Aug. 15, 1939. A. EDELHOFF 2,169,724

METHOD OF BLASTING MOORY SOIL

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Fig. 1

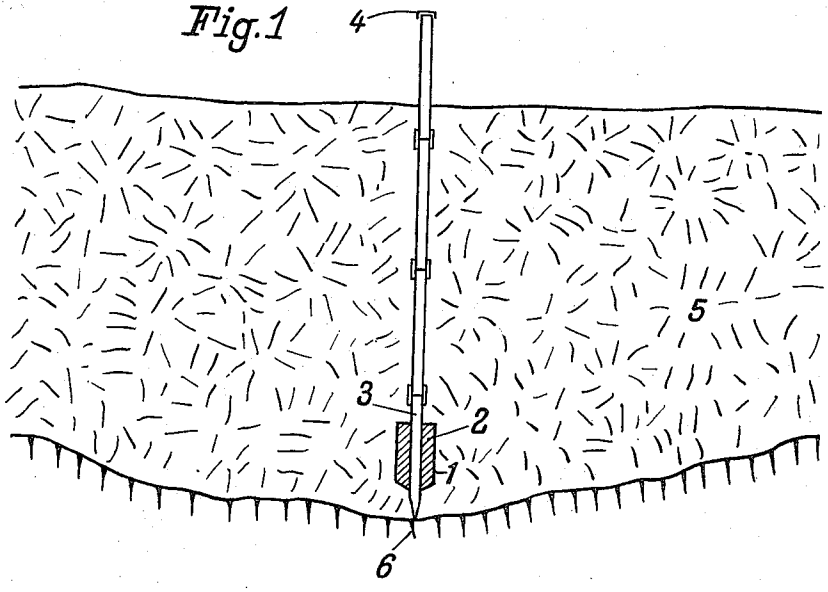
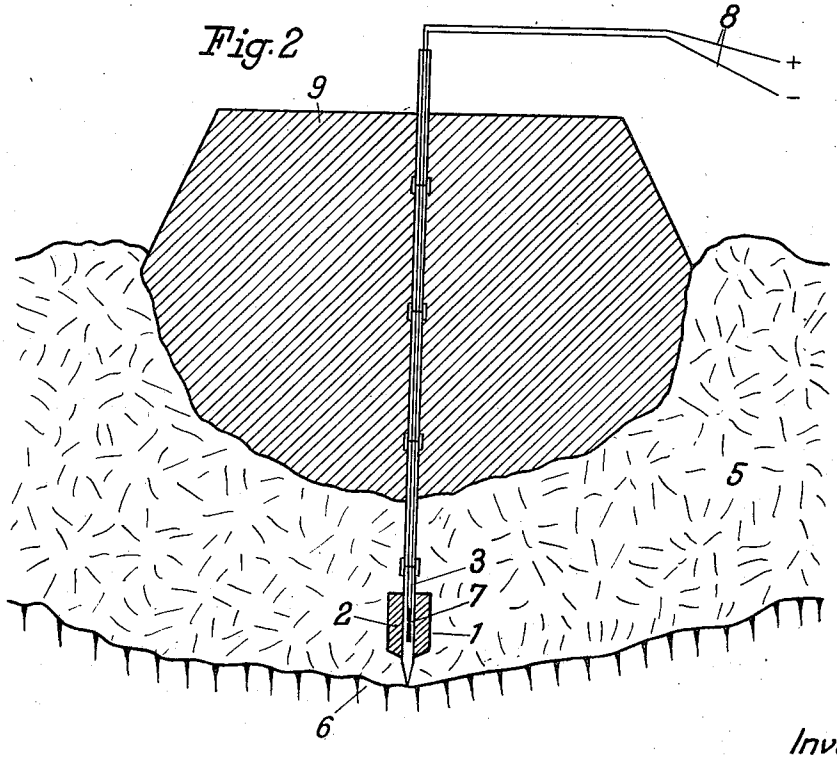


Fig. 2



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METHOD OF BLASTING MOORY SOIL

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2 Claims. (Cl. 61—35)

This invention relates to a method of blasting moory soil when raising embankments, and to a device for carrying out this method. The characteristic features of the invention reside substantially in that unprimed blasting charges are inserted into the moory soil by means of guide tubes extending from receptacles containing said charges upwardly to above the surface of the soil, and that separate priming boxes provided with fuses are introduced into said receptacles through said tubes. In one method according to the invention the blasting charges can be sunk in the moory soil before the embankment is raised, the tube being lengthened by additional sections as necessary to keep its top above ground as the embankment earth is dumped, the primer being finally lowered through the tube into the receptacle holding the blasting charge and fired after the embankment has been completed.

Hitherto, when raising embankments for streets and permanent ways over moory soil the charges intended for the blasting of the soil, already provided with the requisite primers, have either been introduced into the soil from above through tubes extending from the already raised embankment down to the stable ground and withdrawn before blasting, or said charges have been introduced into the soil prior to raising the embankment, or have merely been laid upon the soil.

The insertion of the tubes after the embankment has been raised renders possible, it is true, the introduction of the blasting charges into the moory soil in a simple and reliable manner, but it requires very much time and is, besides, expensive. Furthermore, the removal of the tubes after the blasting charges have been introduced into the soil is, under some circumstances, difficult and likewise expensive. Finally, the blasting charges with the primers must often times remain in the soil for periods of time comprising several days before they are used for the purpose intended.

When inserting the blasting charges into the soil prior to raising the embankment the operation is less expensive, it is true, but raising the embankment over the blasting charges with their primers necessitates a continuous watching of the electric wires which are subjected to great strains by the heavy load formed by the material constituting the embankment, and by the settling of that material. In spite of great attention it is not always possible to prevent tearing off or squeezing off of said wires, whereby misfires can be caused.

The above-mentioned drawbacks are altogether obviated by my present invention, which is, moreover, distinguished by its cheapness and reliability. I attain the objects in view in general by the operating steps stated already in the first paragraph of this specification, and in particular by those stated hereinafter, viz: Prior to raising the embankment unprimed blasting charges are introduced into the moory soil, i. e., the layer thereof to be blasted. Only after the embankment has been raised, are said blasting charges provided with the requisite primers, which are introduced through tubes extending upwardly from the said charges, more precisely, from the receptacles containing them, to above the top of the embankment. These tubes are elongated, if necessary, by additional tubes in the requisite measure.

The invention is illustrated diagrammatically and by way of example in the accompanying drawing, in which Figure 1 is a transverse section through the layer of the moory soil to be blasted, together with the blasting charge and its receptacle and an appurtenant set of tubes for the subsequent introduction of the primer, and Figure 2 is a similar representation showing the same portion of the soil with the embankment thereon and the blasting charge primed.

In the drawing 5 (Fig. 1) denotes the moory soil and 1 a receptacle containing the blasting charge 2, the receptacle and charge being hereinafter referred to together as a blasting body, 3 denotes the tube or tubes through which the primer is to be introduced into the receptacle 1 and into the blasting charge 2 after the embankment has been raised. The tube 3 is composed of several sections so as to extend above the upper surface of the soil. Its upper end is normally closed by a cap 4 (Fig. 1). The blasting body 1 is lowered into the soil until stable ground has been reached. Now the embankment is raised (Fig. 2), and if necessary one or more additional sections of tube are added so that the upper end of the set is always freely accessible. When the embankment has attained its final height, the cap 4 is removed and a primer 7 (Fig. 2) is inserted through the set of tubes 3 into the blasting receptacle 1. The primer 7 may be composed of a priming charge and an igniting composition and may be suspended directly from the electric wires 8 (Fig. 2) or from a seperate rope (not shown).

The portion of the tube 3 located within the body 1 may have lateral openings where the primer 7 is located so that the ignited primer can act directly and instantaneously upon the blasting charge enclosed in the said body.

The blasting bodies are thus unprimed before

the raising of the embankment, as well as while the embankment is being raised, and they are rendered operative only after the embankment has been finished by the insertion of the primer. This can be carried out very quickly and need take place only shortly before the blasting so that very great safety is obtained. As the blasting bodies are firmly connected with a piece of tube (3) they are prevented from getting lost, and they are always in their proper position relatively to the tube or tubes.

I wish it to be understood that I do not limit myself to the one manner of carrying out my improved method above described, in that it is as well possible to introduce the blasting bodies into the moory soil through an already raised embankment.

I claim:

1. The method of making an embankment upon moory soil, which comprises first sinking an unprimed blasting body into the moory soil on the end of a tube, then raising the embankment on the moory soil around the tube, then passing a primer through the tube into the blasting body, and finally exploding the blasting body by igniting the primer.

2. The method of making an embankment upon moory soil, which comprises first sinking an unprimed blasting body into the moory soil on the end of a tube, then raising the embankment on the moory soil around the tube, elongating the tube as necessary to keep its end above ground, then passing a primer through the tube into the blasting body, and finally exploding the blasting body by igniting the primer.

ARTHUR EDELHOFF.