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TO: John H. Lewis, Jr.
Bridgeport

FROM: H. W. Young

SUBJECT: INVENTIONS REPORT IT-79
SHROUDED HEAD BOLT
INVENTOR: M. H. WALKER, 290 OTSEGO STREET, ILION, NEW YORK

DESCRIPTION:

Herewith are Dugs. D17001, D17004, G17005, G17006, G17009 and a photostat (PD-103) which shows the relationship between the Bolt, Barrel and Receiver of the M/721-722, and the interlocking engagement between the Bolt Head and the Barrel in which the continuous annular projection of the bolt shrouds the cartridge and is itself shrouded by the barrel.

The body diameter of the bolt dictates the maximum diameter of the forward projection which shrouds the cartridge, at least those portions of the projection adjacent to the spaces between the bolt lugs. While an annular projection of this type is sufficiently strong to withstand the forces to which it is normally subjected, with a good margin of safety, additional safety is provided by shrouding the extension on the bolt with the barrel so that in the event of expansion of the projection on the bolt under excessive force, such expansion will cause obturation between the extension and the barrel, tending to produce a gas seal between these parts and once such engagement is made, additional support is provided by the barrel, which is in turn supported by the receiver.

The accompanying drawings are probably sufficiently clear without further explanation.

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HWY:MP