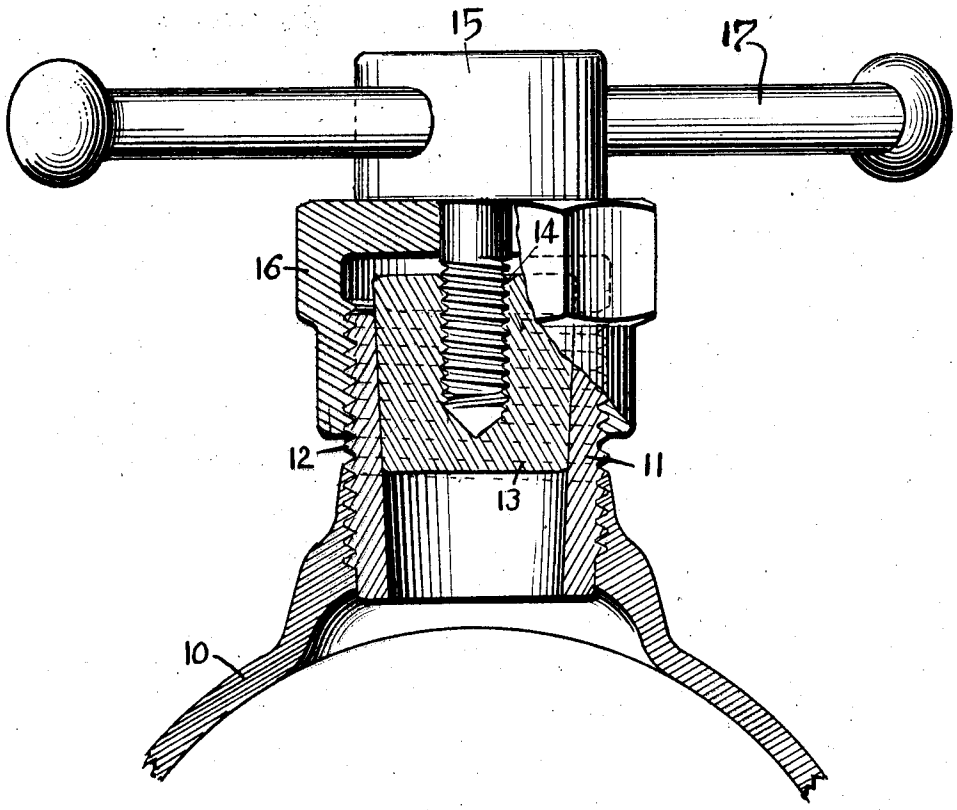
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PLUG EXTRACTOR

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PLUG EXTRACTOR

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The object of this invention is to provide an effective means for removing tapering plugs which are used to seal openings in chambers, as for example the chambers formed around the splices for lead covered electrical conductors as set forth in an application for plugs executed concurrently with this application.

In the accompanying sheet the drawing which forms a part of this description, the figure is a section through an opening to a chamber with a plug extractor according to this invention in place for withdrawing the plug.

The chamber 10 has sealed in its wall a metallic nipple 11 which forms an opening to the chamber. The nipple has an exteriorly threaded end 12, and the interior of the nipple has a smooth tapering seat for a smooth tapering plug 13. The taper of the seat and of the plug is preferably close to two and one-half degrees with the axis, as this has been found to be an angle at which the plug will not be driven out by such fluid pressures as it will ordinarily be subjected to when applied at the inner and smaller end, but which will release when pulled from the larger end. At the larger end of the plug is a threaded part 14 conveniently formed by a drilled and threaded hole, but this kind of a thread is not essential. The thread because of its smaller diameter is ordinarily of finer pitch than the thread on the nipple. A part 15 engages this thread, and in the form shown this is a bolt which passes through a cap 16 on which the head of the bolt bears, and the cap engages the threaded end of the nipple. The cap has a hexagon top for engagement by a wrench.

To extract the plug, the cap is first screwed in place. Ordinarily the plug will be covered by a cap which has no hole in it, and this is first replaced by a cap having a hole for the bolt. The bolt is next set in place. Usually the plug holds so firmly that it is not practicable to dislodge it by force directly applied to turning the bolt since enough force may be required to twist the bolt apart. The removal is therefore effected by means of a wrench applied to the cap and as the unscrewing of the cap from the nipple is started the bolt is held from turning by holding the lever 17 which passes through its head until after the plug has loosened its hold, so that slippage will be between the underside of the bolt head and the cap and not between the bolt threads and the threads in the plug while the tension is severe.

I claim,

1. A plug extractor for a smooth tapered metallic plug with a threaded part when seated in a metallic nipple with a threaded end, the extractor comprising a cap for engaging the threaded end of the nipple, connecting means between the plug and the cap for engagement with the threaded part of the plug and seating on the top of the cap, means for restraining the connecting means from turning, and means for unscrewing the cap to withdraw the plug while the connecting means is restrained from turning.

2. A plug extractor for a smooth tapered metallic plug with a threaded hole at its large end when seated in a metallic nipple with a threaded end, the extractor comprising a cap for engaging the threaded end of the nipple, a bolt with a shank for engagement with the threaded hole in the plug and a head for seating on the top of the cap, means for restraining the bolt from turning, and means for unscrewing the cap to withdraw the plug while the bolt is restrained from turning.

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