

cc: J.B. Maupin

Ellen, New York
May 11, 1950

G. M. CALHOUN
BRIDGEPORT

MODEL 40X - SERIAL NO. 706
Complaint from Ziniuk & Co.

Re: Capt. Benjamin Naiman, Petch-Tiqva, Israel

This is in reference to the above complaint which J.H. Miller of Foreign Sales referred to you for information and comments. You in turn requested that we prepare a suitable reply and since it appears that the difficulties which were encountered by the customer involved problems other than design, am taking the liberty of enlisting the aid of J.B. Maupin and his staff.

It is also apparent that Capt. Naiman possesses an unusually keen understanding of firearms design and from the information submitted he has apparently used this skill in accomplishing the corrections which were described.

Upon investigation of the various problems which he enumerated I have developed the following information:

1. Heat Treatment of the Sear and Connector

Apparently these parts in rifle Serial No. 706 were not sufficiently hardened. The area of engagement between these two components is very small and our designers have over the years emphasized the importance of maintaining a heat treatment to result in a "file-hard" surface. If this is not done the hardened case will gradually break through at the point of contact to the point that the rifle may "jar off" easily and also result in malfunctions of "follow down".

2. Trigger

The customer complained about the poor quality of the trigger alloy. In this connection and shortly after assembly was started it was discovered that these triggers were not satisfactory, there being several reports of breaking off, including one in Bridgeport. Apparently there were similar cases at assembly. The writer personally investigated and confirmed the condition, which was called to the attention

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2. of the Plant Chem & Met Supervisor, recommending that assembly be held up until corrections could be made. We believe this was done and the triggers were submitted to an additional sintering operation to improve ductility. Although the physical condition was improved, this additional sintering resulted in a dimensional change which caused them to be "too short" and apparently the condition was not discovered until after some rifles had been shipped. This complaint rifle is of a low serial number and was probably involved.

We have again checked the situation with the assigned Process Engineer and find that triggers of the correct dimensions were made available for assembly the latter part of April.

3. Interference Between Receiver & Locking Lug (Fig. 1)

We became aware of this situation incidental to production of first run of rifles and upon investigation it was found that apparently this cut in the receiver was being run with a tool having a radius which was too great and resulted in an interference with the lugs at assembly. In order to compensate for this condition a change was made to open up the diameter of the cut and the radius, which eliminated the interference at assembly.

4. Trigger Adjusting Screw

The idea as shown in Capt. Naiman's sketch entitled "Figure 4" appears to be a good one for his purposes. However, in this country we have to be able to adjust for a 4-10. minimum of trigger pull which we believe this suggestion is not intended to do.

Connector and Trigger Assembly

Capt. Naiman described his idea of fastening the connector to the trigger with a screw. He can see no reason why this would not operate, but at the same time am afraid that he will lose the advantage of the floating connector which is a design feature intended to prevent an sensation of overthrow.

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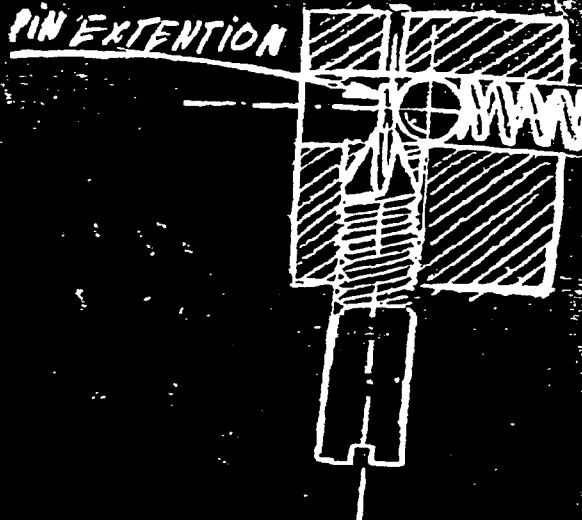
6. Firing Pin Interference with Barrel

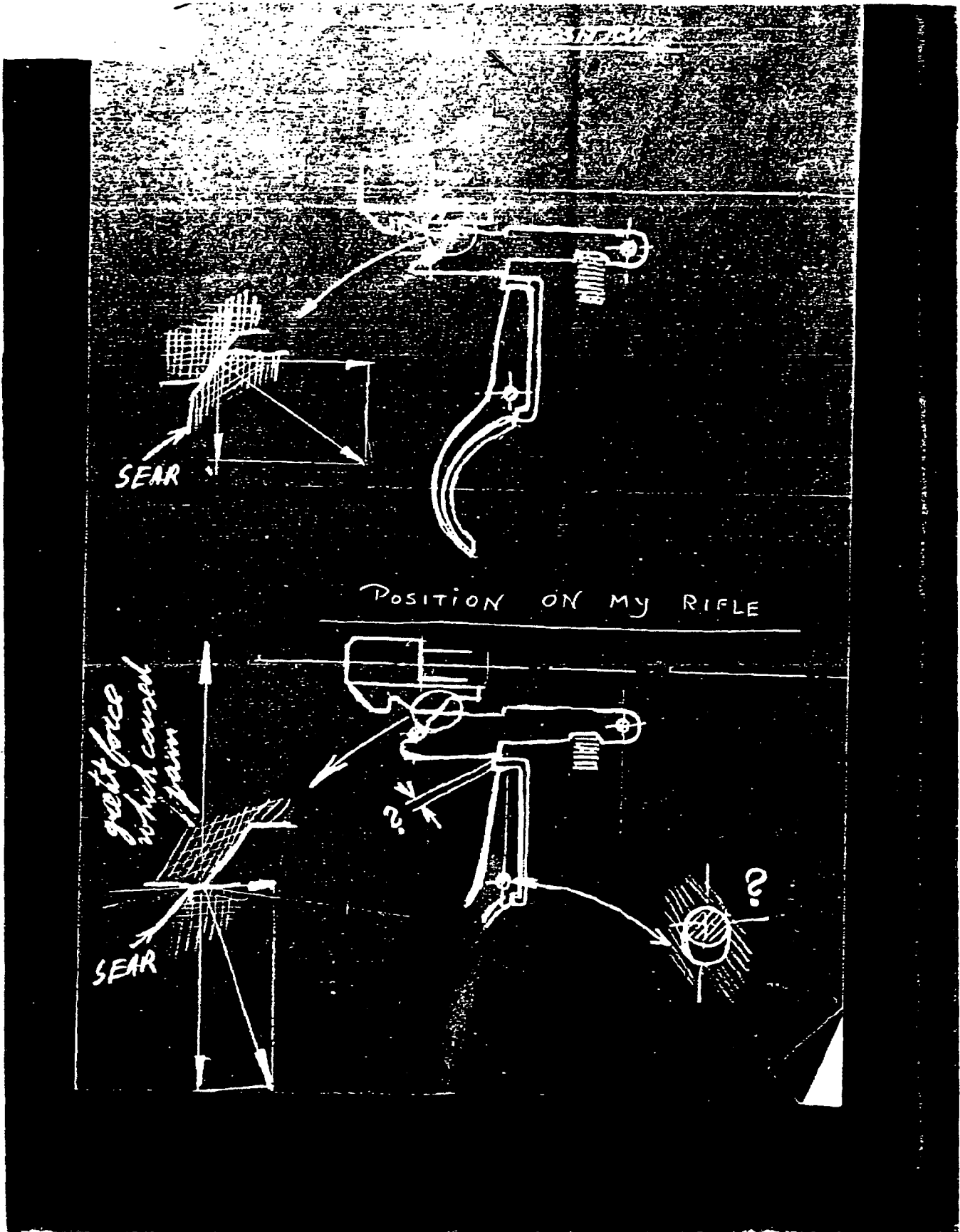
The problem of the firing pin hitting on the edge of the barrel has been previously observed and we believe that steps were taken to correct same. Because of the importance of proper firing pin protrusion, this pin is ground to the designated length when assembled to the bolt body and before the bolt head is assembled. The tolerances and dimensions are established to prevent the point of the firing pin extending beyond the face of the bolt. However, this provision was unintentionally "lost" when it was found that evidently some of the firing pins were being ground without being assembled completely in the proper position of the bolt body. In other words they were not screwed on all the way forward. Then when completely assembled with the bolt head and screwed all the way forward at final assembly there resulted possible interference with the barrel.

As far as we can determine all of these items have been taken care of by the Plant as related to current production.

S. M. Alvis, Manager
Ilion Research Division

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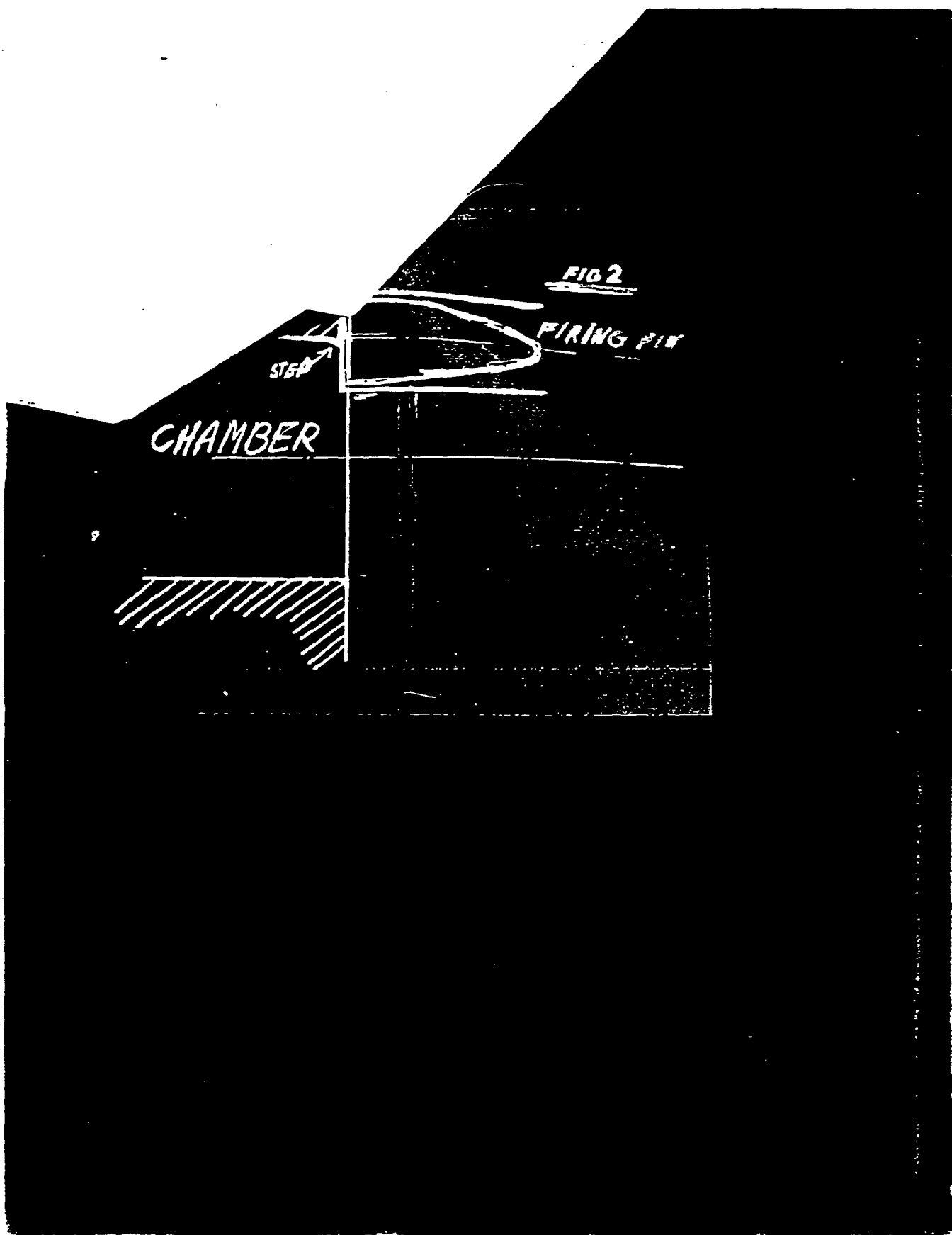


FIG 1

