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A NEW FORESTRY-HOSE FOLDER

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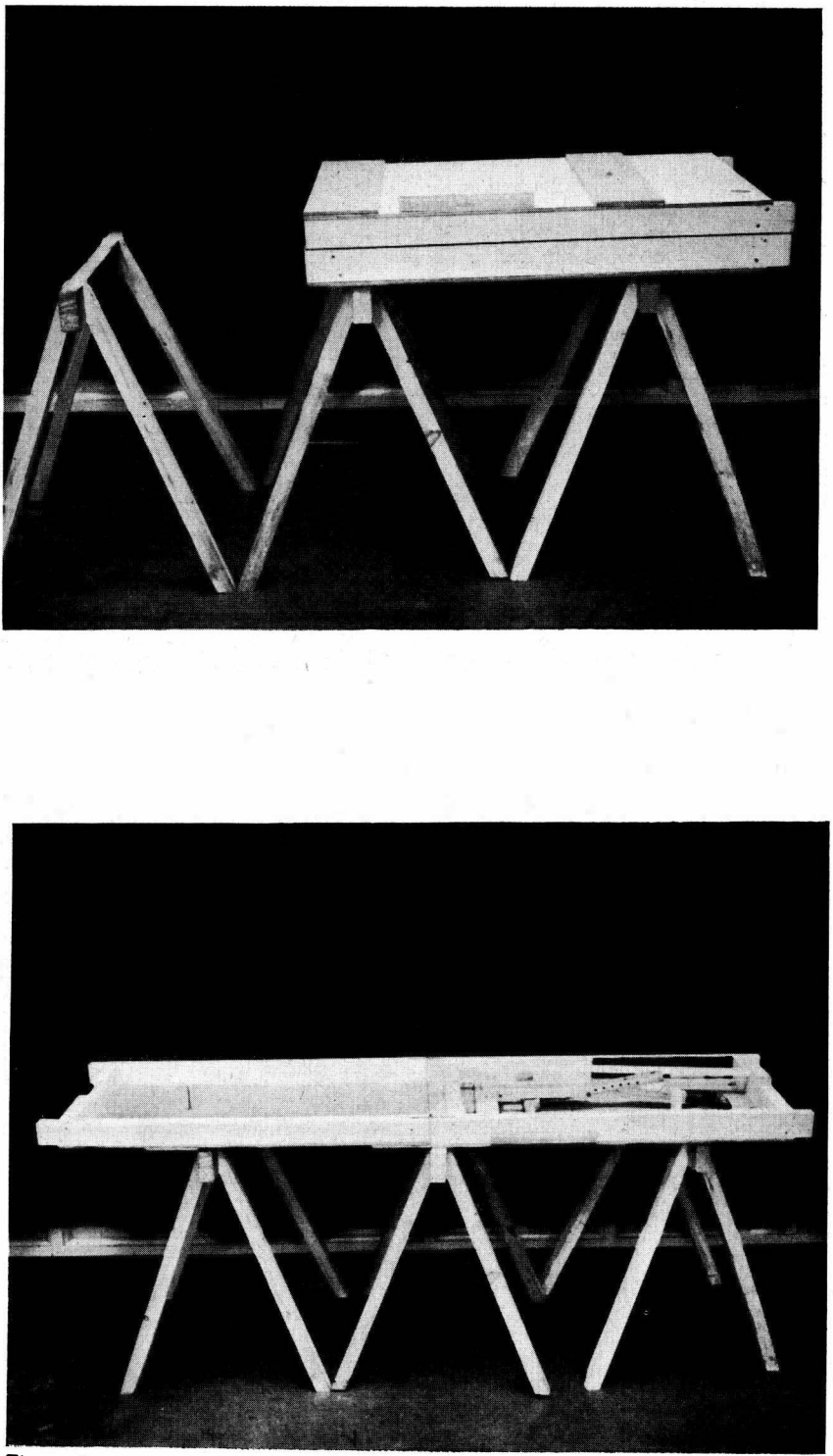

Figure. I

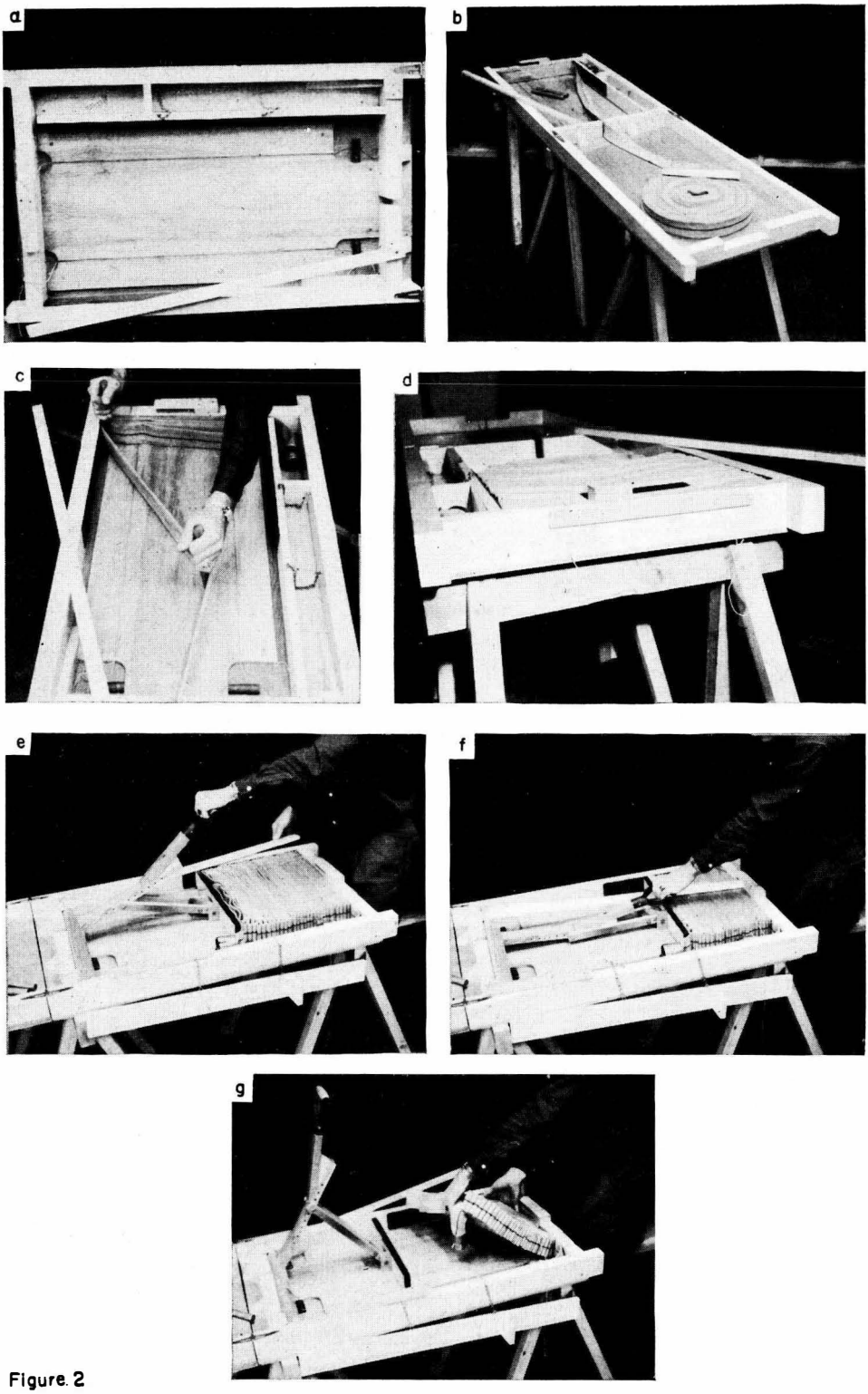

Figure. 2

A NEW FORESTRY-HOSE FOLDER

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J. C. MacLeod[1]

There has been a long-standing difference of opinion among forest fire control men as to whether forestry hose should be folded or rolled for use in the field. Many of those people who hold no strong views on the subject prefer rolled hose because it is easier and quicker to use a roller than a folder. Although various types of hose folding devices have been designed (the well-known pin-type developed by the Forestry Branch has been in use since 1938), improvements in folders have not kept pace with the development of improved rollers.

The major objection to most hose folders has been that each loop, or fold, must be fitted over an individual pin or peg—considered to be a time-consuming procedure. A secondary objection was the difficulty of handling a length of folded hose when the folds had not been tightly compressed before being tied. Loosely folded, unbagged hose frequently collapses in a tangle when it is picked up and some folders provide no adequate means of compressing the loops for tying. The device described in this publication, known as the Forestry Branch Hose Folder Mark II (Figure 1), was designed to overcome both these objections.

Construction details of the Mark II folder are shown in Figure 3. All materials used are of a type that may be readily obtained. Strict adherence to the dimensions noted in the figure is not essential but it will be recognized that the folder will withstand much use only if all joints are well made and if fittings, such as hinges and braces, are properly attached. The width of the folder illustrated was made for hose to be carried in the five-length bag designed by the Forestry Branch in 1938, but another dimension could be chosen prior to construction to provide any desired length of fold.

Operation of the Mark II hose folder is depicted in a series of photographs in Figure 2. After the folder has been placed on a table, bench, or three trestles (the 30-inch height of the trestles shown in Figure 1 has been found satisfactory) it is readied for use by removing the press and putting tying-strings in the two grooves in the bed (a). A roll of hose is now centred on the pin and the exposed coupling is pulled down to the other end of the folder and placed in the slot provided (b) and (c). Folding is accomplished with two hand-held pegs to form loops at alternate sides of the folder (c). As each loop is pulled in to the preceding one, the foot of the peg drops into a groove, one at each side of the bed, so that the loop of hose may be held easily in place by pressing the handle of the peg towards the side, an almost involuntary movement, while the succeeding loop is made.

After the hose length has been folded (d), the two strings are lifted from the forward depressions in the bed of the folder and laid on top of the hose, the hold-down rod is swung over the folds to keep them from bulging up when pressure is applied, the removable side rail is lifted out, and the adjustable

[1] Head, Fire Protection Section, Forest Research Division, Ottawa

press[2] is set in place (e). After the press has been closed (f), the strings are tied with a slip-knot for easy removal, the hold-down rod is swung out of the way, and the hose is lifted out (g).

Describing the operation of the folder, as with many simple devices, takes longer than the actual doing. But simple as it is, a few precautions will aid the procedure. The bed of the folder should not only have a smooth, well-polished surface when first made, but this should be maintained to ensure easy sliding of the hose and pegs and to obviate any possibility of hose wear by abrasion. A wooden or brass sleeve, or roller, on the hose-roll pin would prevent possible abrasion at that point. If new, highly glazed strings are used, they should be rubbed to make them sufficiently soft to lie in the grooves without curling. If the bottoms of the pegs are fitted with nylon tips, the finish of the bed will remain smooth with very little maintenance. Finally, nylon buttons, or even rounded-head thumbtacks, fastened near the ends of the bottom edge of the press face-plate, will ensure that the plate does not tend to bind against or scratch the bed of the folder.

Working drawings for the Mark II folder at a one-eighth scale may be obtained from the Director, Forestry Branch, Department of Northern Affairs and National Resources, Ottawa, Canada.

Acknowledgement

The author wishes to express his gratitude to members of the Fire Protection Section staff who assisted in developing the folder described here, and to Mr. K. F. Shier who did the carpentry work and developed many of the innovations incorporated in the device.

[2] In the prototype press a "D" handle was used, but a "T" handle or straight bar would serve equally well.

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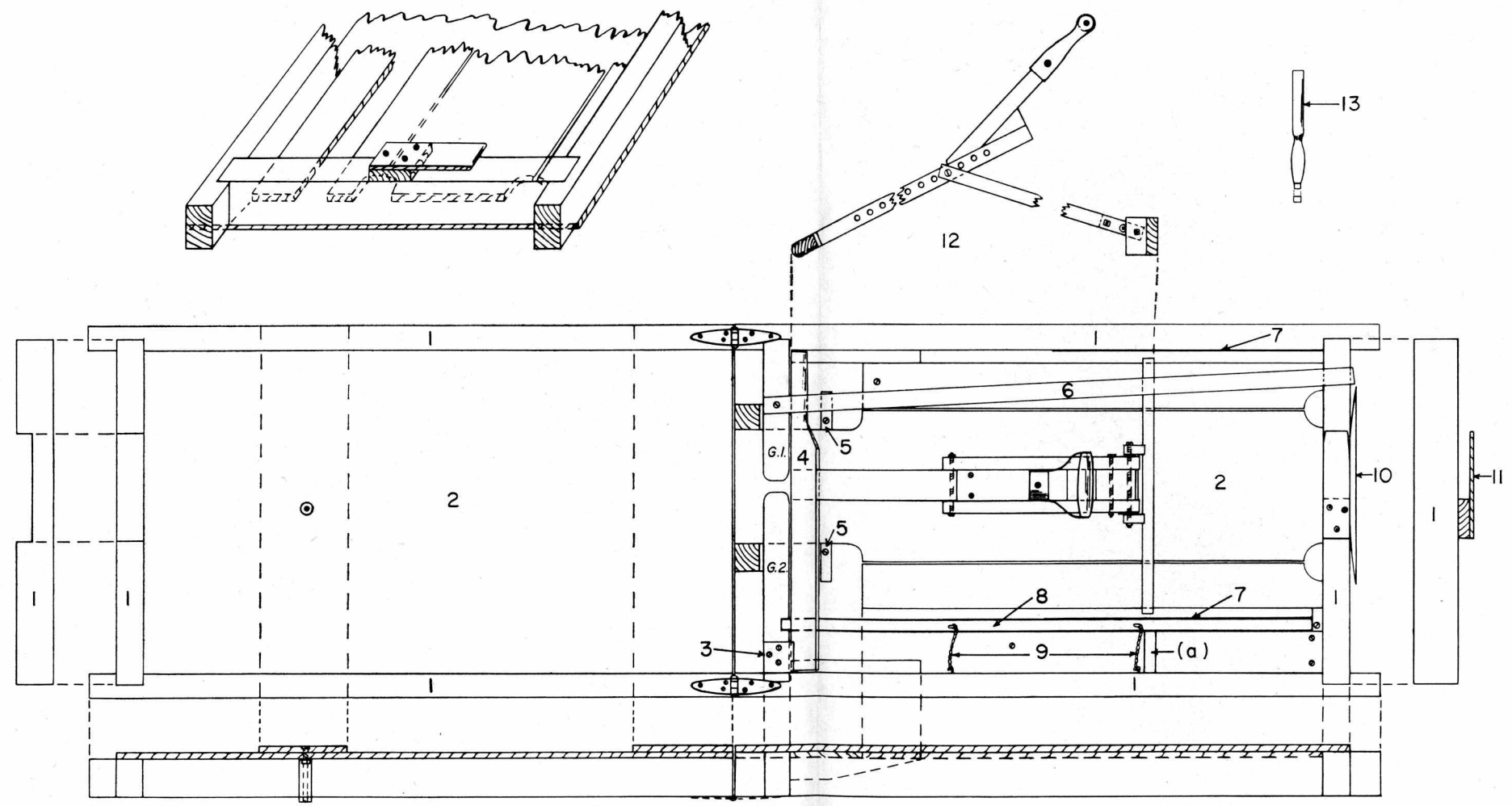


Item No. Description

1 Main frame – first quality white pine or spruce, filled and varnished, 2 coats.

2 Base, or bed – 3/8", 5-ply birch; filled and varnished, inside surface to have 3 coats, rubbed smooth and finally waxed to give hard, smooth surface.

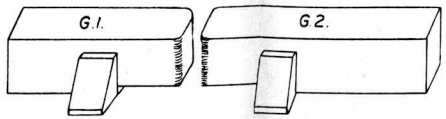
3 Tab – 1/4" hardwood or plywood, grain parallel to side.

4 Press bar – outer end rounded to 1" diameter.

5 Tabs to hold tying strings – 3/8" – thick and outer ends tapered so that string may be jammed and held against base.

6 Hold-down bar – 7/8" – thick pine or spruce.

7 Rubber – 1/8" – thick (stair tread) 2 1/2" x 18" corrugations vertical to base – glued in place, flush with upper edge.



HOSE FOLDER
MARK II

Scale in inches

5 0 10 15

8 Removable side rail – 2 15/16" wide, white pine or spruce with spacer bar (a) of same width attached to it by 2 screws.

9 Chains – 7 1/2" long, furnace-damper type, secured to side rail and removable rail with screw-eyes.

10 Tab – 5/16" x 3/4" x 13" with outer ends finely tapered so that ends of tying strings may be jammed and held against outer frame.

11 Tab to secure hold-down bar – hardwood or plywood, grain parallel to end frame.

12 Press – oak, hard maple, or other strong hardwood, varnished 2 coats.

13 Peg – birch or maple; only lower portion to be filled and varnished – upper portion, or handle, to be sanded and otherwise untreated. Foot of peg to be fitted with nylon cap or inserted nylon plug, if possible.

Hardware to be of regular stock items, preferably of galvanized steel.

Figure 3

Case. A, Dr. 28, No. 117. Drawn by Drafting Section 1960.