

A SPACING AID FOR MACHINE PLANTING

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An experimental 70-acre plantation, in which the trees were set out at exact spacings, was established at the Petawawa Forest Experiment Station near Pembroke, Ontario. Owing to the size of the project, it was decided to plant by machine. The rows could be laid out at the proper interval without difficulty, but some means of controlling spacing within the rows was required. Since the operator's job was too exacting for him to watch a visible indicator, an audible signal was required. For this purpose, a mechanism which signaled the machine operator at appropriate intervals was developed.

The mechanism was used with wheels of various sizes to obtain spacings from 4 by 4 feet to 14 by 14 feet. Where the distance between rows was controlled also, the average error did not exceed + 0.2 feet.

The wooden wheel was cut from one-inch plywood with a bandsaw. The bell was a telephone extension type. The rest of the assembly was constructed

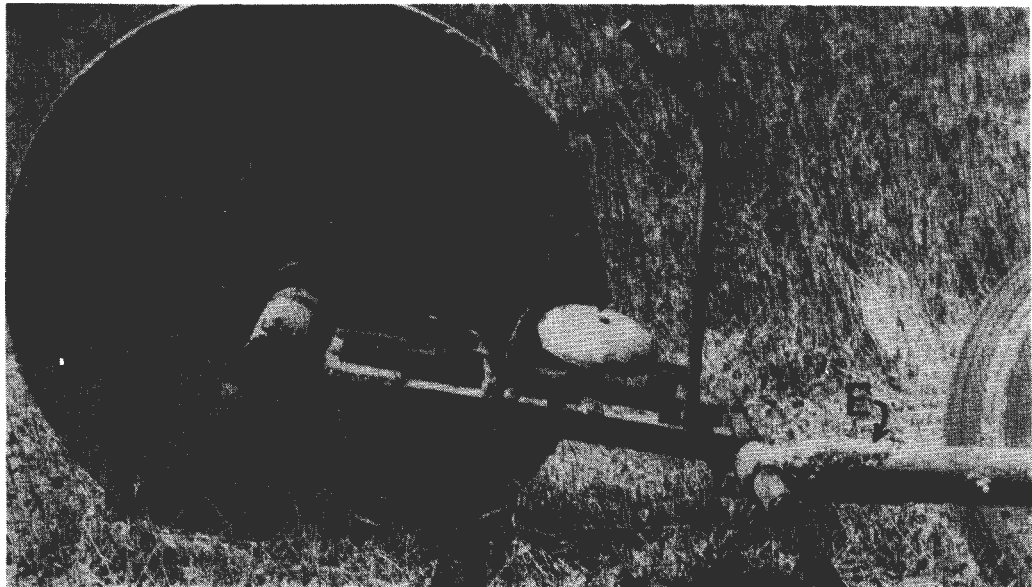


Figure 1. The device included a wooden wheel (A) whose circumference equaled the desired spacing distance. With every revolution of the wheel, a steel peg (B) fixed to its side tripped a spring-loaded striker (C), which rang a bell (D). The whole assembly was fixed to the planting machine by a sleeve attachment (E), and trailed behind it, with the wheel turning freely on bearings (F). A handle (G) was provided to raise the assembly off the ground, so that the wheel would not be damaged by dragging sideways on turns between rows.

from readily available materials at very little cost. Figure 2 shows the details of the mechanism.

Precise spacing is not often necessary. However, a means of obtaining good control may be required for research purposes, or when changing from one spacing to another, or when planting with inexperienced operators. For such occasions the spacing mechanism is an effective, inexpensive regulator.

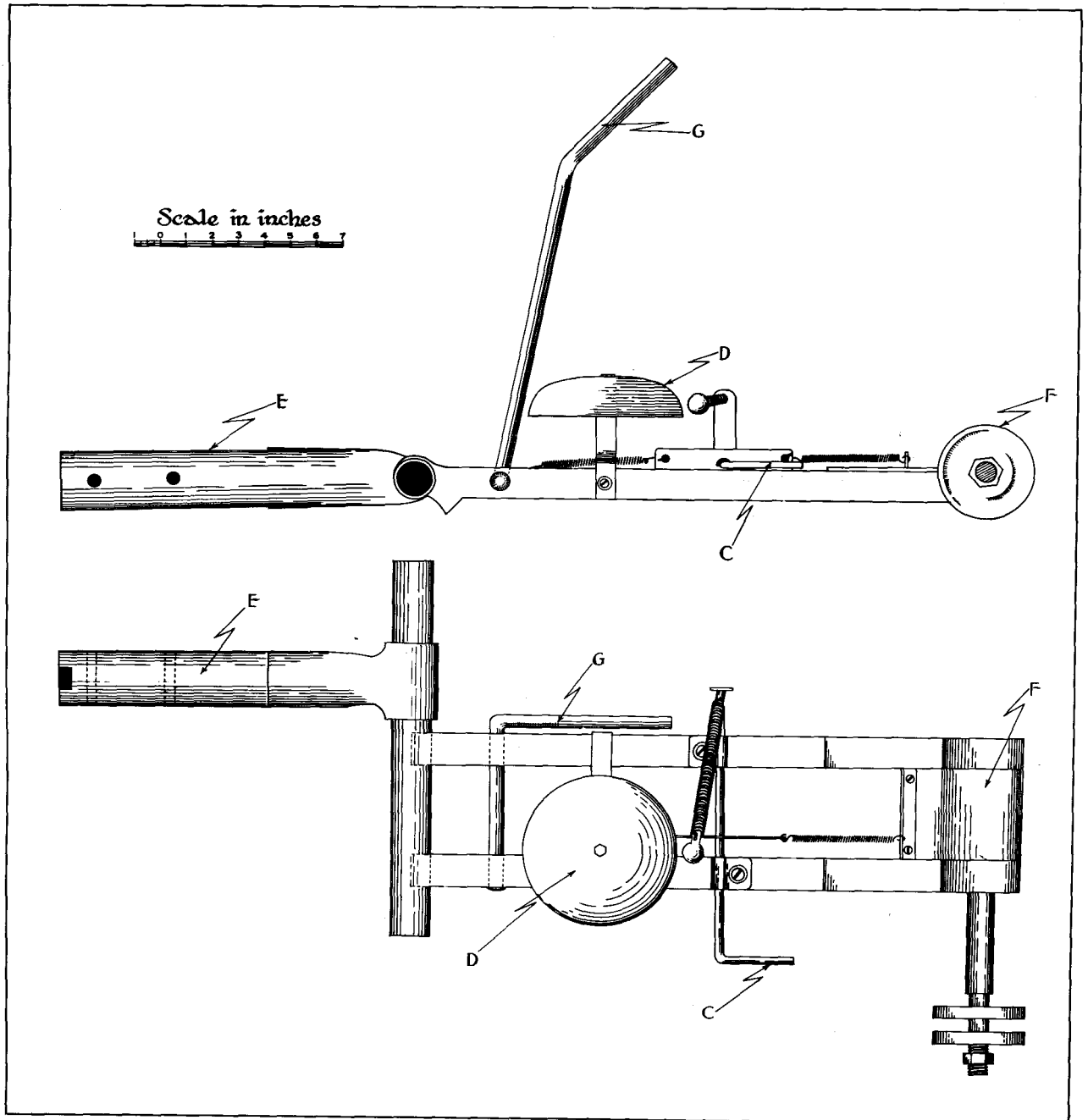


Figure 2. Details of construction of signaling device (see fig. 1 for lettered legend).