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ILLION RESEARCH DIVISION

MONTHLY REPORT

APRIL 1956

SHOTGUNS

SPORTSMAN-58

12 Gage

A molded nylon Magazine Spring Stop has been designed which, together with a new retaining pin, will eliminate need for staking in assembly and also provide a better means for retaining the Magazine and Action Springs. A trial lot of samples has been received and a production quantity is anticipated early in May.

At request of Sales an improvement has been made and is being tested to the design of a fore end ring which will better retain the neoprene seal. If found satisfactory, cost estimates will be obtained.

Request has been made to the Plant for detail cost information on components and operations which should be reviewed for cost reduction.

16 & 20 Gages

Testing of guns assembled with the revised Breech Block assemblies has been favorable and drawings were released to the Plant in April in order to proceed with the processing and tool design.

TB and TC (Trap) Grades

Specifications have been prepared for those two grades as recommended by Sales; however, because of the indicated unfavorable economics for the TC Grade it appears that only the "TB" will be used.

-2-

SPORTSMAN X

The model designation for this proposed new autoloading shotgun has been changed from "Sportsman-50" to "Sportsman X". Work is proceeding on basis of completing the first mock-up model in August.

CENTER FIRE RIFLESMODEL 725

The sample of the proposed model has been reviewed with Sales and was generally accepted with exception of the safety. It has now been recommended by Sales that the present M/721 style of safety be redesigned and this work has been started. However, it is probable that this will involve a major change that will impose additional cost and delay completion of the design to extent that the new rifle would not be available for introduction in January of 1957. Recommendation has also been made that the development program be further simplified by bringing out the proposed Model 725 in a "regular" A-Grade together with an ADL Grade, replacing the Models 721 and 722. Specifications are being prepared for formal approval and the proposed new stock has been designed for use with either open sights or telescope. This would make it unnecessary to produce both high comb and low comb stocks. Except for the new safety the model should be ready for re-submitting to Sales within approximately one month. It will involve revisions to the rear sight leaf (for more rugged appearance), additional taper on the fore end, and relocation of the front sight ramp. In the meantime it is planned to release preliminary information to the Plant for estimating product cost.

-3-

MODEL 740 - CALIBER 308

The Plant reports having completed tooling for this new caliber and pilot parts should be ready for initial assembly during the first week in May.

MODEL 740 - CALIBER 244

The design for this caliber has been completed and rifles submitted to preliminary test firing. This appears to be satisfactory and more extended testing will be accomplished pending approval for completing the development in this caliber.

MODEL 760 - CALIBER 308

Design for this addition has been completed for several months but no action taken on tooling pending authorization for addition to the line. It will require a new Magazine Follower together with marking rolls for the Barrel. Two months' procurement time has been estimated in order to have parts for initial assembly and pilot testing.

MODEL 760 - CALIBER 222

One rifle has been built and submitted to design testing, and results appear very encouraging, especially from standpoint of inherent accuracy. In addition to the requirement of a new magazine filler piece, it also involves a change to the Bolt head and extractor in order to accommodate the smaller diameter cartridge.

RIM FIRE RIFLESMODEL 522

Design is essentially complete. Drawings have been turned over to Methods & Standards and P.E. & C. for the economics of this current design.

-4-

MODEL 552 Continued

The field grade model has been fired 16,000 rounds with the following results:

Breakages

Extractor spring at 10,000 rounds.

The bolt expanded at the hammer slot causing difficulty in dis-assembling the gun. Present heat treat calls for cyaniding.

It is believed that carborizing will correct this trouble.

It was necessary to adjust the trigger in fire control at 13,000 rounds due to elongation of the hammer and sear pin holes in the casting affecting the connector and sear engagement.

Function

Feeding problems experienced earlier in the test have been corrected.

Ejection on 22 cal. longs is the current problem and is being investigated.

The gallery version has been fired 11,000 rounds to date. There have been no breakages and function appears to be satisfactory.

MODEL 555

Molds for making the first nylon stocks are still expected to be available during the first part of September. Because of the shrinkage characteristics of this material it has been necessary to hold up on final dimensions of the interior metal parts until the stock and receiver forms are molded. Dimensions would then be changed as required to accommodate these factors. The design has been maintained in such a manner that this shrinkage is not expected to effect any of the dimensions of the metal component parts which might effect functioning. Effort is being made to meet with consultants regarding

-5-

MODEL 555 Continued

selection of colors, after which Sales Department indicates readiness to try and resolve these specifications. If standard colors are acceptable there will be no procurement problem; however, if special shades are required this will necessitate several additional months for formulation of the molding powders.

MODEL 524 BOLT ACTION RIFLE

Research work to date in connection with this rifle has been accomplished by the Plant. Two models were built for evaluation, one of which was shipped to the field. Some revisions have been made as requested by Sales; however, it is now understood that the economics do not appear favorable with the proposed selling price, and this is to be further reviewed.

S. N. Alvis

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