

Banks, Bankers and Banking

The Nickel Coinage Question

The fact that Canada produces 80 p.c. of the world's nickel is not the only reason why it should be adopted—It possesses all the requisite qualities of metal for coining.

By C. A. MacDONALD.

The advisability of introducing nickel coinage in Canada has received considerable attention in the press during the past year. This has, no doubt, been occasioned by the soaring price of silver and consequent danger to our present coinage—if fifty-cent pieces become worth fifty-cents as bullion, they are soon apt to disappear from circulation.

The press articles, however, have been hasty, and, for the most part, based on the sentimental idea that, as Canada produces upwards of eighty per cent of the world's nickel we should use this metal for our coins of low denomination.

This article has been prepared to present the various phases of the question in a brief but consolidated form, and to point out the entire suitability of nickel for coinage from a physical, chemical and cost standpoint, as compared with the other possible metals.

The bibliography on the subject is scattered and indefinite, and some of the figures included may be subject to correction; but they are sufficiently accurate to present the matter in true perspective.

Historical.

The idea of using nickel for coinage is not of recent origin, as will be understood from the fact that coins of nickel date back to 235 B.C. Where the metal came from, or how it was minted, remains a question; but the coins, or tokens, were an alloy of copper and nickel, not unlike those in common use today.

One-cent coins of a twelve per cent, nickel alloy were issued in the United States in 1857, but withdrawn in 1864, and the first regularly issued nickel coins were the 5, 10 and 20 centime pieces of Belgium, issued in 1861.

Since that time the use of nickel-bronze or cupro-nickel for coins has increased rapidly throughout the world, until, up to the present time, over seventy countries or dependencies have adopted nickel or nickel alloy coins, and eleven of these have adopted pure nickel coins. Some few of these issues have been withdrawn; but the tendency to use this metal coinage is growing rapidly, with a marked preference towards pure nickel rather than the alloy.

Countries Using Pure Nickel for Coins and Approximate Dates of Adoption.

1881	Switzerland.
1892	Austria-Hungary.
1902	Italy.
1903	France.
1906	Serbia.
1908	Zanzibar.
1910	Mexico.
1913	Danish West Indies (Ceded to U. S. A., March 31, 1917.)
1914	Turkey.
	Germany.
	Montenegro.
	Siam.

It will be seen from the above that the tendency to adopt pure nickel for coinage is increasing.

Requirements of a Metal for Coining.

The tendency noted above is largely explained by consideration of the properties that are required of a coining metal, and a comparison of these with the properties of the possible metals.

1. **The value of the metal**, within certain limits, is a minor consideration. The upper limit is controlled by the requirements that the value of the metal content, plus the cost of manufacture, should not exceed the face value of the coin; nor should the value of the metallic content be so much less than the face as to provide a large margin of profit on a counterfeit coin.

While we retain the gold standard the subsidiary coinages pieces are merely tokens, and, within the above limits, the face may have no more relation to the intrinsic value than is the case with our bank notes.

2. **Stability of price** is desirable, in order that market fluctuations may not so increase the intrinsic value as to exceed the nominal value; also this factor means constant seigniorage to the Government.

3. **The essential physical properties** are that it should have, and retain, a desirable appearance, be sufficiently hard and tough to resist wear, defacement and deformation, yet malleable enough to be readily minted in the modern high-speed minting machines, and sensitive to the die. It should be difficult to counterfeit.

4. **The chemical characteristics** desirable in

the metal are that it should resist oxidation and ordinary chemical corrosion, and not form poisonous salts.

Let us consider the metals and alloys in present use for coinage.

Bronze.

Copper unalloyed is much too soft, but the so-called copper or bronze coins (British standard—copper, 95 per cent; zinc, 1 per cent; tin, 4 per cent) have probably the greatest circulation, but in all cases for coins of extremely low denomination. They are cheap and easy to mint; but the appearance is hardly attractive, particularly after some use. By reason of the low value of the metal and the ease with which it is worked, it would offer an admirable field for counterfeiting, if used for coins of any considerable value.

The resistance of bronze coins to abrasion and defacement is relatively high; but the following figures, taken from the "Annual Report of the Royal Mint 1916" indicate that the withdrawal due to wear, are considerable:—

Imperial bronze coin issued, nine years (1908 to 1916, inclusive) ..	£2,169,257
Imperial worn bronze coin withdrawn in same period	116,567
	or 5.37 per cent.

Owing to the large increase in coin issue in this period, over previous years, a fairer indication of wear on bronze coin is given by the following:—

Imperial bronze coin issued, nine years (1902 to 1910, inclusive) ..	£1,281,427
Imperial worn bronze coin withdrawn, nine years (1908 to 1916, inclusive)	116,567
	or 9.09 per cent.

Such large withdrawals of worn coin seem to indicate that this alloy is not ideal from the standpoint of resistance to abrasion.

Aluminum.

Aluminum has been used for coinage, but is entirely unsuited. Its color is good, but the low weight is a drawback rather than a good feature. In 1907 and 1908 twenty million pieces of low denominations were issued in three British African Protectorates—Nigeria, British East Africa and Uganda. This coinage only survived two years, and in this short period the coins became badly corroded, and the whole issue of aluminum coins was withdrawn in 1910 and replaced with nickel-bronze.

A commission of scientists, appointed by the Minister of Finance of France, reported in 1910: "Neither pure aluminum nor any form of aluminum slightly alloyed gives a superior resistance to shocks and friction than that offered by silver, which resistance is insufficient for small coinage; moreover, none of the alloys offer resistance to the prolonged action of the usual chemical agents."

Nickel Alloys.

Nickel Silver (previously known as German Silver) an alloy of copper-nickel-zinc in varying proportions, and the same alloy with additions of pure silver, have been tried; but the coins oxidize readily and become yellowish and unsightly. They present less resistance to wear than bronze coins, and the low metal value makes them undesirable for coins of any appreciable value. They are not to be as well recommended as the nickel alloy following.

Nickel Alloy—as alloy of 75 per cent copper and 25 per cent nickel—is in general and world-wide use, and meets the requirements for subsidiary coinage more fully than any of the foregoing metals. The appearance when new, is good, but, when worn, takes on an unattractive yellowish or greenish cast, as is evident in the United States "nickel". The hardness is sufficient to resist undue wear and defacement, yet the alloy is readily rolled and easily minted, and the cost is well within economical limits. Incidentally, the low

Continued on page 17

THE STANDARD BANK OF CANADA

Quarterly Dividend Notice No. 119.

A Dividend as the rate of Three and One Half Per Cent (3½%) for the three months ending 31st July, 1920, has been declared payable on the 2nd of August, 1920, to Shareholders of record as at the 17th July, 1920.

By Order of the Board,
C. H. Easson,
General Manager.

Toronto, June 16th, 1920.