A SIMPLE PULLER FOR SOIL TUBES[1]

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Sampling by use of a soil tube is often laborious because of the difficulties involved in removing the tube from certain soils after it has been driven below one or two feet in depth. Soils high in clay content prevent the tube from being removed easily; also, extremely dry soils will settle and pack about the enlarged portion of the cutting head thus wedging the tube in the hole.

An apparatus consisting of an automobile bumper jack, five feet of 2/0 passing link chain and a simply constructed jack platform has been used successfully for removing soil tubes from several types of soils (Fig. 1).

The jack platform is constructed from two by four lumber. A nine-inch length of 1½-inch angle iron is used to support the direct thrust of the bumper jack. The platform is 9 by 16 inches in size. The opening for the soil tube is wide enough to permit the pounder head of the tube to pass through easily.

In operation, the platform is placed over the tube after insertion in the soil and blocked beneath for levelling on uneven ground. The chain is wound around the tube four or five times to prevent slipping when pressure is applied. The ends of the chain are tied in a square knot and the bumper jack set up as shown in the photograph. When the jack has been raised to its maximum height and the tube is still stuck, the jack can be lowered and the chain will slide down the tube to the platform, ready to continue lifting. The jack and tube should be parallel for best results. The type of chain used with this apparatus is made of soft material which will not score the tube.

FIGURE 1. Soil tube puller in operation, showing the soil tube and arrangement of bumper jack, chain and platform. The black part of the platform is 1½-inch angle iron; the remainder is constructed of wood.

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