

# Saving Uncle Sam's Pennies

The United States Bureau of Efficiency, and What It Is Doing to Conserve Federal Funds

By Herbert D. Brown, Chief of the Bureau

Abstracted from a paper read before the National Association of Manufacturers on September 13th, 1921

**T**HERE have been efforts in the past to investigate the conduct of the business of our Government, but none of them have amounted to much save in the accumulation of data of value. The present Bureau of Efficiency began on March 4, 1913, as a division in the Civil Service Commission with an appropriation of \$12,000 for the first year. It became an independent establishment on February 28, 1916, and this year it has an appropriation of \$125,000. It is the only office of the Government created for the exclusive purpose of saving money; all others are engaged in spending it.

I had the honor of being connected with two previous commissions of similar character. Having observed the efforts of these organizations to improve the departmental service, and having studied the reports prepared by the gifted men who were members of these organizations or employed by them, I came to the conclusion that they had fallen short of rendering the great services which might have been expected of them, because they had not perceived that only by personal investigation of the offices themselves, by tact and patience in dealing with the workers of those offices, and by absolute willingness to surrender all credit for their services, could their ends be attained. I believe that only by winning the good will and cooperation of the administrators and the employees in the offices in which the work is done is it possible to achieve permanent results.

First of all, the watchword of the work must be "cooperation, not coercion." No officer of the Government is happy to have an outsider come into his office and assume to dictate how many clerks he should have, and what he should pay them, and how they should do their work.

Secondly, as a part of the general policy of cooperation it was necessary to adopt the principle of "no publicity." It is dangerous to the success of our work even to make detailed reports about it to Congress, if these are to be published. A bureau chief is not likely to be much more amiable if the delinquencies of his office are described in an annual report than if they are described in a daily paper. It has, however, been no part of our policy to conceal our operations. Although our published reports are meager, there is no lack of typewritten reports in our office which contain full and detailed accounts of every change and recommendation for which the Bureau is responsible.

The third principle guiding the Bureau in its work is that it acts in an advisory rather than a supervisory capacity.

The fourth principle that seemed to me from the first fundamental in efficiency work was the substitution of what might be called laboratory tests for academic discussions. There has never been time nor inclination in the Bureau of Efficiency to write lengthy reports, but there is always time for careful experiments and prolonged tests of proposed operations. Our general practice has been to take a representative part of the work to our own office and experiment with it until we have devised what we believe to be better or more economical methods than those employed.

The next principle that I felt was important was that emphasis on "team work" might develop an esprit de corps in the Bureau that would offset in some measure the small salaries paid by the Government for this kind of work compared with the salaries paid by private firms.

Finally, as a sixth principle, it was clear to me that the Bureau must be absolutely and under all circumstances non-partisan. To an efficiency organization it should be a matter of indifference what party is in power. Good government should be the only interest.

Generally speaking, our Bureau does two classes of work. First, we handle problems specifically assigned to us by Congress, either by statute, by resolution of either House of Congress, or more or less informally by the various committees and individual members of Congress. Second, we assist heads of departments and bureaus in developing better methods and procedures for doing their work.

Congress has, from time to time, given us a wide variety of things to do. As a result of our recommendations, legislation was enacted at the last session of Congress abolishing the Subtreasuries. This recom-

mendation alone resulted in saving nearly half a million dollars a year in administrative expenses and about \$2,000,000 a year in interest on the Public Debt. We have installed a system of efficiency ratings for the employees in the Post Office Department. We are engaged at this time on a similar installation for several offices of the Treasury Department. We have made actuarial valuations of the cost of the various pension plans which from time to time were proposed for retiring superannuated employees. We have installed an accounting system in the Indian Service. For about three years we cooperated with the Bureau of Internal Revenue in solving the immense problems which confronted that Bureau in collecting the income and excess profits and other taxes. We submitted reports to the Budget Committee of Congress which had a material influence on the budgetary legislation which was adopted at the last session. We have concluded an investigation of the methods of the Civil Service Commission. We have about concluded our investigation of the statistical work of the Government. We shall submit proposals to Congress when it convenes in December for the reorganization of the executive branch of the Government needed to eliminate the duplications of work and overlappings of authority which now characterize the activities of many of the executive departments. This, in a general way, will give an idea of the kind of work which the Bureau of Efficiency has done and is now doing at the direct request of Congress.

narly, by persons who make no claim to administrative or executive ability, persons selected primarily on grounds of political expediency; and, in the second place, the salaries of the technical and supervisory officials and employees are woefully inadequate. The second of these conditions, fortunately, is by far the more important as a factor contributing to inefficiency. I say fortunately because it is possible to correct that condition, whereas, so long as we maintain a party form of government, politics will continue to dictate the appointment of the few major executive officials of the Government. This is in fact desirable in order to avoid the possible development of a hard and fast, though of course highly efficient, bureaucracy not responsive to the will of the people.

The Bureau has made a study of salaries paid by State and municipal Governments and private establishments that will enable Congress to readjust salaries in the Government service on a scientific basis. Congress alone has power to act in this matter, and Congress is ready to act, I believe, provided it has honest, unbiased, complete and accurate information upon which to base its action. This information will be available in December, and I hope it will result in legislation which will make it possible for the Government to obtain and hold competent and efficient workers in those positions that carry the great burden of the Government service.

The second factor which contributes to the present ineffectiveness of the Government as a business establishment is found in the improper organization of the executive branch of the Government for effective service. We are all familiar, at least in a general way, with the defects of the present administrative machinery. We know, for example, that the Interior Department now has jurisdiction over a great number of bureaus of a miscellaneous character that have nothing to do with each other or with the functions which the Interior Department was originally established to perform. We know that many agencies have been located in the Treasury Department, the great fiscal department of the Government, which are purely non-fiscal in character, such as the Coast Guard, the Public Health Service, the Supervising Architect's Office, and the Bureau of War Risk Insurance. We know that the great bulk of the civil public works of the Government are executed under the supervision of the War Department, although the Bureau of Public Roads is located in the Department of Agriculture and the Reclamation Service in the Department of the Interior. We know, furthermore, of the independent existence outside the jurisdiction of any of the great executive departments, of some forty-odd boards, commissions, offices and bureaus which, practically speaking, do their work without any supervision whatsoever. These are merely examples of a condition that would require volumes to describe fully, but is generally understood.

This also is a condition which the departments themselves are practically without power to remedy. The present details of organization have been prescribed by Congress, and only Congress can take action to effect a proper alinement of the agencies of the Government and a proper distribution of work among those agencies. On this matter also Congress is, I believe, ready to act, and here again the Bureau of Efficiency has been asked to aid in the collection of the information upon which intelligent action can be taken. We shall submit in December a plan for the regrouping of services according to the nature of the work performed. Our theory is that all services operating in the same field should by law be placed under one general executive direction, and that, conversely, the field of action of each executive department should, so far as possible, be restricted to a single class of closely related activities. As an illustration of the application of this theory, all the great public works establishments of the Government, including river and harbor work, the construction and maintenance of public buildings and grounds, the Reclamation Service, the construction and maintenance of public roads, the development of inland waterways and

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**B**EFORE the United States went to war with Germany, the contribution of its average citizen to the maintenance of the general government was small, and was collected from him indirectly so that he scarcely realized that he was required to make the contribution. It followed that his interest in the operations of the Federal Government was languid. The war has changed all that. For the first time in his life the citizen has had to give and lend directly to the Government from his private store. The Government has slowly demobilized its fighting forces and still more slowly relinquished its control of problems of production, supply, transportation, and finance. But the heavy cost of government continues and the people are naturally asking why. They are wondering whether the heavy taxation is the result of wasteful mismanagement in the Government offices. Mr. Brown's bureau is answering this question, and we are glad to let Mr. Brown tell the story to our readers.—THE EDITOR.

The work which we do, however, at the request of heads of departments and bureaus is fully as important as that which we do at the request of Congress. The Bureau has worked in six departments and six independent establishments and up to this time has prepared and submitted about 70 separate reports. We have made 224 investigations, which we classify as follows: Office methods, 38; filing, indexing, 23; labor-saving devices, 17; cash accounting, 17; property accounting, 8; securities accounting, 1; cost accounting, 1; pay system, 5; auditing methods, 11; duplication of activities, 9; organization, 18; statistical, 10; actuarial, 3; employment methods, 2; efficiency ratings, pay standardization, 26; work records, 5; special investigations, 30.

I am pleased to record that most of the recommendations made in these reports have actually been adopted. I believe that our success is due largely to our adherence to the six principles noted above and adopted at the beginning of our work as fundamental.

While concentrating upon specific problems in the offices which it was directed or invited to enter, the Bureau of Efficiency has been working steadily at the larger problem of improving the administration of the Government as a whole.

The quality of administration in the Government service, as in any private business, must depend upon two factors: first, the character of the personnel employed and, second, the details of organization under which the personnel is required to do its work.

The personnel troubles of the executive departments are generally due to two conditions peculiar to Government employment. In the first place, the important administrative positions in the service are filled, ordi-



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## Some New Mechanical Amusement Devices

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cars could never expect to accomplish. Games of chance have been replaced almost entirely by games in which the skill of the several customers of the concession in question are matched. Typical of this is a game called the "Yacht Race." A number of tiny yachts are mounted on tracks, each in a separate glass case. These glass cases are mounted one above the other. At the front of the stand are several wind pumps, each connected with one of the yacht cases. At a given signal each customer starts to turn his pump and the resulting air pressure drives his yacht along from one end of the case to the other. The one who succeeds in pumping the most air gets his ship to the end first and wins the box of candy.

A combination of airplane and boating sensations is found in a nameless device which consists of a series of baskets mounted at the end of long spring arms. These are revolved by an electrical motor, an oscillating track at the center providing a bouncing motion. This bouncing motion is taken up and continued by the springs, so that the passenger not only is sailing through the air, but also going over waves, so far as his sensations are concerned.

People with strong constitutions and plenty of courage will find considerable pleasure ahead of them on the new pier. Those less courageous find equal enjoyment watching the other fellow try out the various devices.

## A Centrifugal Concrete Mixer

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producing concretes of like consistency or flowability, the strength of the two mixtures are not at such wide variance. The excessive mixing action of the new apparatus is advantageous insofar as it speeds the execution of the job.

## Testing the Purity of Quinine

On a certain occasion during the war to determine the degree of effectiveness of the preparation of quinine coming from three different manufacturers. Owing to the primitive nature of the facilities at their disposal, it was impossible to make a chemical test with respect to the content of effective alkaloid. An ingenious way was found out of this difficulty by observing the mental effects produced by the drug.

The method of investigation was so planned as to include not merely the testing of the effectiveness of the quinine preparations but, as to investigate, likewise, the magnitude of the mental effect of the quinine when given in prophylactic doses, and the duration of the said influence. The conclusions reached were of significance with respect to the capacity for the performance of work of soldiers in active service. For example, one of the tests given was the capacity of perception of nine letters of the alphabet arranged in the form of a square behind the photographic slit, the shutter being left open from 1/10 to 1/100 of a second. For testing the capacity of attention and at the same time the degree of fatigue, the ordinary "crossing-out" test and also the Kraepelin counting diagram were employed. Testing the degree of deafness and the buzzing of the ears was done by means of a Galton pitch pipe and by whispering, and finally the sense of time was tested by requiring the subject to make beats at intervals of about half a minute.

All three of the preparations of quinine occasioned a slightly disturbed mental condition with an apparent increase in capacity for work done, but it was definitely proved that one of the three preparations of quinine available was considerably more energetic in its effect than the other two.

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water power should be brought together in a new Department of Public Works.

The question is a natural one, will the work of the Bureau of Efficiency reduce the burden of taxation? My answer is "Yes." But, frankly, the reduction will be so small as to be imperceptible in the tax bill of the individual. I will explain why.

The total amount appropriated for the maintenance of the Government for the fiscal year 1921 (exclusive of the Postal Service, which is almost self-supporting, and exclusive of deficiencies on account of the fiscal year 1920), was \$4,175,820,089. Of this amount \$2,838,118,400, or about 68 per cent, was for the payment of obligations incurred on account of past wars, chiefly the recent war with Germany, such as compensation for death, disability, vocational training, hospital treatment, return of remains from France, pensions, interest on the public debt, sinking fund, and Federal operation of railroads. In addition the appropriations for national defense to cover the period from July 1, 1920, to June 30, 1921, were \$855,956,963.

Now the sum of these two expenditures represents over 88 per cent of the money appropriated by Congress for the conduct of the public business during the fiscal year 1921, exclusive of the Postal Service and deficiencies on account of 1920. This means that less than 12 per cent (\$481,744,726) of that total of more than four billions is to be spent on the works of peace—that is, on paying for the development of commerce, agriculture, science, research, education, public health, and public works of one kind and another, salaries of the administrative officers and clerical assistants of the Government Departments and of the Federal courts and the salaries and expenses of the Congress itself. The Bureau's operations are confined to this 12 per cent. Amounts running into the millions are in themselves well worth saving, but it will be readily seen that the saving the Bureau can compass for the individual taxpayers will not be very noticeable.

I do not wish to minimize the importance of eliminating all waste in the civil establishments of the Government. I would do away with every scrap of duplication, every shadow of overlapping. I would reorganize the Departmental service in accordance with the best practices of modern business. I would have the people get full returns on every penny expended in running the Government offices. But what I want to be understood and understood clearly is that, whittle away as we may, our Bureau can only reduce the total public expenditures by perhaps a fraction of one per cent.

More than 88 per cent of the money spent by the Government during the next year will be on account of past and future wars. So long as we wish to maintain a military establishment of 300,000 officers and enlisted men, so long as we feel the necessity of building and maintaining a navy of the first rank, high taxes are inevitable. I am not discussing the merits of the military and naval programs. All I wish to say is that if we want to make really big reductions in appropriations, about the only place that that can be done is in the appropriations for our military and naval establishments. The decision as to whether this is desirable must be made by the people of the country as a whole.

## Blast Furnace Slag

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that only the slag which had a glassy appearance was suitable for making cement. Glassy slag is obtained by rapidly cooling and seems to retain its latent hydraulic properties, while slag which is cooled slowly does not possess the property of setting. Then it was established that in the case of granulated

slag, the property of setting could be developed by the addition of a suitable amount of lime. At the present time slag cement contains about 15 per cent. lime and 85 per cent. of granulated slag. This mixture is burnt in rotary kilns, just as is done in the case of regular cement. Another variety of slag cement is called iron slag cement, which contains about 30 per cent. slag and 70 per cent. of portland cement clinker. This cement stands between regular cement and straight slag cement and is made by burning a mixture of slag and limestone.

The ordinary process of making building stones from slag is to mix together slag sand, lime and a little foundry sand. The binding action of the slag gives a stone which has a high mechanical resistance, about 100 to 200 kilograms per square cm. A method of causing the stones to harden quickly is to place them in the path of the exhaust gases from the internal combustion engines which drive the blast furnace blowers, and are rich in carbon dioxide and water vapor.

Light stone is made in the same manner as slag stone, with the exception that particularly light granulated slag is used as a filler, and as the binding material not just lime but a mixture of lime and ground slag, in other words slag cement, is used. This mixture is compressed in forms and attains a mechanical resistance in the stone of 10 to 25 kilograms per sq. cm. Both slag stone and light stone are very useful and economical building stones, the former as a substitute for ordinary brick and the latter instead of sand stone.

The author has experimented considerably in an attempt to transform the slag which is unsuited for these purposes into the kind that is suited. A very acid slag was treated with lime, while being heated, and then with lime and alumina again in order to obtain a slag which has a higher lime content. The melting of the slag was accomplished in an electric furnace. After many experiments it was possible, by putting it through this process, to make the acid slag capable of setting. The cement that was made with it possesses solidity and when both lime and alumina were added, the strength of the cement was increased over ten times that of the original value. The slag which was valueless beforehand was converted into a usable form in this way.

## Our Latest Science

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holding its own. The next stage is the no-child marriage and the extinction of the stock which laid the foundations of our republican institutions.

Professor Osborn, who was recently in Europe bringing together leaders in eugenics and biology from many European countries to attend the Congress, said that he had made a special study of parts of Belgium and France. Here he had been impressed, he said, with the manner in which the three main races of France, the Mediterranean, the Alpine and the Nordic, preserved their racial traits. He said that 12,000 years of similar environment and 1,000 years of similar education had caused only a slight divergence from the characteristics which were found in those races many thousands of years ago, as shown by evidences in the remains surviving from that period.

The difficulty in obtaining legislation to better the races, because of various prejudices and because of the fear on the part of politicians to give offense to any of their constituents, was emphasized by several speakers. Major Leonard Darwin said that it was very difficult to induce law-makers to pass laws for the benefit of the unborn who have no votes. Dr. Davenport said that the study of eugenics must progress until proofs of its contentions are piled high and have impressed the general community, before political action becomes a possibility. The exhibi-