

# Industrial *and Engineering* Chemistry



Vol. 20, No. 4

APRIL 1, 1928

## The Government in Business

THE chemical industry and, indeed, industry in general has stood aloof from the Muscle Shoals problem, feeling that after all it had little to do with them. Those who are engaged in the fixation of nitrogen naturally were not interested, since they are operating by a more efficient, economical, and modern process. Other industries have looked upon it as a nitrogen project turned into a political football, in which they had little interest and for which they could see no hope. Surely no one was prepared to find the Senate, after extensive debate and after a consideration extending over more than seven years, pass, by a decisive vote of 48 to 25, Senate Joint Resolution No. 46 which grew out of the Norris bill.

Should this resolution become a law, and in these political days no one dare prophesy, it will put the Government into business on an undreamed-of scale. Section 2 not only authorizes, but directs the Secretary of Agriculture to construct, maintain, and operate experimental or production plants anywhere in the United States for the manufacture and distribution of fertilizer or any of the ingredients comprising fertilizer. It also directs and authorizes him to make contracts necessary to carry out the program, to arrange for large-scale practical use of the new forms of fertilizer, to pay the special costs and losses, if any, sustained by farmers as a direct result of such large-scale use during the experimental period of their introduction. We are tempted to convert our farm into one for experimental purposes, believing that should this act become a law our profits would be more sure than under ordinary conditions. Furthermore, the Secretary is directed to locate a fertilizer plant in the vicinity of Muscle Shoals, take over all facilities there, making alterations, modifications, and improvements in existing plants, in order properly to carry out the provisions of the act, and even to utilize Nitrate Plant No. 2 for experiments in the production of fertilizers by the cyanamide process to determine whether it is or is not commercially feasible to produce fertilizers by such a process.

Not only is the Government thus to enter directly into the chemical business touching upon nitrates and any of the other ingredients comprising fertilizers, but other provisions of the bill also put the Government into the electrical power-producing and distributing business. Municipalities would be invited to construct transmission lines, although they could not be sure of power for a period of more than fifteen years, and with the prospect of being cut off at the end of such time it is difficult to see who would loan money for the expensive work of power-line building. We also find possible conflict between the policies of the Federal Power Commission, empowered to establish the rate, and the local public service commission in the states to be served. In order that there may be no delay in setting Uncle Sam up in this extensive and competitive business, an appropriation of ten million dollars is authorized.

The resolution has been sent to the House, where it is sure to come up for early discussion, though the House committee

is now holding hearings on the Morin bill, believed to embody the views of the Secretary of Agriculture and other experts. Possibly the senators from Alabama may be pleased with the resolution in its present form. Those who long since bought building lots at high prices in the belief that a great industrial center must develop at Muscle Shoals may also find it satisfactory, but we doubt if anyone else does. While the passage of this bill is a display of mediocrity beyond anything even one unfriendly to the Senate might have imagined, perhaps it is indicative of the future. If the Government is to engage in the manufacture of fertilizers on an extensive scale and in the sale and distribution of power, then why not manufacture dyes, merchandise groceries, operate coal mines and the facilities for transportation and communication? We look upon it as a dangerous move and precedent.

The Congress has not been without unprejudiced advice, and from time to time there has been made available to it specialized technical information without which no man in public life today can hope properly to discharge his many duties. For the most part there has been an insistence to deal with a highly technical problem wholly from the political point of view. Surely no one could have foretold that during an administration admittedly friendly to business such a bill could have passed the Senate. And now the House committee has discarded all bills and proposes to draft its own, but along lines of government operation. The danger is still with us.

## The Attitude of Industry toward Prohibition

THE complaints sometimes heard when the formula of some specially denatured alcohol is revised lead us to wonder whether industry in some cases might not cultivate a different attitude toward prohibition enforcement, with real benefit to itself. It is the purpose of the Prohibition Commissioner to work with and not against legitimate industry. The steps taken under the law are designed to protect the alcohol upon which many a manufacturer depends for his livelihood and not to make it more difficult for him to transact his business. The present Prohibition Commissioner is always glad to have the opinion of the legitimate industry and seeks to obtain it by contact, by sending technically trained representatives to the manufacturer, and by soliciting the views of industry as expressed by its representatives and correspondence. There is also the Industrial Advisory Council, composed of the representatives of industry, which endeavors to pass upon questions submitted with a view to promoting legal enforcement without burdening legitimate industry.

This coöperative spirit is met on an equal basis by manufacturers who appreciate the real situation. It is not met by those who fail to see that when they bring political pressure to bear, or ask special privileges, or combat the constructive work of the present Prohibition Commissioner, they do so against their own best interests. If the manufacturers holding permits to use alcohol would make it clear to their repre-



sentatives in Congress that they favor support rather than opposition to the constructive work being done by the Unit in the interests of industry, substantial progress, measured in dollars and cents if by no other standard, would be made.

Many industries know that a dangerous type of bootlegger operates within their group. Why have formulas for lacquer thinners been altered? Simply because that field became attractive to the bootlegger who established himself in the lacquer business and then proceeded to sell some products at prices below the legitimate cost of manufacture, making his profit from easily diverted thinners and other formulas, the orders for which were usually padded upon his books. The same thing has happened with artificial leather. It is a device well known in the drug trade, and in other lines where legitimate goods have been given away or sold at a fraction of their cost, solely for the purpose of making the books appear in order and show a volume of business alleged to account for the alcohol withdrawn supposedly as a raw material.

The bootlegger who uses an industry as a cover-up is a danger to every legitimate manufacturer in that industry, and the more highly regarded and influential his customers, even for recognized articles of commerce when sold at ridiculous prices, the greater respectability is lent to his efforts. When offered phthalates, acetates, zinc iodide, and other by-products of the bootlegger's work at prices below the market, the industrialist who cares for the stability of the future in his own and related industries will do well to resist the temptation and report the incident to Washington. It is not safe to let personal views and prejudices influence business conduct, and the best possible denaturants, always chosen after conference with the trade and viewed wholly from the standpoint of industry, are those which are acceptable in manufacturing processes and most successfully resist the attempts of the bootlegger. Nothing else is safe.

## The Analyst

AT PRESENT there is a feeling among young chemists that analytical chemistry is beneath their notice and some of the older men are annoyed when their attention is invited to improvements in analytical methods and facilities. Yet so much depends upon analytical chemistry and we so frequently meet examples where progress is arrested awaiting improved analytical technic, that we are led to wonder what the outcome will be unless this point of view changes.

There is a real difference between the order of ability required to develop essentially new analytical methods and that applied in a routine way, utilizing established methods of analytical chemistry. Research of a high order is frequently demanded to meet a new situation requiring an original method of analysis. Indeed, there are many examples of great discoveries which had to wait upon analytical chemistry—insulin came only after the perfection of methods for determining the sugar in the blood, to mention but one.

Perhaps analytical chemistry could be made more attractive and more interesting. In particular the place it occupies in our modern work and its importance, as compared with other fields of endeavor which have become more fashionable and made more attractive, should be stressed. Whether you are engaged in industrial or academic work, its success in a very real sense depends upon accurate analytical procedure. Unless men of ability are attracted to this work we shall ultimately fail because of this weak spot in our armor.

The J. T. Baker Chemical Company Analytical Research Fellowship, announced in our NEWS EDITOR for March 20, is a laudable effort toward preventing such failure. Fellowships of this kind should be multiplied.

## The Swinging Pendulum

THE changes which make the chemical industry one of the most fascinating, and a place primarily for those of foresight and courage, strikingly display themselves from time to time. The methanol story is well known to most of our readers. When the first synthetic methanol reached our shores, the most frequent inquiry was whether, in case the imported material made it difficult for wood distillers to continue, we would be at the mercy of foreign manufacturers or whether synthetic methanol would also be produced in the United States? Things began to adjust themselves. We soon learned that synthetic methanol cannot compete with the natural variety in denaturation, and by and by the American-made methanol made its appearance from two sources.

The pendulum has swung again and now we find coming upon the market, in thousands of gallons per day, a material composed of methanol and formaldehyde manufactured by a catalytic process from certain natural gas. This can be produced as a by-product at a price so low as to make the cost of synthetic methanol—itsself a marvel in cheapness—seem exorbitant. While this new cheap product does not yet threaten methanol in many of its markets, it does compete very decidedly with that used for the manufacture of formaldehyde. Further adjustments along the line may therefore be expected.

The recently announced 900,000-volt cathode ray tube, described by W. D. Coolidge when receiving the Edison Medal of the American Institute of Electrical Engineers, may prove another swing of the pendulum. The tube is capable of sending out into the air a stream of electrons with a velocity of 175,000 miles per second. This accomplishment goes so far beyond previous successes that one would be unsafe in declaring it impossible to produce a ray having the energy of the highest velocity alpha-rays from radium. According to Rutherford, about 8 million volts would be required for this. Given such a tube, and it may come sooner than we expect, radium itself might face a synthetic competitor that would rob those possessing deposits of great concentration of the world monopoly which low-cost production has given them. Until now control has shifted with improved technic and the discovery of higher grade ore from Continental Europe to Colorado, and now to Africa.

From unexpected places there comes from time to time clear proof that no modern business is in a safe position unless organized to make the most of the progress of science.

## The Burton Resolution

THOSE who have studied the Burton Resolution, known as H. J. Resolution 183, have been inclined to think the provisions so far-reaching that it need not be taken seriously, and have doubted that it had any chance of passing the House of Representatives. It was something of a surprise, therefore, to find that, but for the objection of a single man, this resolution would have passed two or three weeks ago. Following another attempt to bring it up in the House by unanimous consent, the Committee on Foreign Affairs decided to hold hearings on this measure. It is still a matter of real interest, therefore, and those who appreciate its serious possibilities should make their views known without delay.

It is always difficult for the chemist and for industrialists generally to make themselves thoroughly understood without having some one suspect their basic motive to be one of selfish interest. The extreme humanitarians once had visions of profit as the only reason for objecting to a measure designed to prohibit exportation of arms, munitions, or implements of