

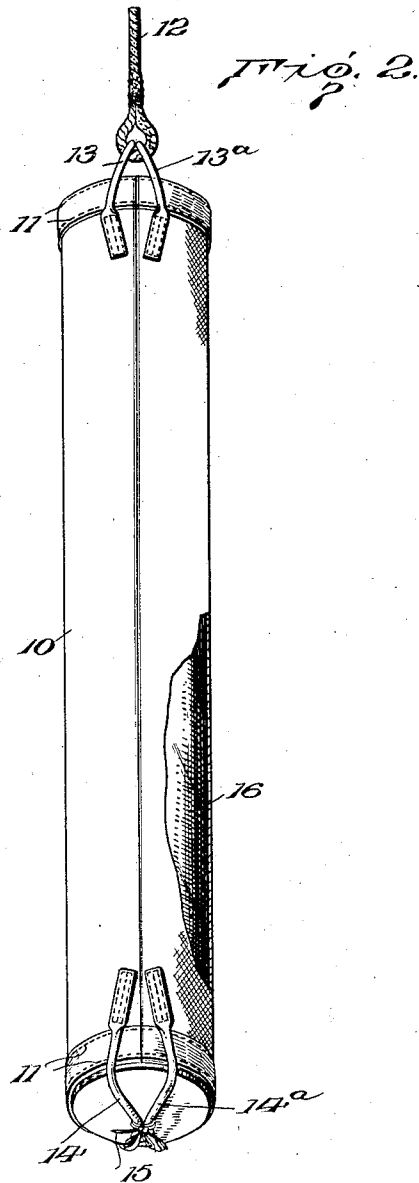
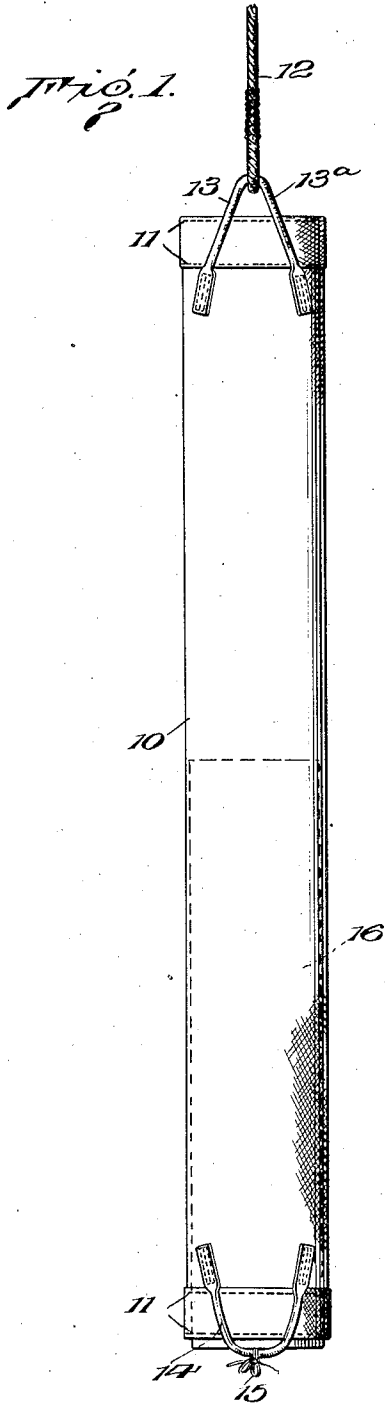
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DEVICE FOR LOADING EXPLOSIVES IN WELLS

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## UNITED STATES PATENT OFFICE

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DEVICE FOR LOADING EXPLOSIVES IN WELLS

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This invention relates to improvements in devices for depositing explosives in well holes.

One object of the invention is to produce a device of this nature that is comparatively inexpensive but which will be reliable in its use, especially where the explosive such as dynamite, is loaded in well holes whose walls have irregularities therein. This safety feature is of importance because where cartridges are loaded in well holes having irregular walls they are very apt to catch on the irregularities on the wall and must be either removed by tamping sticks, or rammed down until they pass below the irregularities.

With these and other objects in view the invention consists in certain details of construction and combinations and arrangements of parts all as will hereinafter be more fully described and the novel features thereof particularly pointed out in the appended claims.

In the accompanying drawings

Figure 1 is an elevational view of the present device before the cartridge is placed therein, and

Fig. 2 is a similar view taken at right-angles to Fig. 1, but partially broken away to illustrate the cartridge loaded in the device.

In accordance with the present invention the device consists essentially of a container that is preferably made of canvas, the diameter and length of the container being, of course, dependent upon the diameter of the well hole into which the explosive is to be loaded and the length of the cartridge containing the explosive. Preferably, the ends of the container, indicated at 10, has its ends reinforced by a multiplicity of rows of stitching, indicated at 11.

The casing is adapted to be lowered into the well hole by a cable or rope 12 which is attached to loops 13, 13<sup>a</sup>, stitched or otherwise securely attached to the exterior surface of the container 10 at opposite sides thereof. The end of the container to which the cable is attached is, of course, the upper end of the container and the lower end of the container is provided with means for removably supporting within the same the cartridge 16. In

accordance with the present invention these cartridge supporting means consist of two supporting elements 14, 14<sup>a</sup> attached to opposite sides of casing 10 and adapted to be detachably secured to each other by connecting means indicated at 15. Preferably, these separable supporting elements 14, 14<sup>a</sup> are in the form of loops of any suitable fabric, and the connecting means 15 should be readily breakable when subjected to sudden shock or strain. For instance, the medial portion of the loops 14, 14<sup>a</sup> may simply be secured together by a piece of string. When so secured together they will support within the container the cartridge 16, as shown in Fig. 2.

When loading or lowering the cartridge into the well hole it is placed in the container 10, as shown in Fig. 2, and the container and cartridge lowered into the well. The strength of the string or other frangible element 15 is such as to normally support the weight of the cartridge but when the container has been lowered to the point where it is desired to deposit the cartridge a sudden jerk on the cable or rope 12 will cause the string 15, or other fastening element, to break whereupon the container may be slipped or drawn upwardly from around the deposited cartridge. It will be understood that where more than one cartridge is to be loaded into the well hole the operation just described will be repeated as many times as is necessary to load the desired number of cartridges in the well.

Due to the low cost of loops of fabric such as shown, supporting elements of this nature are preferable, but it will be appreciated that the use of a frangible element for detachably connecting cartridge supporting members is not necessarily limited to the particular type of supporting member shown.

What I claim is:

1. In a device of the character described, the combination of an elongated tubular container open at one end, separate supporting elements at the open end of the container, and means detachably connecting said elements to normally hold them in position to span said open end and support a body in said container.

2. In a device of the character described,

the combination of an elongated tubular container adapted to be suspended in a well hole, said container being open at one end, separate supporting elements at the open end of the container, and a readily breakable member detachably connecting said supporting elements, said supporting elements when connected together being held in position to span said open end and support a body in said container.

3. In a device of the character described, the combination of an elongated tubular container open at one end and adapted to be suspended in a well hole, a plurality of loops attached to the open end of said container, and means for detachably connecting said loops together, said loops when connected together being adapted to conjointly span said open end and form a support for a body within the container.

4. In a device of the character described, the combination of an elongated tubular container open at one end and adapted to be suspended in a well hole, a plurality of loops of binding material attached to the open end of said container and a frangible connection between said loops, said loops when connected being adapted to conjointly span said open end and form a support for a body within the container.

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