

REMINGTON ARMS CO INC
TECHNICAL DEPARTMENT

#2040

JUL 15 1981

JUL 13 1982

JUL 12 1983

THIS BOOK MICROFILMED
AS COMPLETE
MAKE NO ADDITIONAL ENTRIES

JUL 23 1987

*Bolt Action Rifles
Misc. Design Projects*

Issued to *Fred E. Martin*

on *April 7, 1977*

To be returned on request.

BREWER-BORG CORP.
NO. 81335
PRINTED IN U. S. A.

RULES FOR RECORDING EXPERIMENTS

1. Original records are to be in ink.
2. Each notebook page whereon there is recorded a completed experiment should be signed and dated by the experimenter in the space provided.
3. Each notebook page containing a completed experiment should be read and signed by a witness who will place his signature and the date in the space provided. The witness is to be one who understands the purpose of the experiment and the result obtained but who is not likely to be the inventor or a co-inventor. The witness should sign on the same day as the experimenter, or, if this is impossible, as soon thereafter as feasible.
4. Where entries on a single experiment do not completely fill a page, the remainder of the blank page should be ruled out. Where the record of the experiment extends over several pages which are not consecutive, proper cross-references should be inserted.
5. The bound notebook is to be preserved intact. In no case should any page or part of a page be removed.
6. No erasures are to occur in the record. Any corrections or changes should be made by cancellation, leaving the original entry legible.
7. The same rules as to signing, dating and witnessing are to be followed when the original data are recorded on loose sheets or forms other than the standard bound notebook.

SUBJECT FOR INDEXING THIS BOOK
MUST BE GIVEN BELOW

M-700 Fire Control Design Page 1 -

M-700 Bolt Lock Page 3 - 6

M-700 - M-7 Scope Mounts Page 20

M-700 Rear Light - Page 10

DATE

11 JAN 1980

1

SUBJECT OF EXP'T.

M-700 FIRE CONTROL DESIGN

As of this date the first model of the "new style" M-700 fire control has been assembled. The design requirements of this fire control to incorporate the following:
a trigger block & rear block,
a bolt-lock & have an interceptor,
^{EXTERNALLY} be adjustable & operate in both
the fired and unfired condition -

have not all been met. Possibly in subsequent models.

This Model has a separate bolt lock and does not block the trigger in the on safe position.

The rear can be blocked in both positions by putting the safety on.

This is done by a finger of the safety engaging one of two notches in the side of the rear (See Next Page).

EXPERIMENTER

DATE

WITNESS

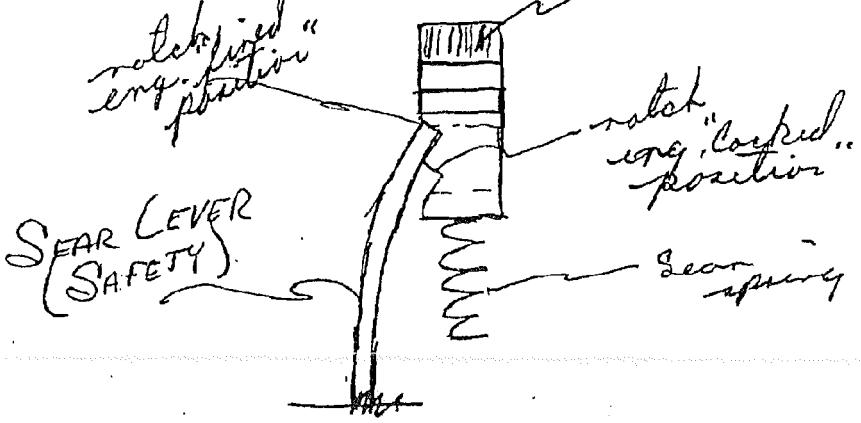
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2

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SUBJECT OF EXPT.

M 700 F.C. Design Seer



The sketch shows the sear in the fixed condition and the safety lever engaged as the bolt is opened and drawn rearward the sear spring forces the sear upward the safety lever springs outward and then returns to the lower notch. With this done the sear has been effectively blocked in two conditions.

EXPERIMENTER
WITNESS

F.E. Martin
Jack East

DATE
DATE

4-8-80
4/9/80

DATE

4-9-80

3

SUBJECT OF EXPT.

M-200 Bolt Lock

A method of allowing the shooter to open the bolt of his rifle while in a safe condition has been developed. The mechanism consist of a bolt plug, a lever, a plunger and plunger spring. The bolt body is altered to allow the lever to lock into it. The lever is actuated by the firing pin head.

- #1 - As the bolt is closed the spring loaded lever is urged to a locked position and engages a notch cut in the rear of the bolt body.
- #2 - To open this weapon the lever is pushed down with the thumb and the bolt handle shifted with the index finger.
- #3 - If the rifle is fired the firing pin head come the lever upward automatically unlocks the gun.
- #4 - As the bolt is open and then closed the firing pin head is retracted and the lever allowed to re lock bolt.

The three photos shown on the next page will show the operation of the bolt lock and its location relative to the safety lever.

Photo #1 - The bolt is closed with the safety in the "On - Safe" position and the bolt is locked.

EXPERIMENTER

WITNESS

Fred E. Martin
Jack East

DATE

4-10-80

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4-11-80

2

4

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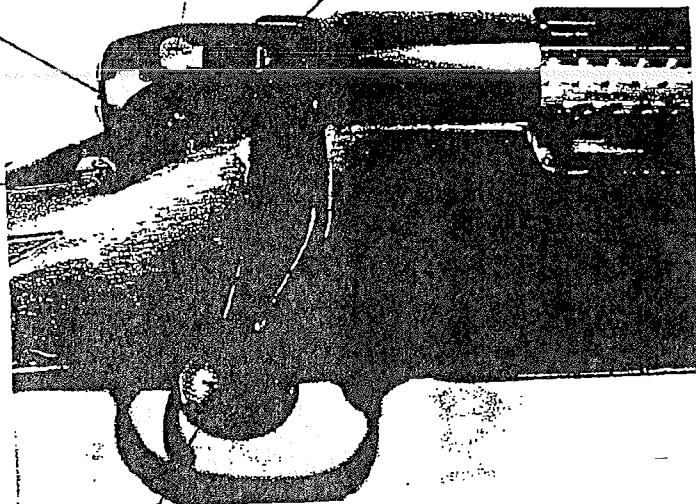
4-9-80

SUBJECT OF EXPT. M-700 Bolt Lock

PHOTO #1

FIRING PIN
HEAD

BOLT LOCK

LOCKING
NOTCHSAFETY
LEVER

BOLT HANDLE

PHOTO #2

The gun is in the same condition as in the previous photo, safety lever in "On-Safe" position, the bolt lock lever has been depressed with the thumb and the bolt handle raised to illustrate the method of opening.

EXPERIMENTER

Fred E. Martin
Paul Kast

DATE

4-10-80

DATE

4-12-80

WITNESS

DATE 4-9-80

SUBJECT OF EXPT. M-200 Bolt Lock

PHOTO #2

FIRING PIN
HEADBOLT
LOCKBOLT
HANDLE
RAISED

SAFETY LEVER

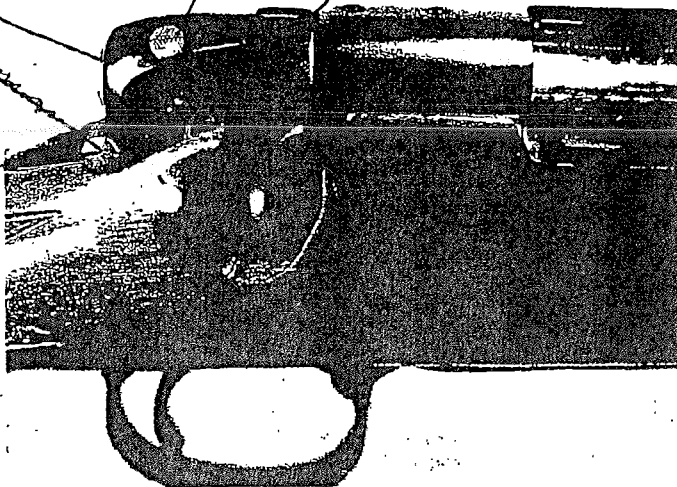
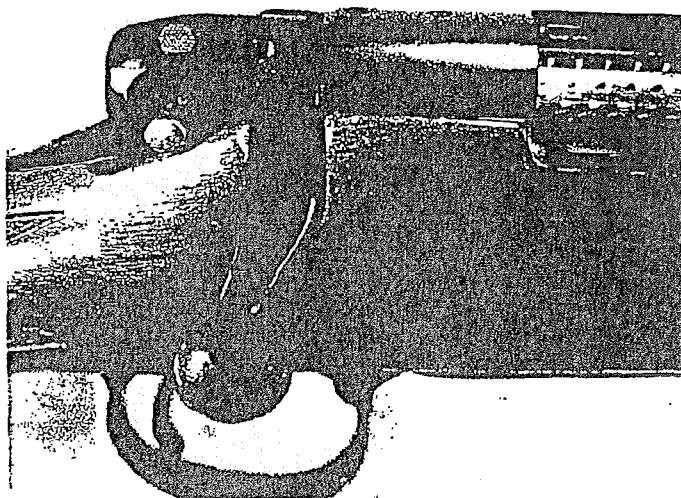


PHOTO #3



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WITNESS

2

6

DATE

4-9-80

SUBJECT OF EXPT.

M-700 Bolt Lock

Photo #3

This photo shows the gun in the
fired condition, firing pin down
bolt unlocked. Bolt ready to be
opened.

Work on the development and production of
this subject continues both to improve
operation and appearance. Work is being
done to also reduce cost.

EXPERIMENTER

WITNESS

Pred E. Marti
Jack East

DATE

4-10-80

DATE

4-11-80

DATE

SUBJECT OF EXPT.

*plank pages**from
7 - 20*

EXPERIMENTER

DATE

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8

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SUBJECT OF EXPT.

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SUBJECT OF EXP'T.

EXPERIMENTER

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10

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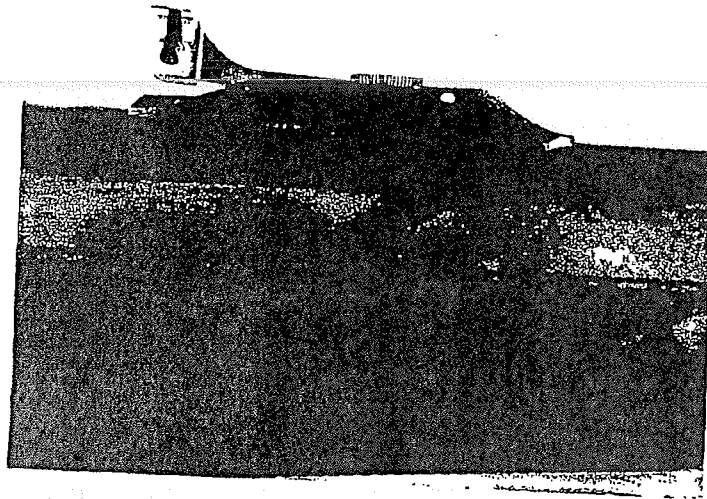
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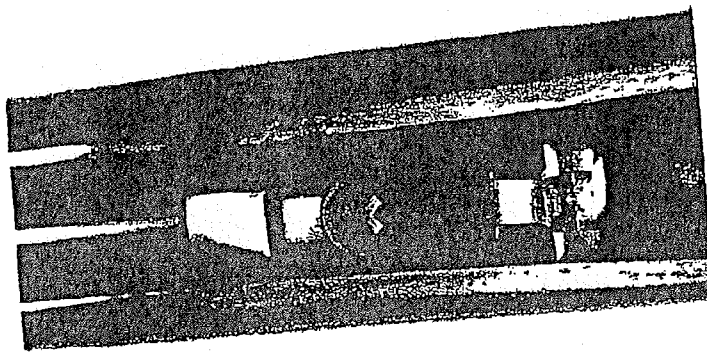
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KINZER V. REMINGTON

R2507420



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R2507421

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SUBJECT OF EXPT.

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KINZER V. REMINGTON

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SUBJECT OF EXP'T.

EXPERIMENTER
WITNESS

DATE
DATE

20
DATE March 18, 81
SUBJECT OF EXPT. Scope Mounts

Have been asked by F.S. Martin to look at
designing scope mount for M-7 & M-700
Bolt Action Rifle - Mount to be "UNIQUE"
to Remington Rifle - May be of "Integral"
Concept - Cheap - Pleasant in appearance -
Will look at previous attempts and evaluate
Butler did some for Tirdle -
Gargo did some for Walker - (way back) -
First layout has been done and signed
by S.A. Fanelle and A.R. Edley picture
of mount in below.

See Top of Next Page
For Photo

EXPERIMENTER
WITNESS

Fred E. Martin
A.R. Edley

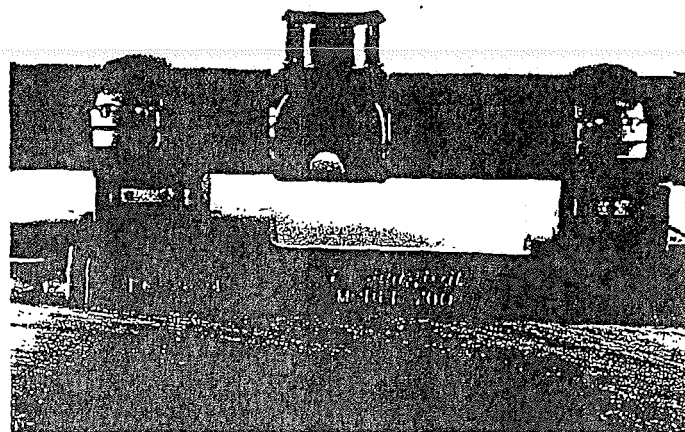
DATE
DATE

3-18-81
8/16/82

DATE March 18, 81.
SUBJECT OF EXPT. Scope Mount

Proto type #1 used a dovetail cut in receiver to receive a mating cut in the scope ring.

Recoil
Bracket



thumb
wheel

Rings were then locked in place by a jam-screw that was activated by the thumb-wheels that are visible.

Forward motion was stopped by the front scope mount hitting the rear of the recoil bracket.

Both rings functioned the same - rear ring was higher by difference in rec. ring height.

Jam screw was keyed in lower half of ring to keep it from turning when tightening.

No shooting done on this sample.

EXPERIMENTER
WITNESS

Fred E. Martin
O.R. Emy

DATE

3-18-81

DATE

8/16/82

22

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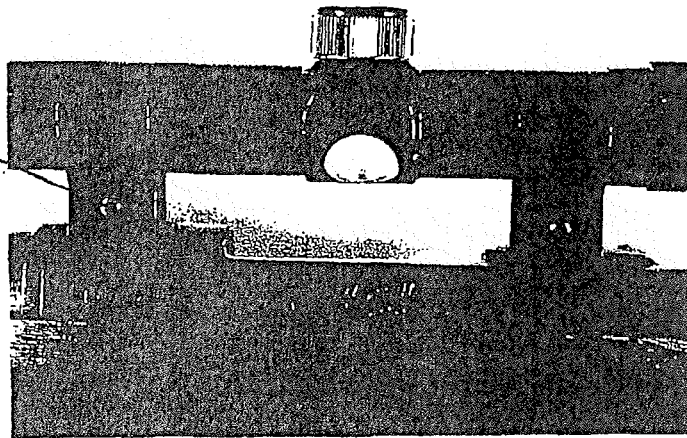
July 10, 81

SUBJECT OF EXP'T.

Scope Mounts

Sample #2 is in keeping with the request to be made cheap ^{and} I mean "cost efficient". It has been designed as a stamping to be attached to a dovetail as in Sample #1, it uses one screw to clamp and also hold the scope.

Lock Screw



This sample as sample #1 is of two different heights and would be stopped by the recoil bracket.

Parts are 1020 or 1095 Mat'l. spring tempered, to insure a good grip. Large diameter that wraps around scope tube is slightly smaller than tube to insure interference and a good grip.

No starting done with this sample.

EXPERIMENTER

Fred E. Martin

DATE

7-10-81

WITNESS

A. L. Eddy

DATE

8/16/81

DATE

SUBJECT OF EXPT.

July 16, 81

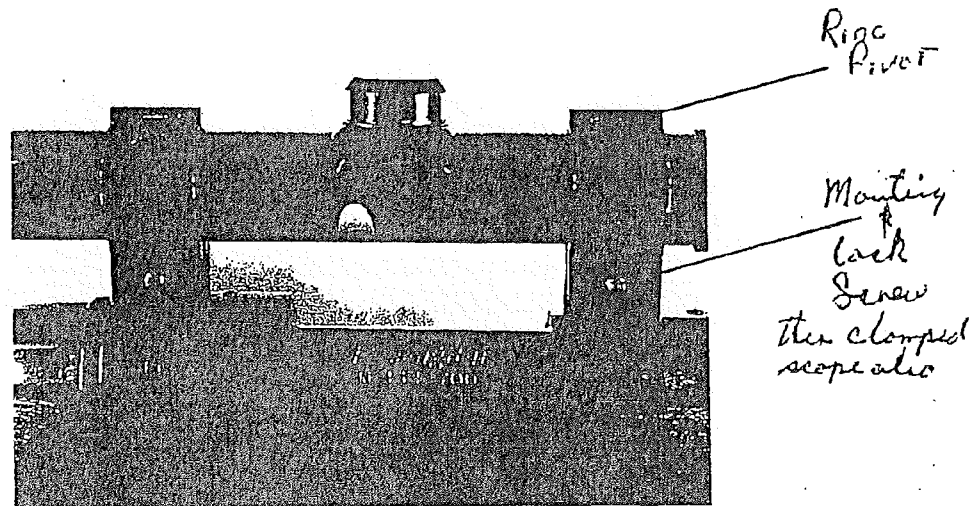
Scope Mounts - again

23

Sample #3 is a variation of #2 hopefully it is a little easier to mount and assemble.

This Mount was also designed as a stamping to be heat treated and mounted on a dove-tail cut in the receiver.

Picture to explain - One screw Mounting and clamping.



As with other samples mounting was some

No shooting yet.

Maybe some day.

EXPERIMENTER

Fred E. Martin

DATE

7-10-81

WITNESS

C.R. Eddy

DATE

8/16/82

24

DATE

July 31, 81

SUBJECT OF EXP'T.

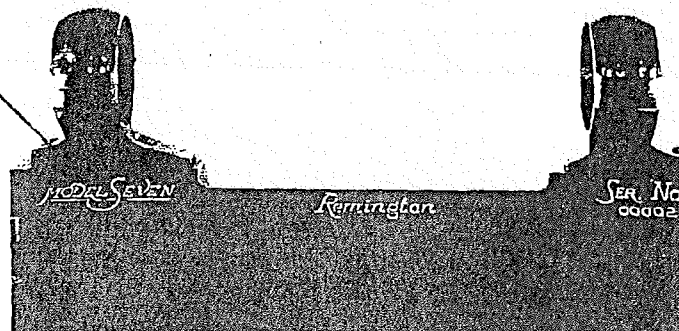
Scope Mounts -- and again

This sample is a variation of a mount system that D. Balles developed for the M-200 Bolt Action Rifle.

It does not use a mounting block instead it ~~sees~~^{uses} directly to the receiver.

In mounting like this ^{7.14} ~~sample~~ complete disassembly is made when removing the mounts

Mounting
Screws
each
ring



EXPERIMENTER

Fred E. Martin

DATE

7-31-81

WITNESS

G.R. Edley

DATE

8/16/82

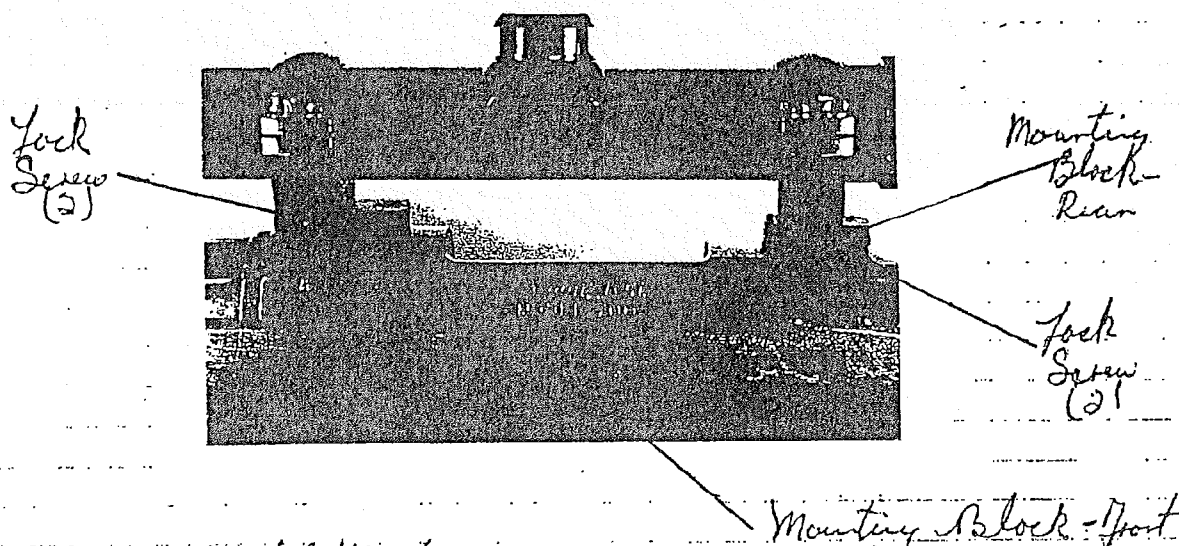
DATE

Aug 21, 81

SUBJECT OF EXPT.

Again Scope Mounts

This mount is similar to those marketed by Weaver and Tasco it uses a separate block to mount the ring and scope to the rifle. The sample shown does not have to be completely disassembled to remove from the rifle. It is shown as having two ring heights but could also be made use one ring height and two different block heights. Blocks are screw directly to receiver.



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DATE

8-21-81

WITNESS

C. R. Eddy

DATE

8/16/82

26

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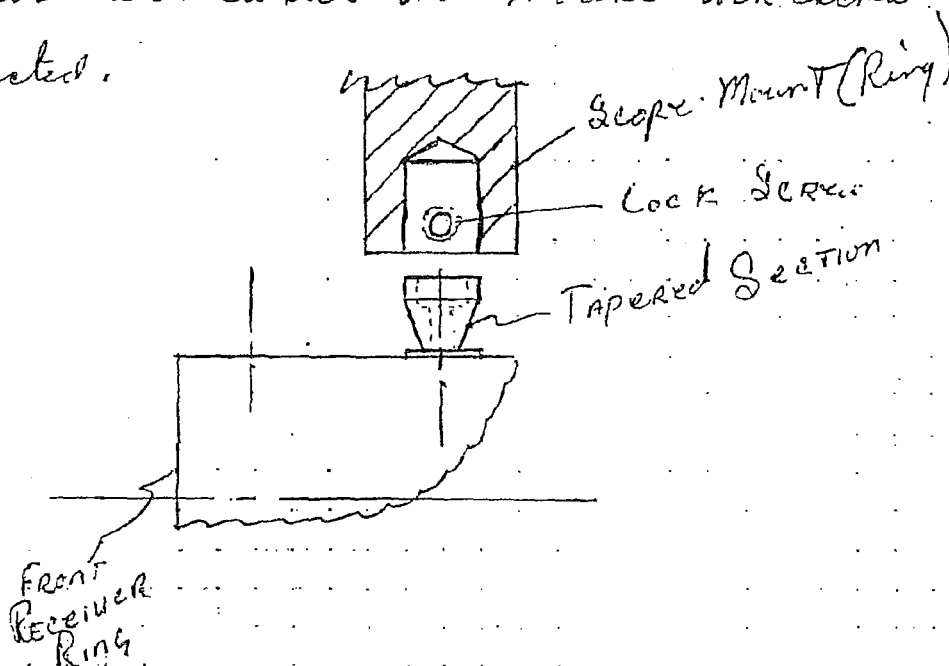
Aug 21, 81

SUBJECT OF EXPT.

Scope Mount (Continued)

A scope mount system that uses a mounting bushing instead of a mounting block was developed for use on the M-700 Bolt Action Rifle.

The bushing was formed with a tapered section with which the mount lock screw contacted.



Bushing was countersunk for mounting screw and could be mounted in any of the four scope screw holes on the receiver

to facilitate the use of a variety of scopes

EXPERIMENTER

Fred E. Martin

DATE

8-21-81

WITNESS:

G. R. Eddy

DATE

8/24/81

26

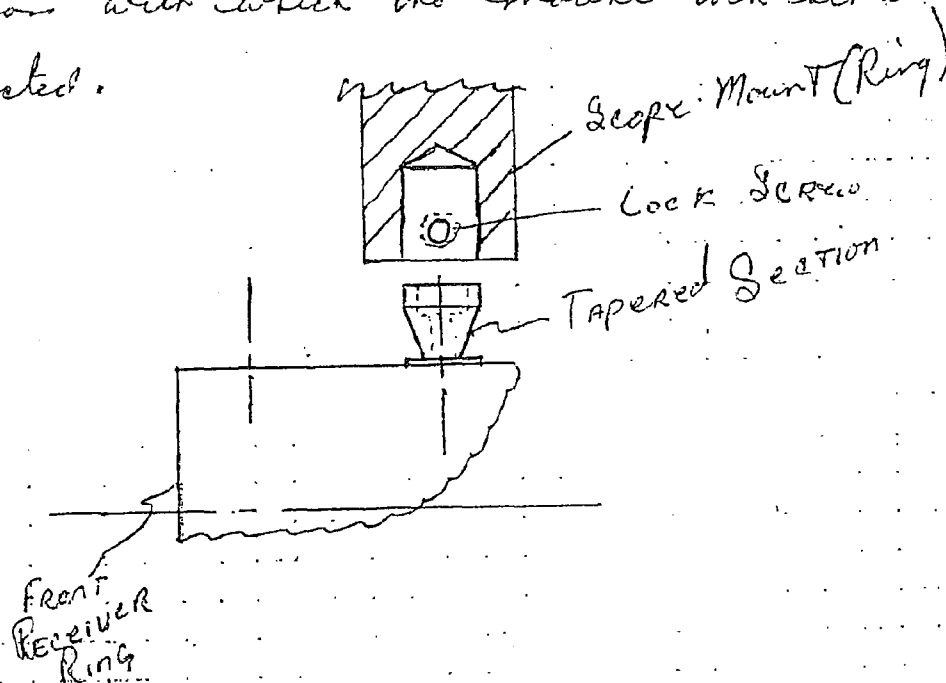
DATE

SUBJECT OF EXPT.

Aug 21, 81
Scope Mount (Continued)

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EXPERIMENTER

WITNESS

Fred E. Martin
C. R. Eddy

DATE

DATE

8-21-81

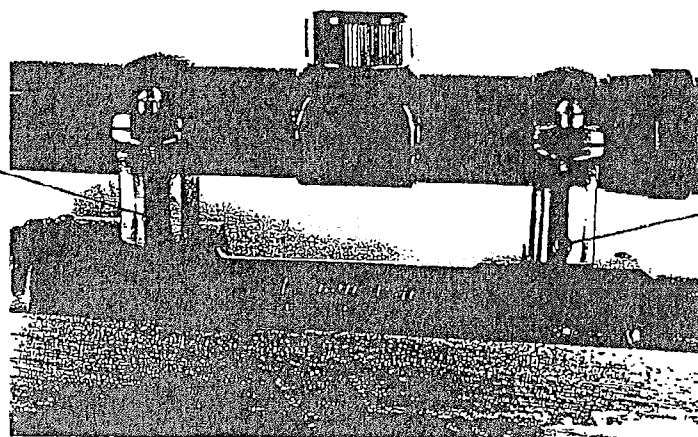
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SUBJECT OF EXPT.

Aug. 21, 81 Scope Mounts (Continued)

The bottom of the Scope Ring had been drilled and reamed for a slip fit over the bushing. If the individual using the rifle wished he could remove the scope by loosening the lock screws and still be able to use the iron sights without interference. Photo has the Scope mounted and locked in to position. As shown bushings can be moved for different scopes.

Lock
ScrewLock
Screw
EACH Side
of Mount

EXPERIMENTER

Fred E. Martin

DATE

8-21-81

WITNESS

C.R. Eddy

DATE

8/16/82

28
DATE

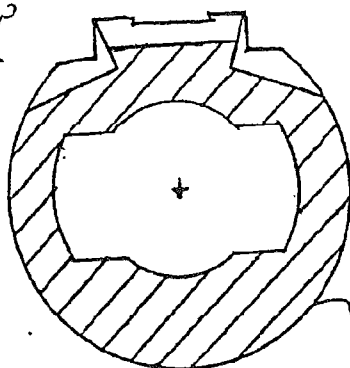
SUBJECT OF EXPT.

Jan 13, 1982
Integral Scope Mounts for M-7

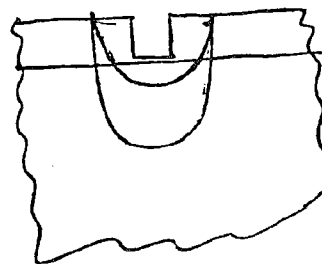
This scope mount was intended and designed to be unique for Remington Bolt Action Rifle. By this I mean the mounting of a scope using these rings could only be done on a Remington Rifle.

There are normally three components necessary to mount a scope to a rifle. First the scope around the rings and thirdly the base. By making the base as part of the receiver we can eliminate the base and use a ring of our design. This system that we have here is series of cuts on the top of the M-700 Receiver

Cuts in Top
of Receiver



Slot to take
Recoil



M-700 Receiver
cross-section

The scope ring designed for use with this system has to clamp to engage the angular recesses in the receiver and a lug to engage the slot.

EXPERIMENTER
WITNESS

Fred E. Martini
G.R. Eddy

DATE
DATE

1-13-82
8/16/82

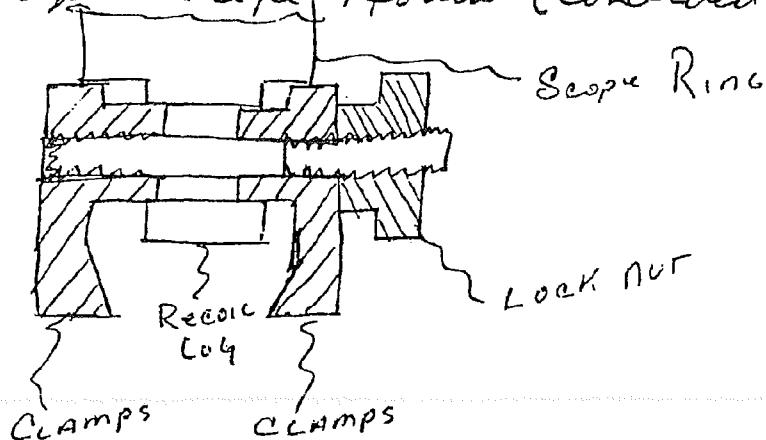
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Jan 13, 1982

SUBJECT OF EXPT.

Integral Scope Mounts (Continued)

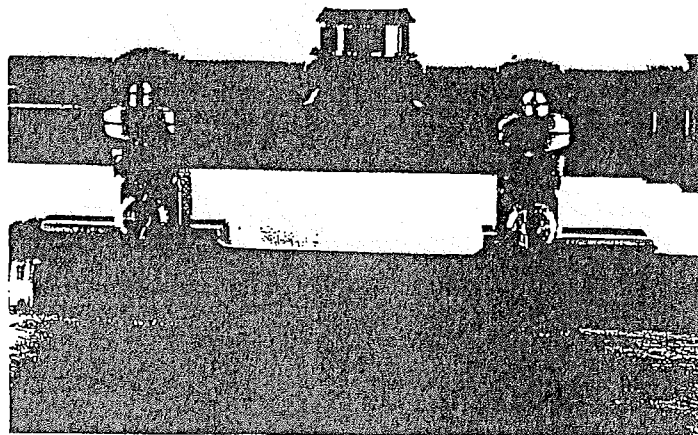
29



A variation of this system would be to have only one moveable clamp.

The picture shows the system mounted on a Remington Bolt Action Rifle.

An advantage of this system is that should the individual wish to remove the scope he can and this replace. no change occupy easily he can it with in sight

EXPERIMENTER
WITNESSFred E. Martin
C.R. EneyDATE
DATE1-13-82
5/16/82