through Jansevak Footwear Depot, Agra.
- * Assistance for export marketing through Footwear procurement centres at Agra, Delhi and Bombay.
- * Import of Cycle Components and Knitting needles and distribution to small units.
- * Producing prototypes of machinery and training of artisans of P.T.C., Rajkot and Okhla.

2. **SMALL INDUSTRIES SERVICE INSTITUTE,**
40-40A, Cowasjee Patel Street, Fort, Bombay — 1.

- * Technical advice on matters pertaining to planning, production and selection of industry including model schemes thereof.

3. **DIRECTOR OF INDUSTRIES**

- * Assistance in acquiring land or factory building in the industrial Estate, if any, securing raw material, power, import licence etc.

4. **STATE BANK OF INDIA & STATE FINANCE CORPORATION**

- * Short, medium and long term loans.

N S I C

Serving The Nation

by

ASSISTING SMALL INDUSTRIES