THE CANADIAN ENGINEER

SAMPLE	ORIGINAL	LOSS	PER CENT
	WEIGHT	IN WEIGHT	LOSS
Manganese bronze. Tobin bronze Monel metal. Manganese bronze. Muntz metal. Steel.	grams 171.87 162.11 160.76 161.65 163.85 139.58	grams 0.16 0.19 0.19 0.19 0.55 1.45	$\begin{array}{c} 0.09 \\ 0.11 \\ 0.12 \\ 0.12 \\ 0.33 \\ 1.04 \end{array}$

All the specimens showed the effect of more or less oxidation on the surface, the Monel metal presenting the least change in appearance as a result of corrosive action.

Corrosion Tests on Cast Manganese Bronze and Cast Monel Metal.—Relative corrosibility, as indicated by resistance to solvent action of acid solutions and acid solutions containing dissolved salts.

Small specimens of each metal about the same size and weight (35 grams, with length and diameter of 1.2inch and 0.5 inch) were subjected to the action of 100 cc. of the solutions, in covered glass beakers, for ten days, at room temperature. The specimens were then removed from the solutions, washed, wiped, dried, and reweighed, the percentage loss in weight indicating the degree or extent of corrosion.

Corrosive or solvent action of 10 per cent. so	olution
Loss	per cent.
Monel metal Manganese bronze	0.096 0.018
Corrosive action of 10 per cent. sulphuric acid, c iron sulphate.	ontaining
Monel metal	0.32
Manganesa bronze	0.37

Corrosive action of 20 per cent. solution of hydrochloric acid.

Monel metal									•	•	•	•	•	•	•	•	• (0.21
Manganese bronze	1														•			7.34

Corrosive action of 20 per cent. hydrochloric acid solution with common salt in solution.

Monel metal									•	•	•	•	•	•	•	•	•	•	0.31
Manganese bronze						•	•	•	•		•	•	•		•	•	•	•	1.64

Comparative	Corrosion	List	of 1	arious	Alloys.
D	ration of te	est 6	mo	oths.	

	COPPER	ZINC	LEAD	TIN	IRON	NICKEL
Alloy A Alloy B Alloy C	57.7 . 62.6 . 62.7	40.1 36.1 35 1	0.44 0.20 2.20	1.1	0.46	1.3
Alloy D. Alloy E. Alloy F.	. 61.0 . 89.0 . 54.3	38.1 27.0	0.20 0.10	0.5 11.0	0.10	18.3

Solution No. 1-Sea water.

Solution No. 2—Ammonium chloride, 20 p.c. solution. Solution No. 3—Ferrous sulphate, 10 per cent. solution. Solution No. 4—Sulphuric acid, 10 per cent. commercial. Solution No. 5—Swamp water. Solution No. 6—Sodium hydroxide, 10 per cent. solution.

Real Providence	SOLUTIO	N NO. 1	SOLUTIO	NN NO. 2	SOLUTION NO. 3					
ALLOY	Loss in weight. grams per sq. in. of surface	Appear- ance	Loss in weight, grams per sq. 1n. of surface	Appear- ance	Loss in weight, grams per sq. in. of surface	Appear- ance				
A	0.0184	smooth	0.3790	rough sound	0.085	smooth sound				
B	0.1364	smooth sound	4.2460	pitted, disinte- grated	0.091	smooth sound				
C	0.1590	etched sound	3.5980	very rough disinte- grated	0.092	etched sound				
D	0.1390	etched sound	5.4530	very rough disinte- grated	0.093	smooth sound				
E	0.1700	etched	6.8080	very	0.089	etched sound				
F	. 0.0660	rough length- wise cracks	0.5611	rough deeply pitted	0.041	etched length- wise cracks				

	SOLUTI	ON NO. 4	SOLUTIO	NN NO. 5	SOLUTION NO. 6				
ALLOY	Loss in weight	Appear- ance	Loss in weight	Appear- ance	Loss in weight	Appear- ance			
A	0.102	etched sound	0.0030	smooth sound	0.0270	smooth length- wise			
B	0.110	etched	0 0014	smooth sound	0.0300	smooth			
C	0.132	etched sound	0.0043	smooth sound	0.0180	smooth sound			
D	0.107	smooth	0.0117	smooth sound	0.0270	smooth sound			
E	0.147	etched	0.0020	smooth	0.0320	corroded			
F	0.063	etched sound			0.0045	clean sound			

DOMINION STEEL CORPORATION'S OUTPUT.

The production of the Dominion Steel Corporation for June, 1915, compared with June, 1914, was as follows :--

	June, 1915.	June, 1914.
	Tons.	Tons.
Pig iron	. 22,552	21,111
Steel ingots	. 28,680	26,629
Rails	. 13,044	16,998
Rods	. 6,435	1,981
Bars	. 797	2,347
Wire and wire products	. 3,167	1,541
Coal mined	. 481,820	485,449

The Standard mine at Silverton has resumed shipments to the smelter at Trail. The British Columbia Copper Company has started work again in its smelter at Greenwood and at the Mother Lode mine, after an idleness of 12 months. The United Copper mine at Chewelah has installed a new 20-stamp mill, which is in operation.

The new service to be given by the "National" train between Toronto and Winnipeg, through the co-operation of the Grand Trunk, Temiskaming and Northern Ontario, and the Transcontinental lines, will mean a distance between the two points of 1,257 miles. Through traffic will be undertaken by the Grand Trunk Pacific Railway at Winnipeg, and carried through to the coast at Prince Rupert when that is the routing. The service was inaugurated on July 13th.