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GUYED EXTENSION LADDER FOR ACCESS TO HIGH NESTS

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Abstract.—By the use of rope guys an extension ladder may be made to stand vertically, without leaning against a solid support. The system provides rapid and safe access to high nests in uneven terrain.

EL USO DE TIRANTES EN ESCALERAS DE EXTENSIÓN PARA GANAR ACCESIBILIDAD A NIDOS

Resumen.—Mediante el uso de tirantes de cuerda, una escalera de extensión puede ser mantenida en posición vertical, sin que esta necesite el soporte de una estructura sólida. El sistema provee acceso rápido y seguro a nidos que se encuentren localizados a gran altura en lugares donde el substrato s accidentado.

Many birds place their nests high and near the ends of limbs that are too small to support either a climber or a ladder. Free standing ladders (step ladders or fruit picking ladders) are often either too short for access to such nests or impossible to use because they require relatively level terrain. Inspired by radio towers, I have overcome these difficulties by inventing an inexpensive system for guying an extension ladder such that it stands erect without being leaned against any support at its top (Fig. 1). Carol Spaw, Eivin Røskaft and I have used a guyed ladder extensively in our work on Northern Orioles (*Icterus galbula*). We found virtually no oriole nest to be too high to reach with our ladder fully extended and with the use of a 3 m long pole with a hook on the end to bend limbs toward the ladder.

The system is embarrassingly simple, but it has attracted enough interest to be worth describing. I use an 11 m (32 ft) extension ladder and four rope guys. The guys are pulled from the top of the ladder at about 90° angles when viewed from above (Fig. 2). They are anchored either by being tied to trees or shrubs or being looped over straight steel stakes (without hooks or eyes) that are driven into the ground at an angle sufficient to assure that the attachment loop pulls from the point at which the exposed end of the driven stake enters the ground. I use solid steel stakes that are about 75 cm long and made of 1 cm square stock. Square stock is particularly easy to straighten when the stakes have been bent while being removed from hard ground. With the guys pulled tight it is not necessary to anchor the feet of the ladder to the ground.

Two 35 m lengths of rope are used to guy the ladder. This rope should not rot and should not stretch unduly; 7.5 mm (¼ in) twisted nylon works fine. A loop is tied with a simple overhand knot in the center of each of the two guy ropes and placed over the top of each of the two channels supporting the rungs of the ladder before the ladder is raised. With this

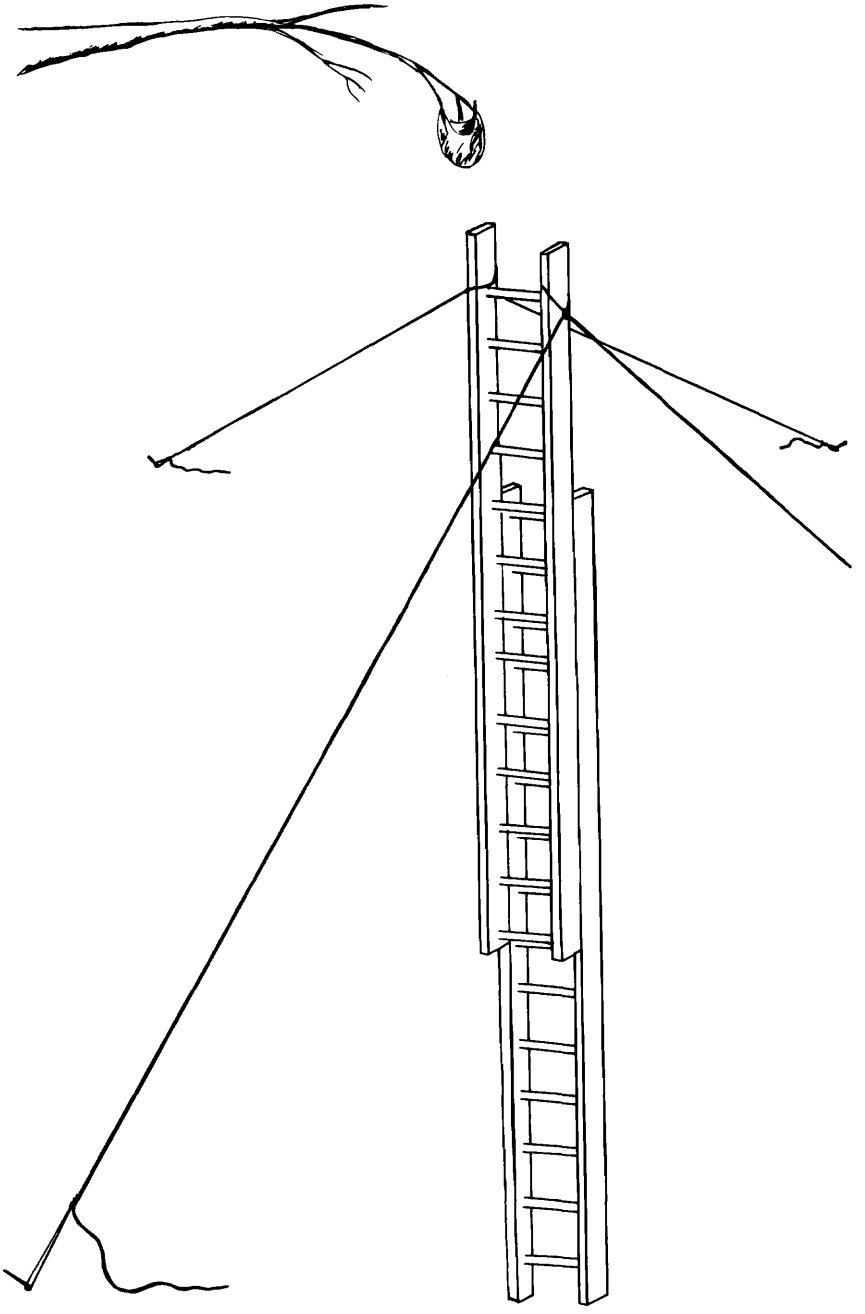

FIGURE 1. Side view of guyed extension ladder.

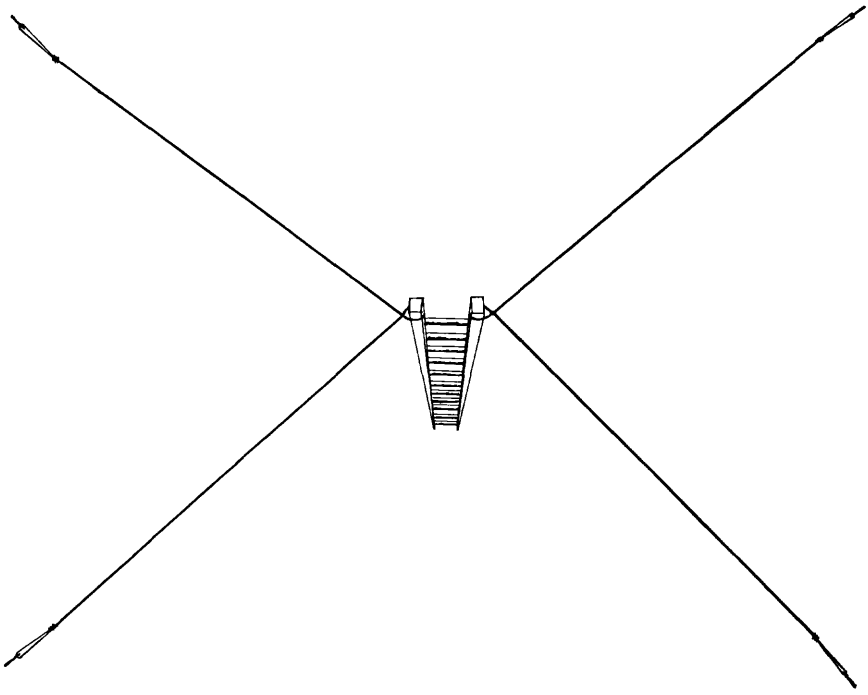

FIGURE 2. Placement of guys, top view.

central loop a single length of rope supplies two guys. When the ladder is set up on very steep slopes or in gullies, the centrally tied loops can be retied as far off center as necessary to provide short up-slope guys and long down-slope guys.

I attach the guy ropes to the steel stakes by using a short loop of smaller rope that is tied to the guy rope with a prusik knot (see Walt Wheelock. 1986. Ropes, knots and slings for climbers. La Siesta Press, Box 406, Glendale, California 91209). The prusik knot consists of a double wrap of a loop of small rope around a larger rope (Fig. 3). For my smaller rope loops I use twisted nylon that is about 80% as large as the guy rope. Perlon climbing rope would also grip the guy rope as well. Additional loops can be made in a prusik knot if the ropes being used show any tendency to slip as they may when wet.

Prusik knots slide readily along the guy ropes when not under pressure; when tightened with a pull at 90° to the guy rope, they hold securely against force applied along an extension of the larger guy rope. The free end of the loop that is prusik-knotted to the guy rope is simply placed over the stake without knotting. The prusik knots in these loops allow the guys to be tightened securely and very rapidly because the loops eliminate knotting the guys to the stakes each time the setup is changed.

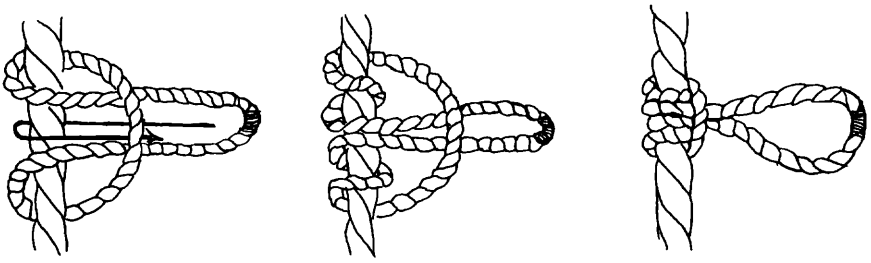

FIGURE 3. Tying of the prusik knot illustrated.

Our fully extended 11 m ladder shakes a bit in the middle when being ascended, but it is perfectly stable when one is working at the top where the guys are attached. Longer ladders would extend the reach of the system considerably, but might require central guys. The principal advantages of this guying system are: (1) that the ladder can be set up on steep slopes, (2) that windy conditions have no appreciable effect on the stability of the ladder (even under conditions too windy to safely lean the ladder against a tree for ascent), and (3) that access to very high nests is safe and easy. Its only significant disadvantage is that the ladder is difficult (but not impossible) to guy without two people, one to hold it in place and the other to set up the guys.

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