

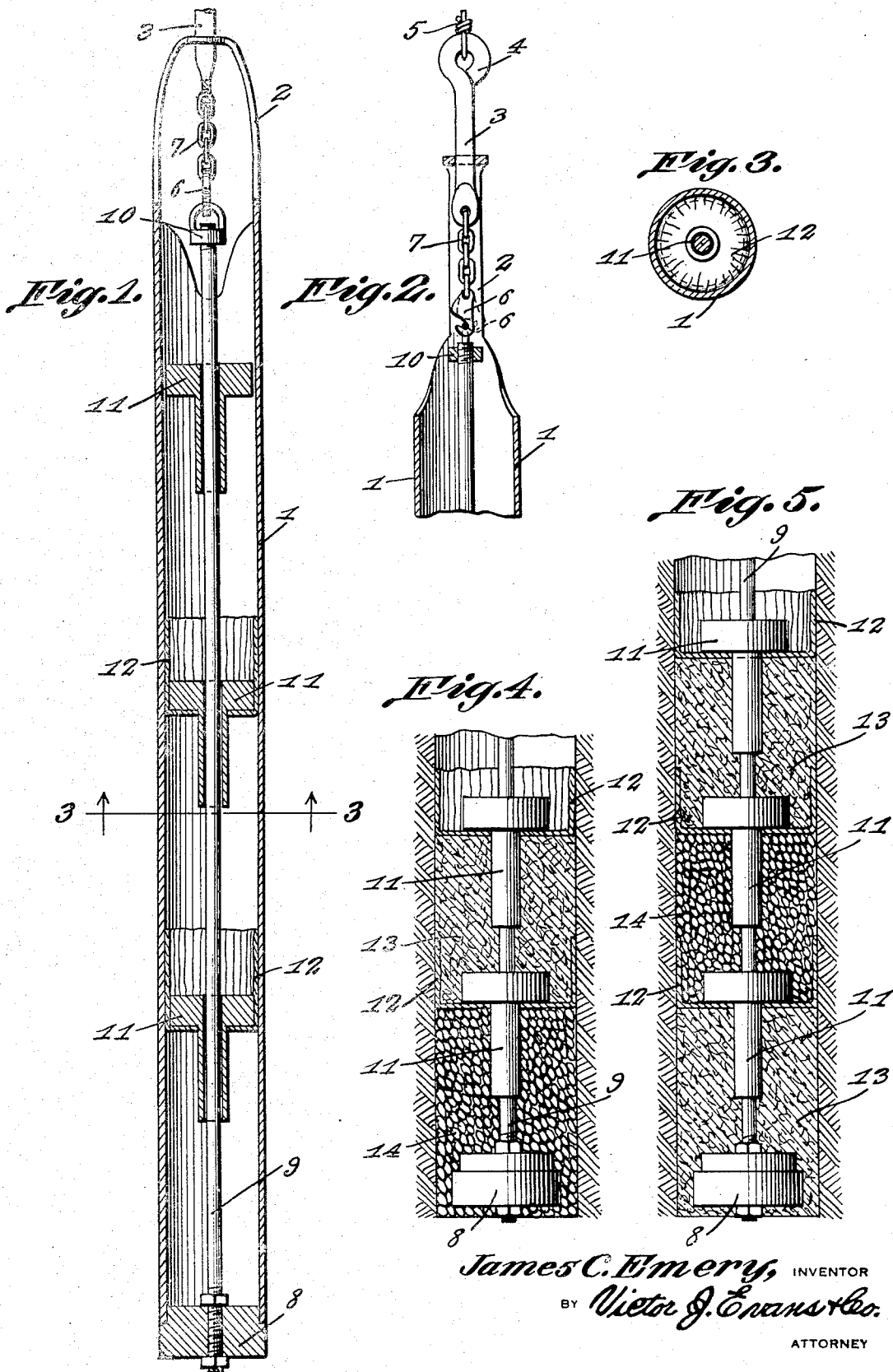
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OIL WELL PLUGGING DEVICE

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OIL WELL PLUGGING DEVICE

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This invention relates to an oil well plugging device, and has for the primary object the provision of a device of this character which will segregate expansible plug forming materials and permit easy and quick placing of such materials at a desired place within a well so that when contacted by water will expand and become set tightly against the walls of the well forming a plug to close the well to incoming water and prevent such water from commingling with the oil in the well.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawing, in which

Figure 1 is a vertical sectional view showing a plug forming device for wells constructed in accordance with my invention.

Figure 2 is a fragmentary sectional view showing the connection between the lowering line and the bottom releasing medium of my invention.

Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a fragmentary sectional view showing a well with a plug formed therein in accordance with my invention.

Figure 5 is a similar view to Figure 4 showing a modified form of plug.

Referring in detail to the drawing, the numeral 1 indicates a tubular casing having its upper end cut away to form a bail or spaced connected arms 2 apertured to act as a guide for a rod 3, one end of which is in the form of an eye 4 to which a lowering line or cable 5 is connected. The opposite end of the bar or rod 3 has a hook 6 connected thereto by a chain or flexible element 7.

The opposite end of the casing from the arms 2 is closed by a removable bottom 8 to which is detachably secured a rod 9 terminating between the arms 2 and to which is detachably secured an eye 10 to be engaged by the hook 6.

Mounted loosely on the rod 9 are spacers 11 each having a loose fit with the walls of the casing 1. The spacers are in the form of discs carrying tubular portions. Flexible sheets of material 12 engage with the spacers and the walls of the casing and are each of cuff shape. The spacers cooperate with the bottom 8 in dividing the casing into several chambers for the purpose of receiving and segregating different kinds of material employed for the forming of a plug in

the well. Certain of the chambers receive cement while another chamber receives grain or any other vegetation. By referring to Figures 4 and 5 it will be seen that the cement is indicated by the character 13 and the grain or vegetation by the character 14.

In operation the casing 1 containing the materials in the chambers thereof is lowered into the well, the bottom 8 being held to the casing 1 by the weight of the device upon the lowering mechanism. However, when the bottom contacts the bottom of the well and a slight slack placed in the lowering cable, the hook 6 may be caused to disengage from the eye 10 so that on an upward pull of the lowering cable, the casing 1 may be raised leaving the materials and separators, as well as the rod 9 and bottom 8 in the well. The grain or like material 14 when contacted by the well will expand and engage with the walls of the well while the cement will become set from the water and thereby form a plug closing the well to incoming water. Cement may be placed above and below the material or vegetation, as shown in Figure 5, or as shown in Figure 4, the vegetation material may contact the bottom of the well while the cement rests thereon.

A plug constructed by a device as heretofore set forth will effectively seal a well, this being desirable when in drilling wells a vein of water is struck to prevent the water from entering the well and commingling with the oil of the well.

Having described the invention, I claim:

1. A device of the character set forth comprising a casing, a bail at one end of said casing, a rod extending through said casing, a bottom carried by said rod for closing the lower end of the casing, a bar slidably connected to said bail and detachably connected to the rod and adapted to have a hoisting cable connected thereto, and means carried by said rod and cooperating with the casing and the bottom in forming chambers in the casing to receive materials for the forming of a well plug when subjected to water.

2. A device of the character set forth comprising a casing, a bail at one end of said casing, a rod extending through said casing, a bottom carried by said rod for closing the lower end of the casing, a bar slidably connected to said bail and detachably connected to the rod and adapted to have a hoisting cable connected thereto, spacers loosely mounted on said rod dividing the casing into chambers for the reception of plug forming materials, and sheets of material carried by said spacers contacting the walls of the casing.

JAMES C. EMERY. 55