

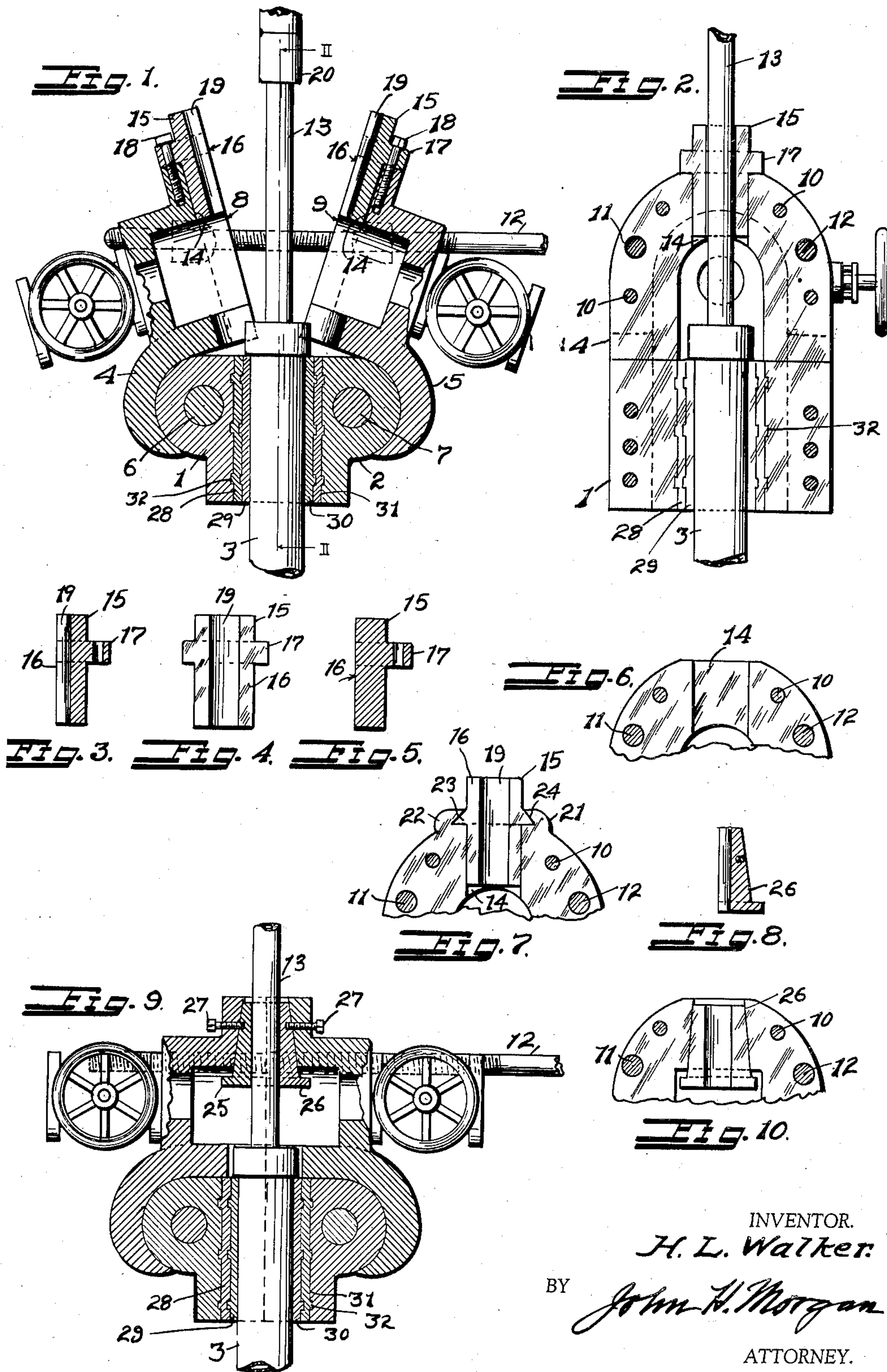
Oct. 23, 1934.

H. L. WALKER

1,978,378

OIL WELL GUSHER CONTROL REGULATOR

Filed Oct. 27, 1933



INVENTOR.

H. L. Walker.

BY

John H. Morgan

ATTORNEY.

UNITED STATES PATENT OFFICE

1,978,378

OIL WELL GUSHER CONTROL REGULATOR

Hardie L. Walker, Oakland, Calif.

Application October 27, 1933, Serial No. 695,488

6 Claims. (Cl. 166—15)

This invention relates to oil well gusher control regulator and more particularly it is an improvement on the form of the invention shown in my application dated Sept. 11, 1933 Ser. No. 688,989 and the object of the invention is to provide means for shutting off a gusher completely and divert the flow of oil in the event that the drill rod or drilling cable is still in the well casing after the gusher blows.

Another object is to provide means for closing the well casing around drilling cable or drill rods of different sizes, or around the drill rod coupling in case it is engaged by the apparatus.

Another object is to provide means to close an oil well gusher if the drill rod or cable is in the well or if it is not in the well, and to operate the closing means by remote control.

Another object of the invention is to provide a device of this kind which can be attached after the gusher comes in, and be controlled and diverted by a remote operator.

Another object of this invention is the provision of a series of nesting sleeves in the members that are clamped around the well casing whereby it is adapted to fit different sizes of casing.

Other objects of the invention will appear to those skilled in this branch of engineering as the description progresses.

An embodiment of the invention is shown in the accompanying drawing in which the same reference numeral is applied to the same portion throughout the several views, and of which there may be modifications.

Figure 1 is a sectional view showing the fittings clamped on to a well casing, and having the hinged housings open.

Figure 2 is a section on line 2—2 of Figure 1, but showing the housings closed.

Figure 3 is a detached sectional view of the drill rod, or cable block.

Figure 4 is a face view of the drill cable or rod block.

Figure 5 is a side sectional view of the drill cable or rod block showing it solid for closing the opening when there is no drill cable or rod in the well casing.

Figure 6 is a view showing a portion of one of the flanged housings.

Figure 7 shows a modified form of the drill cable or rod block and means of attaching it without bolts.

Figure 8 is a detail of the form of drill cable or rod block shown in Figure 9.

Figure 9 is a modified form of the invention in

which the drill cable or rod blocks are self clamping on the drill rod.

Figure 10 is a face view of a portion of one of the housings showing the wedge shaped block in place.

The numerals 1 and 2 indicate the two halves of the attachable clamp that is adapted to be attached and securely clamped to the pipe 3 of the oil well just below the coupling as shown. The hinged housings 4 and 5 have the hinge bolts 6 and 7. The faces 8 and 9 of the housings are adapted to contact and be bolted together by the bolts 10. The hinged housings are drawn together by the threaded rods 11 and 12 on each side of the path of the gusher and are operated by remote control, as described in my former application above mentioned, the present invention having to do with clamping around the drill rod 13 or a cable which may be in the well casing after the gusher starts.

To provide for clamping around the drill rod or cable there is a recess 14 in each face of the housings 8 and 9, and in this recess there is a block 15, the face 16 of which is adapted to be flush with the face of the housings, the block having a lug 17, by which it is bolted to the housing by the bolts 18. The blocks have the recess 19 to fit around the drill cable or rod. Blocks having different sizes of recesses may be made available for different size cable or rods, or to fit over the coupling 20 of the rod in case it should be in position to be engaged by the housings.

In case there is no drill rod in the well casing at the time of the gusher, then the face 16 of the blocks is solid as shown in Figure 5.

Figure 7 illustrates how the drill rod or cable block may be held in place without bolts, and it is done by having ears 21 and 22 on the housing which form guides for the projecting members 23 and 24 on the block 15, these guides may be tight enough so that it will require the tap of a hammer to set the block flush with the face of the housing.

In the form of the invention shown in Figures 8, 9 and 10 the blocks 25 and 26 are tapered, and are held in place as shown by the bolts 27, and after the housings are closed these bolts are removed, and the oil pressure causes the taper blocks to clamp the drill rod, or cable very tightly.

Half sleeves 28—29—30 and 31 are provided for the clamp members 1 and 2, and these sleeves have the projecting rings 32 fitting into corresponding recesses, the half sleeves forming complete sleeves when clamped in place.

60

65

70

75

80

85

90

95

100

105

110

Having thus described my invention what I desire to protect by Letters Patent of the United States is as follows, but modifications may be had in carrying out the invention as shown in the drawing and in the particularly described form thereof within the purview of the annexed claims.

I claim:

1. An oil well gusher control regulator of the class described comprising clamping means for a well casing, housings hinged on pins on said clamping means, means to close said housings over the well casing and over a drill rod or cable in said casing to form a chamber over the end of the casing and around the drill rod or cable, and outlet valves for said chamber.

2. An oil well gusher control regulator of the class described comprising in combination a well casing, a drill rod in said casing, clamping means for said casing, housings hinged on pins on said clamping means, said housings adapted to be brought together to form a closed chamber over the end of said casing, co-acting recesses in said housings to clamp around the drill rod when said housings are brought together, outlet valves for said chamber, and means to bring the housings together by remote control.

3. An oil well gusher control regulator of the class described comprising in combination a well casing, a drill rod in said casing, clamping means for said casing, co-acting housings hinged on pins on said clamping means, said housings adapted to be brought together to form a chamber over the end of the casing, detachable insert blocks in the meeting faces of said housings, recesses in said blocks co-acting to clamp around the drill rod when the housings are brought together, out-

let valves for said chamber, and means to bring the housings together by remote control.

4. An oil well gusher control regulator of the class described comprising in combination a well casing, a drill rod in said casing, means to clamp a pair of housings hinged on pins on to the well casing after the gusher starts, said hinged housings co-acting when brought together to form a closed chamber over the end of the casing, controlled outlets from said chamber, a block set in the face of each of said housings, co-acting recesses in said blocks adapted to clamp and surround said drill rod when the housings are brought together, and means to bring the housings together by remote control.

5. An oil well gusher control regulator of the class described comprising means to clamp a pair of housings hinged on pins to a well casing before, or after a gusher starts to flow, said housings co-acting when brought together to form a closed chamber over the end of the well casing, outlet valves for said chamber whereby the gusher is diverted and controlled, optional means in said housings to clamp around a drill rod or cable in said casing when said housings are brought together, and means to bring the housings together by remote control.

6. An oil well gusher control regulator of the class described comprising, members adapted to be clamped to a well casing, nesting sleeves in said members to provide for different size well casings, hinged housings on said members co-acting when brought together to form a chamber over the end of a well casing, and means to bring the housings together by remote control.

HARDIE L. WALKER.

40

115

45

120

50

125

55

130

60

135

65

140

70

145

75

150