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**Humane quick kill animal traps.**  
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L.O. ....

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NATIONAL RESEARCH COUNCIL  
DIVISION OF MECHANICAL ENGINEERING  
OTTAWA, CANADA  
LABORATORY MEMORANDUM

NO. NRC-ENG-45

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SECURITY CLASSIFICATION .....

SUBJECT HUMANE QUICK KILL ANIMAL TRAPS

PREPARED BY Leonard Percival

ISSUED TO

THIS MEMORANDUM IS ISSUED TO FURNISH INFORMATION  
IN ADVANCE OF A REPORT. IT IS PRELIMINARY IN CHARACTER,  
HAS NOT RECEIVED THE CAREFUL EDITING OF A REPORT, AND  
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### Summary

Trappers who harvest wild animals as a means of livelihood have used traps that have not changed their designs for a long time. They are neither of maximum efficiency nor are they able to kill the animal humanely nor quickly.

We have endeavoured to produce a better quick kill mammal trap and have taken into consideration the need of simplicity, compactness and low cost.

### Introduction

We have taken six (6) things into consideration in designing our traps.

1. That a trapper has to carry all his equipment either on his back or be pulled by dog team. (Compact)
2. They must be of simple design that they can be easily concealed and set. (Simplicity)
3. Must be inexpensive and easily repaired by the trapper himself. (Economical)
4. When manufactured in different sizes to suit large or small animals the larger traps must be just as efficient as the smaller type. (Efficient)
5. A simple adjustment that can be incorporated into a trap either to load or unload spring tension is necessary so that animals of comparable sizes, but where greater force is required to trap one than the other they can be instantly and humanely killed. (Humane and adjustable)

In designing a trap we secured a lot of helpful information about animals from the Kemptville Lands and Forests representative Mr. Bruce Turner. He informed us that the most vulnerable spot in any animal was the neck area. Through extensive examination of animals it was learned that death comes quickly when a sharp blow is administered in this region. It was also understood that precautions had to be taken that the skin must not be marked or damaged at all during the releasing of the trap thus spoiling the fur for marketing and killing needlessly. Therefore a trap had to be designed that would meet these requirements.

### The Trap Design

In researching into steels, it was found a round rod could be easily adapted for the main framework of the trap because of its strength, smoothness (thus eliminating any danger of sharp edges damaging the pelt) and ease of forming by the manufacturer.

On concentrating on designs we found that a round shape blends itself to the natural surrounding, is easily hidden from view and quickly camouflaged. It was also noted that there were times a square design might be useful so allowances were made for this.

Our next problem was to incorporate a compact spring powerful enough to administer a death blow, yet small enough so as not to make the trap bulky, cause failure, freeze in winter nor clog with dirt, sticks and stones in summer or fall seasons. A close wound coil spring was adapted and used.

The trapper was also considered so that he with limited tools could easily repair the trap himself. All he would have to do is remove the cotter pin, pull out the central pivot, replace the spring, assemble the two rings together, slide the pivot back through the end and central hole, then if the cotter pin is lost or broken all he has to do is replace it with a piece of wire or a nail.

On the prototype, legs were added to which a safety chain was attached, figure 1, but after visiting the Ontario Trappers Convention in North Bay, February 15 and 16, 1965, it was suggested that the legs and chain be discarded and rings used instead. This would increase its usefulness, reduce cost and bulkiness. These rings would pass through the axis and be incorporated into one piece with the axle. This would allow for placing the trap in many positions and greatly add to its usefulness. See Figure 2.

Alternate Spring Tension Adjustment

We have added one alternate feature to our traps that is unique and this is a spring tension adjustment. It has been found that it takes a stronger blow to kill a mink than a muskrat. Both these animals are of comparable sizes and can be caught in the same trap. Rather than make two traps of the same size with a stronger spring tension in one and not the other, an adjustment to compensate for desired spring tensions was designed.

All that is required of the operator is to remove the cotter pins, a partial withdrawal of the spindles from the hexagon holes advancing or retarding the spindles to desired spring tensions. inserting spindles back through the hexagon holes then locking spindles into place by means of the cotter pins.

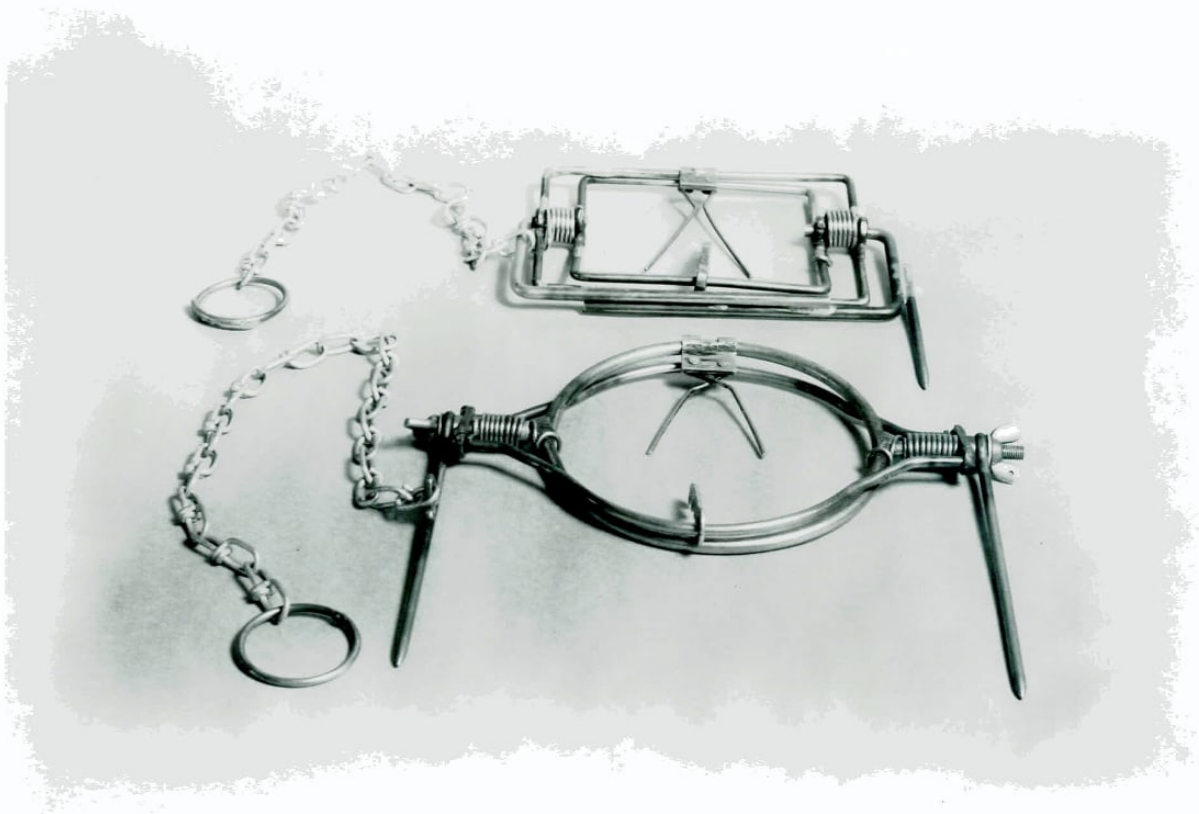


FIGURE . 1.

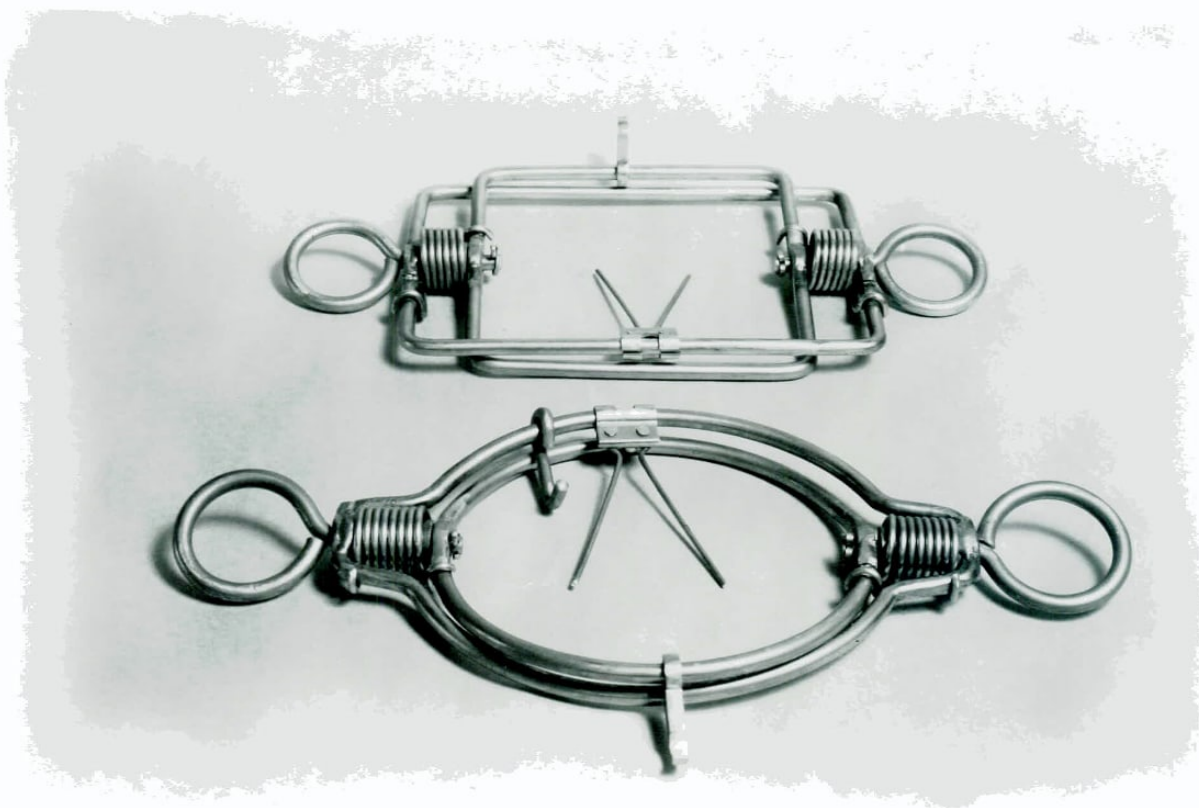
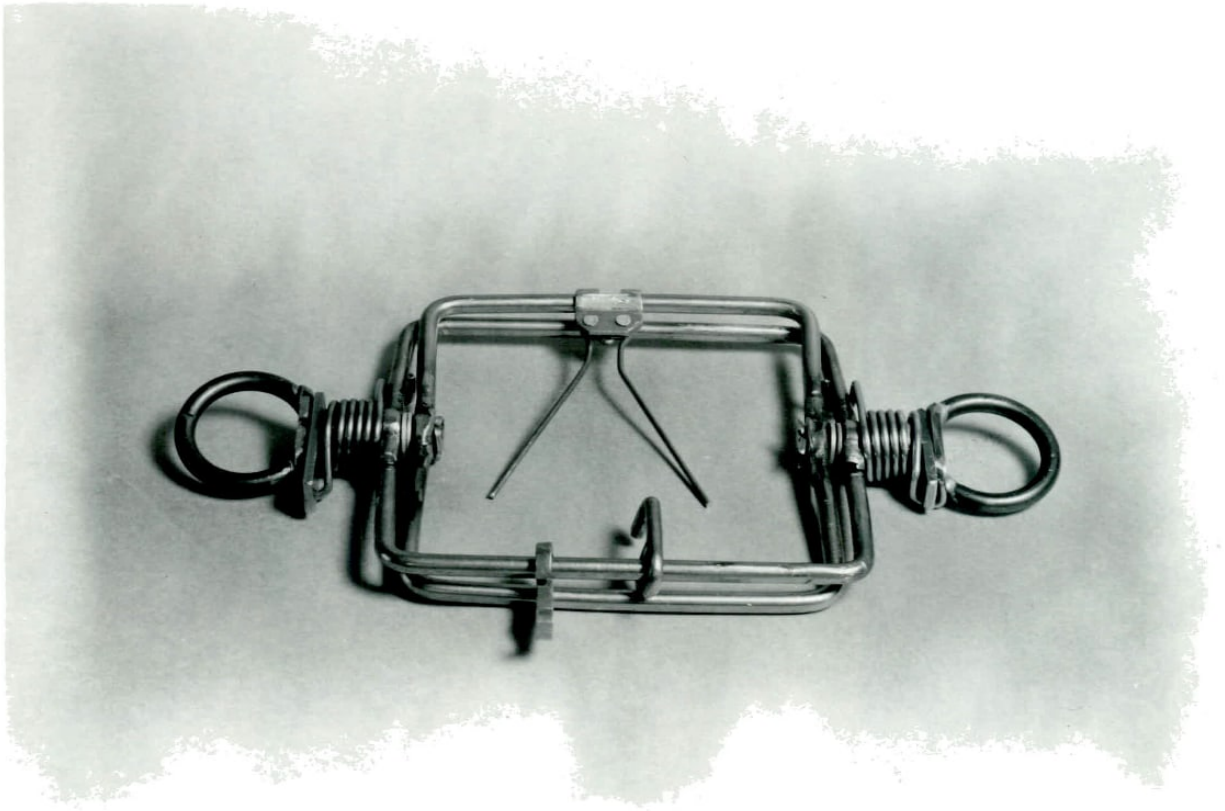


FIGURE . 2.



**FIGURE. 3 .**