check the operations of a magician, presumably—from the context—a finder of water by means of a divining rod. As was to be expected, the so-called magic was found to yield no results of value. The section is reported to be on the lookout for further tests of this sort in order to clear away superstition and increase real knowledge. This raises the question of the duty of scientific organizations when they encounter superstitious beliefs in their special fields. Should they sit back and do nothing, on the theory that a superstitious man is immune to reason and that attempts to argue him out of his superstition are pure waste of energy, or should every opportunity be sought not only to diffuse knowledge but also to combat superstition?

Two difficulties are more than once referred to that are familiar enough to geophysicists on this side of the Atlantic also. One is the difficulty in getting money for geophysical work; the other is the unwillingness of organizations engaged in commercial geophysical work to make their results public in order that general scientific knowledge may be advanced thereby.

The above are samples of the nuggets that may be found even by a hasty perusal of what at first glance would seem to be an exceedingly dry routine report.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

A HOLDER FOR CHICKENS AND OTHER BIRDS

IN an effort to find a practical means for holding chickens without the aid of an assistant a board was designed which can be used for confining fowls

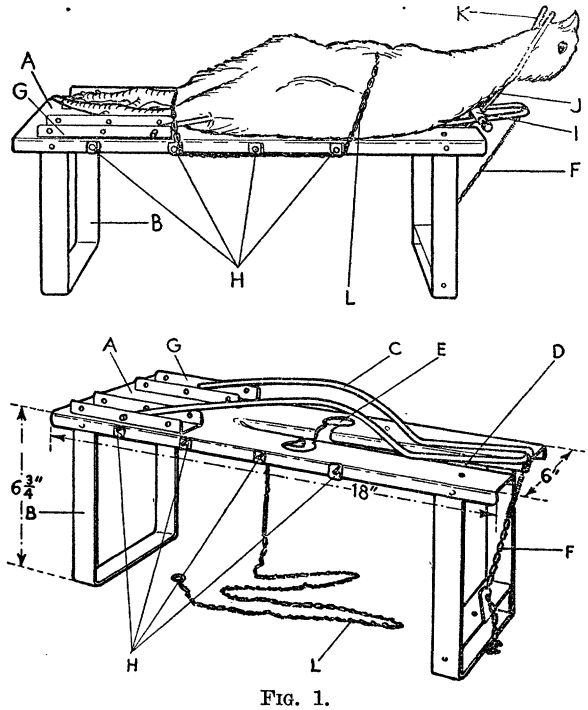

FIG. 1.

quickly and firmly in either ventral, dorsal or lateral positions.

This board (Fig. 1) consists of a sheet of metal supported on legs to form a low table and a loop of metal, curved to conform somewhat to the shape

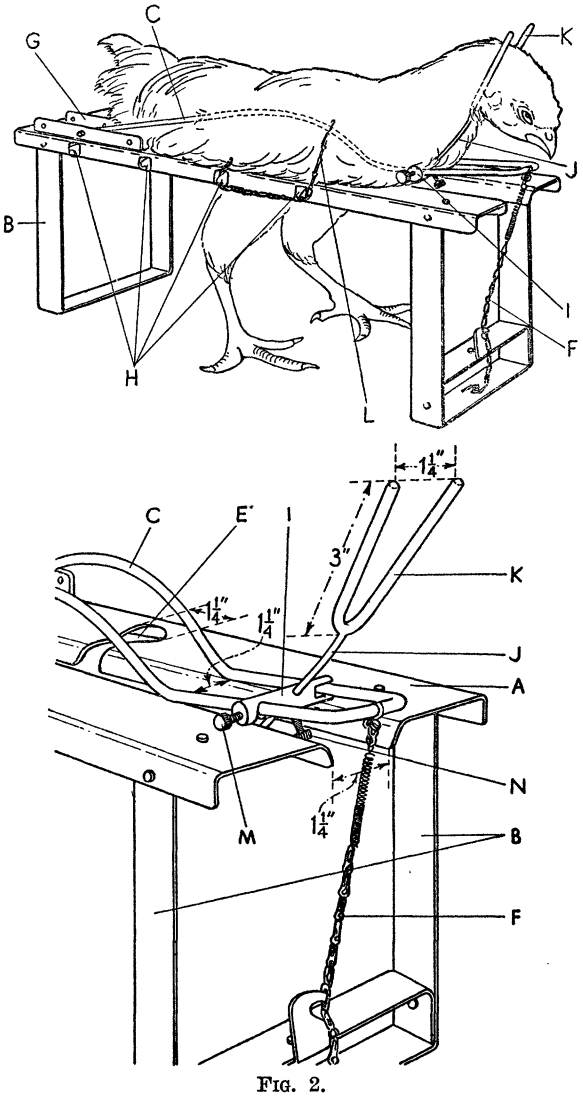

FIG. 2.

of the chicken's body, hinged to one end (C). A long notch (D), 1¼″ across, cut lengthwise in the board with two circular perforations (E) located on either side and joined to it, provides a place for the legs and sternum when the chicken is in the ventral position, and for the vertebral column and ilium when in the dorsal position. The loop (C), which can be attached at various points (G) depending on the size of the chicken, fits over the body in either the dorsal or ventral position and holds it firmly against the board. It is fastened with the chain and spring (F). Another chain (L) holds the legs when a chicken is fixed in the dorsal position and may be used with the loop or alone for fastening the body to the board. It is particularly useful for restraining a chicken in either the dorsal or lateral position with the wings through the notch (D).

A detachable head holder (Fig. 2) in the form of a fork set at an angle of approximately 45 degrees to the parallel bars of the loop (C) may be easily adjusted by the set screws (M and N). By using this the head may be either raised well above the body or extended horizontally.

The board is especially useful for bleeding chickens from the carotid and wing vein. It can be used for operations, photography and for a variety of other laboratory procedures. It can be made by any worker in sheet metal, is easily sterilized and has few parts to get out of order. A larger size can be used for geese and turkeys.

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FREEZING TECHNIQUE FOR THE HISTOLOGICAL STUDY OF PIGMENTS IN AMPHIBIAN INTEGUMENT

IN a problem which is now in progress on pigmentation in Triturus it became necessary to make histological preparations. It was found that when the usual procedure of fixing, embedding and sectioning of tissue was pursued, the yellow and red pigment disappeared. This pigment, it was found, is very soluble in strong alcohols, cedar oil, aniline oil, xylol and strong formalin solutions. The frozen method of sectioning was then attempted. Trouble was encountered here. The skin is very thin and unless cut fairly thick (30 to 40 microns) would roll and wrinkle to such an extent during the process of washing and staining that the section would be made useless. This was remedied by placing the tissue in a weak solution of formalin for a half an hour to an hour. Too strong a solution of, or too long a time in formalin would cause the pigment to be dissolved. But a half hour in 10 per cent. formalin was sufficient and gave the desired rigidity to the tissue.

Other disturbing factors were that, first, when making sections in warm weather, the blade would melt the frozen block while cutting the tissue; and secondly, it was difficult to get the tissue off the blade before it melted. There was always great danger of damaging the tissue when taking it from the blade in the melted condition. These disturbing factors were remedied by our "ice dam."

The entire procedure for sectioning and staining is given below:

Place the fresh tissue in a 10 per cent. solution of formalin for half an hour to an hour.

Wash the tissue in water for an hour after taking it from formalin. Then place in a concentrated solution of dextrin for three to twelve hours.

Build on the microtome an "ice dam" of paraffin. This ice dam is made by warming some paraffin and shaping it into a long three-sided block. Place the base of the block on the blade and let the block extend almost the length of the blade. Curve the ends of the paraffin block over the edges of the upper portion of the blade in order that the dam may not slip. Make the dam high enough for the water from the melting ice to flow over the back of the knife. A few drops of dextrin solution on the inner edge will prevent water from running under the dam. Place small blocks of ice in the dam. Keep the cutting edge of the knife as dry as possible by continually blotting off the water of condensation.

To freeze the tissue: Place drops of concentrated dextrin solution on the freezing block of the microtome and open the valve very gradually to let the drops freeze slowly. Then place the tissue on the frozen drops and add dextrin slowly until the tissue is finally surrounded by a small block of sugar solution. The very best results are obtained when the valve is opened slightly. Not only is carbon dioxide wasted when the valve is opened so that a heavy blow of gas is obtained, but there is also the possibility of the tissue freezing too hard.

To obtain the maximum efficiency from the carbon dioxide, place the tank with the nozzle end at the level of the microtome and the base of the tank at least a foot higher than the nozzle level.

As soon as the tissue is frozen, begin sectioning. Hold the handle firmly in the right hand and pull the