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**IS A NATIONAL DEBT CAPITAL.**

The Government of Great Britain has a debt of about four thousand millions of dollars, which was contracted for the prosecution of war. Individuals in the nation delivered to the Government beef, wheat, iron, horses, sulphur, leather, and other articles needed in military operations, and received the Government bonds in exchange. The articles were destroyed or consumed in war; the value that was in them was annihilated. In the place of \$4,000,000,000 of property in material wealth, the capitalists of the nation found themselves in possession of Government bonds to that amount. These bonds are simply a pledge on the part of the Government to exact the interest on the amount from the nation by taxation.

Mr. Jay Cooke has recently issued a pamphlet in which he takes the ground that a national debt is an addition to the capital of the nation, and the argument is based wholly on the fact that the bonds are saleable for cash. If a nation is able to pay the interest on its bonds, and if the Government has the ability and the will to make it pay, of course its bonds, in moderate sums, will sell at some price, but their value depends on the continued ability of the nation to produce wealth. The principal difference between an individual debt and a government debt is, that one is an obligation to return property already in existence, and the other is a pledge to deliver property hereafter to be created.

When an individual contracts a debt, property, which has been accumulated by working and saving, is passed from the hands of one man to those of another, and remains in existence; the total wealth of the community is not changed. On the other hand, when a Government contracts a debt for war purposes, property which has been laboriously accumulated is passed over to the army, and consumed or destroyed; in this case the capital of the nation is diminished to the extent of the value annihilated. The idea that the capital of the nation is increased by the transaction is absurd.

We quote from Mr. Cooke's pamphlet:—

The Englishman who has £20,000 in three per cent consols at his banker's, and only ten guineas in his pocket, and who gives assent to a proposal made to him to go mine for coal on Vancouver's Island, has got £20,000 in cash to go into the operation. He knows that positively. The world knows it. British consols are cash capital. This cannot be controverted. And the \$4,000,000,000 of British debt is national cash capital to the industry and commerce of Great Britain. For half a century this seemingly and nominally huge and burdensome debt has served to vitalize the manufacturing and trading genius of the English people, and as money has enabled the British to do for that long time the marine carrying for the world, and to make for the world cloth, iron, steel, tin and hardware. This enormous mass of capital infused into the business of En-

gland at the close of her twenty-two years' war with the French Republic and Empire—almost always of par with gold—accepted as gold in all transactions—was the source of that prodigious development of mechanical industry and accumulation of wealth which so suddenly bore upward the English after the battle at Waterloo to the command of the trade and finances of the globe.

It is astonishing that a man with sufficient brains to do a large brokerage business should sign his name to such nonsense as this. England has accumulated wealth by the efforts of individuals to improve their condition. Why she has outstripped other nations in the race may be open to discussion; for our own part we suppose it to be attributable mainly to her comparatively free institutions—to the fact that her industry has been less trammelled than theirs by meddlesome legislation. However this may be, there can be no doubt that it has been done in spite of the burden of her national debt, and not in consequence of it.

It makes no material difference to the severity of this burden, whether the debt is held by native citizens or by foreigners. If a farmer who owns 40 acres of land, but has no personal property, can hire \$150 to buy a horse and plow, he can, by the use of that capital, increase several fold the amount of his crop. The man who loans the money, though he live in idleness on his interest, is no burden to the community, for the employment of his capital increases the product of the national wealth to an extent greater than the amount of his interest. But if the Government hires his capital and destroys it in war, then the support of the capitalist in idleness is a burden upon the rest of the community, and the payment of taxes for his interest diminishes to just that amount the sums which they can use for their own enjoyment.

If this war had cost the whole \$16,000,000,000 of the national wealth, it would have been a cheap price to pay for the preservation of the national integrity and our free institutions. Let the men who contributed their savings to the country in the hour of its need, be paid their interest punctually every six months, and their principal in full to the last dollar, but let us make no effort to argue ourselves into the transparent delusion, that the capital of the nation can be increased by the process of consuming or destroying it in military operations.

**MISMANAGED CONCERNS.**

Very many manufacturing concerns linger along without paying dividends, and finally dissolve and sell out at loss without the least idea what caused them to founder and go down. As with great ships that sink, so with great companies that fail—small leaks, insignificant in themselves, become formidable when neglected or suffered to run on in the hope that they will correct themselves.

An example of this is to be found in a recent failure, which it is not necessary to mention more pointedly. In this case the managers wisely determined to get all things in readiness before beginning, and therefore set about building their own machines, under the impression that they could do so much more economically than they could buy them. This was an error. They had no system, no fixed plan of procedure, no method, or experience in making their tools, for their line was an entirely different one, and as a consequence they went feeling their way along where it was all plain sailing to those who had been that route, or built such machines before.

On this very rock they split. The whole concern was full of separate machines, of which no one knew the cost within hundreds of dollars. The construction account, it is true, exhibited certain figures which purported to be the price of certain tools, but they were so far wrong that large sums remained unaccounted for, and no one could say where they went, and suspicion attached to one who was proved, like the Chevalier Bayard, "without fear, without reproach."

We can tell.

Suppose a man to require a drill, for instance, or a tap, or a lathe tool—for all these things are needed in making machinery of any kind—he goes to the tool maker with his order, and says "make this or that." The tool maker is already busy with other work, and the man waits until his turn comes, possibly for half an hour. It is then discovered that for this job there is no steel of the right size, so a bar is sent for; two hundred pounds, more or less, has to

be purchased to get twenty pounds from. The order goes to the dealer; the dealer sends it, not with lightning dispatch. The man wanting the tool to use is idle, the machine itself is idle, the work is delayed, and what was a simple want, by mismanagement grows into a costly matter. Doubtless the drill or the boring tool is broken after a short time, has to be renewed, and so the expense is increased. This is not a fancy sketch, but a thing that actually occurs every day in every shop in this country, where machines are used, to a greater or less extent. The remedy is simply to systematize the construction of tools, so that they may be had when wanted without waiting half a day. Three drills ready-made and kept on hand do not cost so much as it would to make one drill to order at short notice; so with taps or with any tool that is commonly used. When a man breaks anything, he knows the exact cost of it, and to make a simple cutter he is not required to count the cost of running an engine or the wages of every one immediately concerned in its fabrication.

It is a good sign to see tool factories starting up in different parts of the country, for it shows that managers of machine works are alive to the importance of these small items, and that if reliable goods can be obtained they prefer to purchase tools than to make them. We have noticed in the columns of the SCIENTIFIC AMERICAN for months past various illustrations of tools of different kinds adapted to machinists' and metal workers' use, inserted by different concerns, wholly unconnected with each other, each working with plans and objects of their own. It is with a view of promoting the general welfare of all that we direct attention to them now and in future.

What has been said of tools may apply equally well in principle to other departments—to employing cheap and inefficient labor in preference to skilled, at a fair price, and to other abuses that consume the profits rapidly.

**RESIGNATION OF THE COMMISSIONER OF PATENTS.**

It is announced by telegram from Washington that Hon. D. P. Holloway has resigned the office of Commissioner of Patents.

Mr. Holloway has held this important position for over four years, during which time the business of the office has largely increased. Like all other Commissioners he has encountered some opposition, but we do not hesitate to say that in our judgment he has discharged his duties faithfully, and generally to the satisfaction of those who have had claims before the office.

It is very much in his favor that he has always proved the steadfast friend of the inventor. In this respect his record is one of which he may, in his retirement, remember with satisfaction.

**NEW COMMISSIONER OF PATENTS.**

Hon. Thomas C. Theaker is strongly recommended to succeed Mr. Holloway as Commissioner of Patents. Mr. Theaker was formerly a Member of Congress from Ohio, of which State he is a resident, and was highly esteemed as a member of that body. Upon the establishment by Congress of the office of Examiners-in-chief, constituting a Board of Appeals in the Patent Office, Mr. Theaker was appointed by President Lincoln as one of the three Examiners of that important Board, which position he has since held. During this period he has acquired an extensive knowledge of the law and practice of the Patent Office, and is especially well qualified to fill the office of the Commissioner. A better and more satisfactory appointment could not be made.

At the British Museum about 4,150 volumes are used in the reading room daily; the number of readers has been about 106,000, or 360 per diem. 38,842 volumes have been added to the library during the past year, of which 2,730 were presented, 28,426 were purchased, and 7,686 acquired by copy-right. 819 maps, charts and plans have been added, in 3,326 sheets, and 44 atlases complete. 2,378 pieces of music have been obtained. The total number of articles received by this department has been 72,214 of which 1,283 were received under the international copyright treaties. 300,000 stamps have been impressed on these articles.