

CONVERSION OF SERVICE GUNS TO SUIT SLOW-BURNING POWDER - AS PROPOSED BY SIR WILLIAM PALLISER.

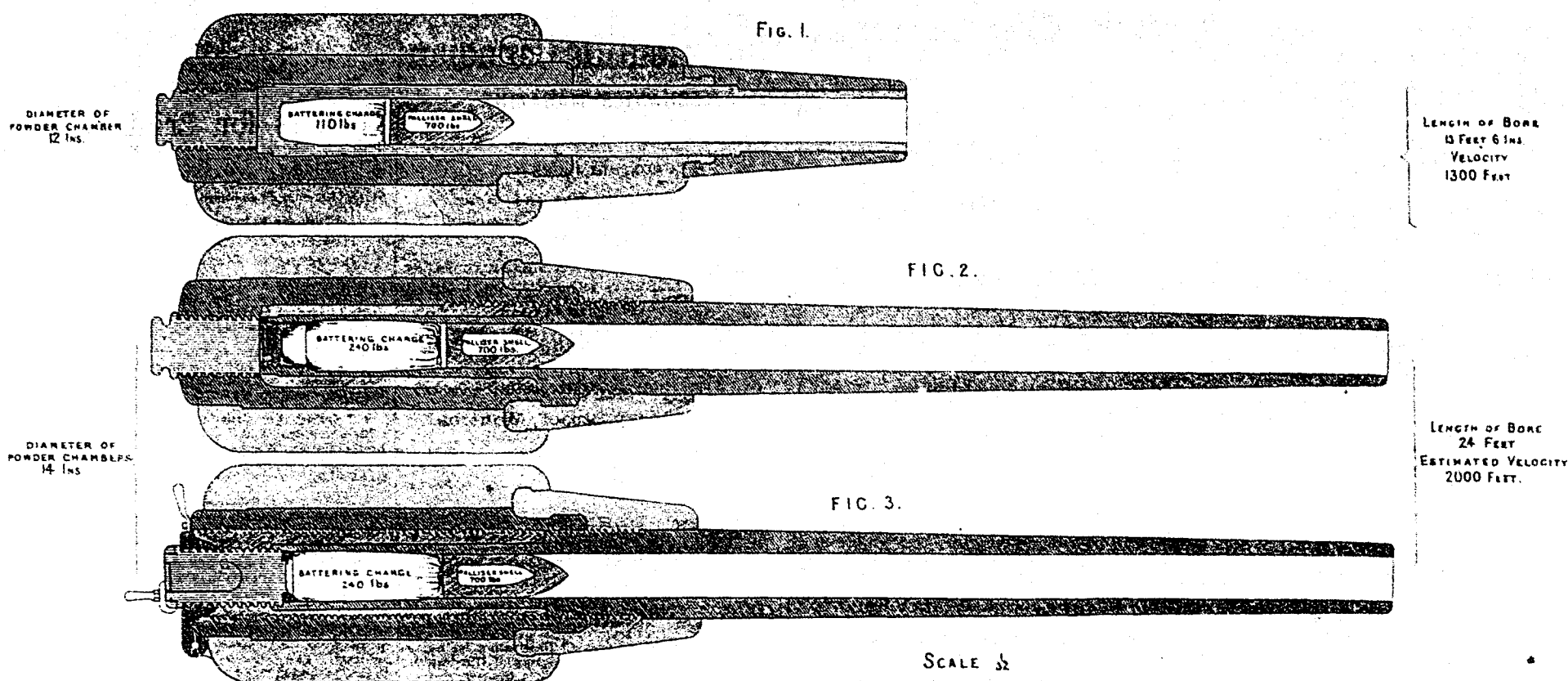


FIGURE 1 represents a wrought iron muzzle-loading 12-inch 35-ton gun of the present service pattern, lined with a steel tube.
 FIGURE 2 represents the same gun, as I propose to convert it into a long 12-inch 40-ton muzzle-loader, lined with a coiled wrought-iron barrel.
 FIGURE 3 represents the same gun, converted into a 40-ton breech-loader, also lined with a coiled wrought-iron barrel.

The conversion is effected by boring out the steel tube, and screwing in an easy fitting coiled wrought-iron barrel, similar to the barrels by which the old cast-iron guns of the service are converted. The object of making the barrel in two thicknesses at the breech end is to arrest any flaw or crack that might occur at or near the seat of the charge after the gun had become worn by long continued use.

The gun, as shown at Fig. 1, was constructed for use with the strong, quick-burning powder of the service, called the R. L. G. or rifle large grain. Several steel-lined guns having burst with this powder recourse was had to the slow burning powder now employed, called pebble powder. The bores of the service guns are, however, much too short for using this slow burning powder with advantage, and in consequence our guns are less effective than those of similar weights in other countries. But notwithstanding the use of the mild powder, many of the steel lining tubes continue to split.

The service guns, of this and other Governments numbering many thousands, lined with coiled wrought-iron tubes, have withstood the strong gunpowder, without any instance of failure. Experience would thus indicate that the substitution of wrought-iron lining for steel will, at least, conduce to safety.

Moreover, the use of the more reliable material affords means of giving the gun such length of bore (as indicated in Figs 2 and 3) as will secure full efficiency of the slow burning powder now adopted in the service.

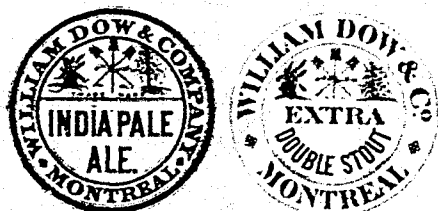
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