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March 26, 1948

TO: L. R. Crittendon

FROM: Crawford Hayes

SUBJECT: TEST TO DETERMINE THE EFFECT OF REMOVAL OF REAR SIGHT BASE ON THE POINT OF IMPACT

On January 1, 1948, a program was started to determine what effect the removal of the Rear Sight Base Ring from a M/721 Barrel had on the point of impact. Five guns with Barrel of present contour were selected and the accuracy and point of impact was determined for each through the following schedule of shooting.

(a) Four, ten shot groups with 180 gr. bullets, for accuracy.
(b) One, three shot group each of 110 gr., 150 gr., and 220 gr., for change of point of impact due to bullet weight.

The Actions were then taken from the Stocks and the Rear Sight Base Ring machined from the Barrel. The Actions were replaced in their original Stocks and the schedule of shooting outlined above was repeated.

The results, when analyzed statistically, were of doubtful significance and it is felt that there were sufficient opportunities for discrepancies and variations in the method of test to give cause for the doubt in the significance of the results.

Permission is therefore requested to discontinue the present investigation. The future program as now planned is to construct the Barrel for the M/742 Center Fire Autoloading Rifle without a Rear Sight Base Ring and to conduct shooting tests when the model is completed. It is believed that the actual accuracy rating of this test will mean more than the comparison tests conducted on the M/721 Barrels with and without Rear Sight Base Rings.

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