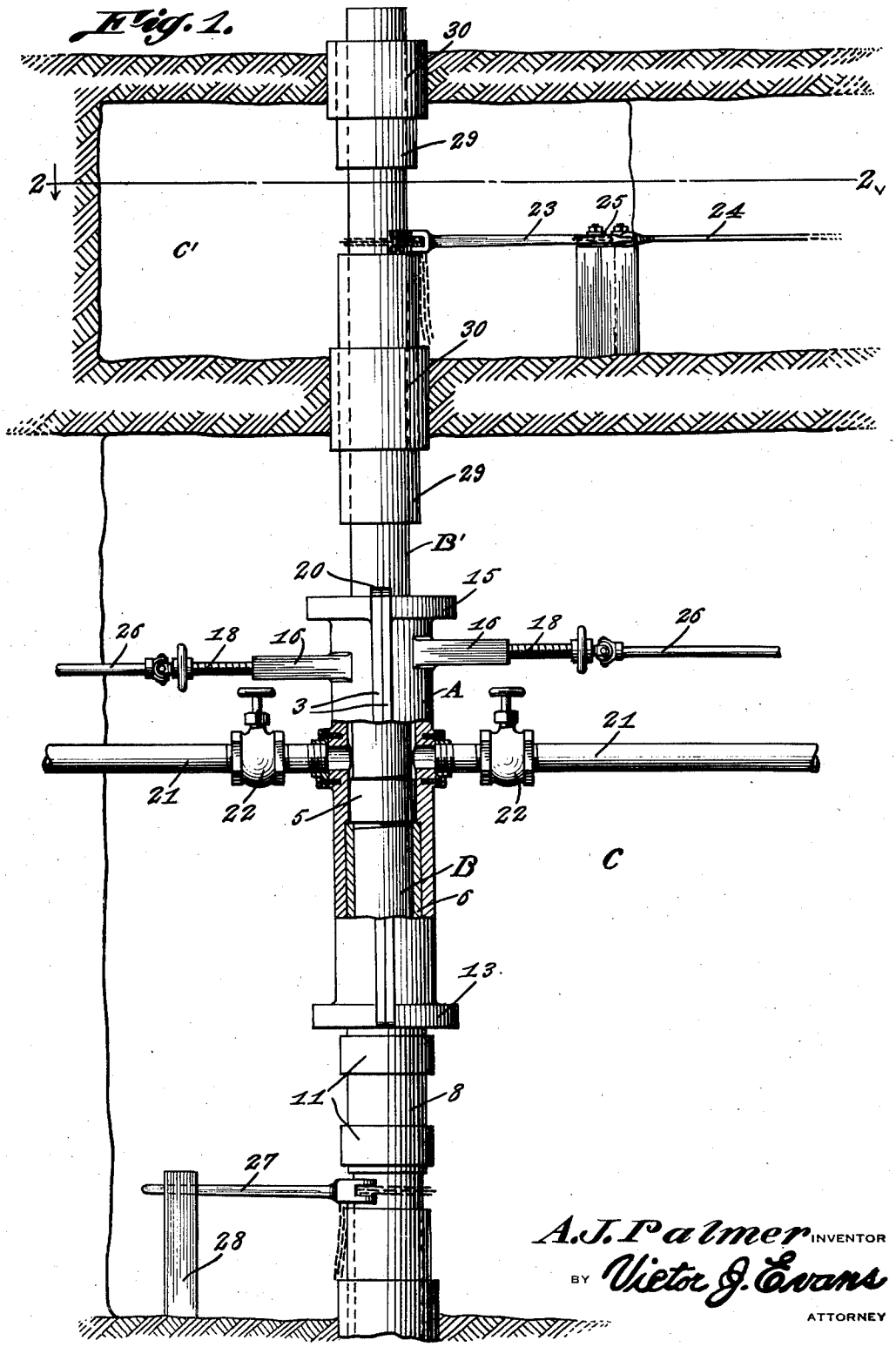
Feb. 9, 1932. A. J. PALMER 1,844,792

CONTROLLING VALVE FOR OIL WELLS

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Fig. 1.



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Fig. 2.

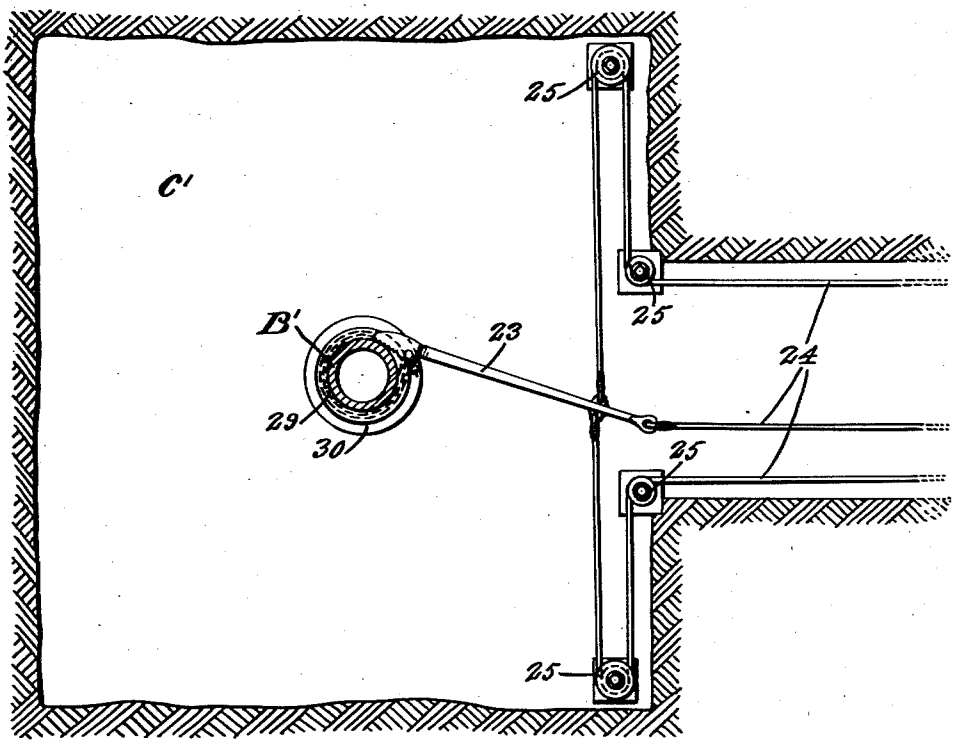
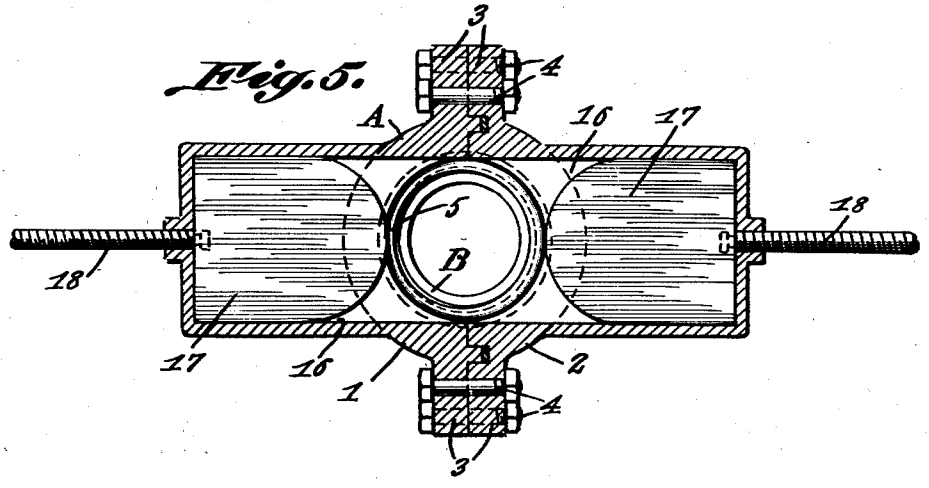


Fig. 5.



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CONTROLLING VALVE FOR OIL WELLS

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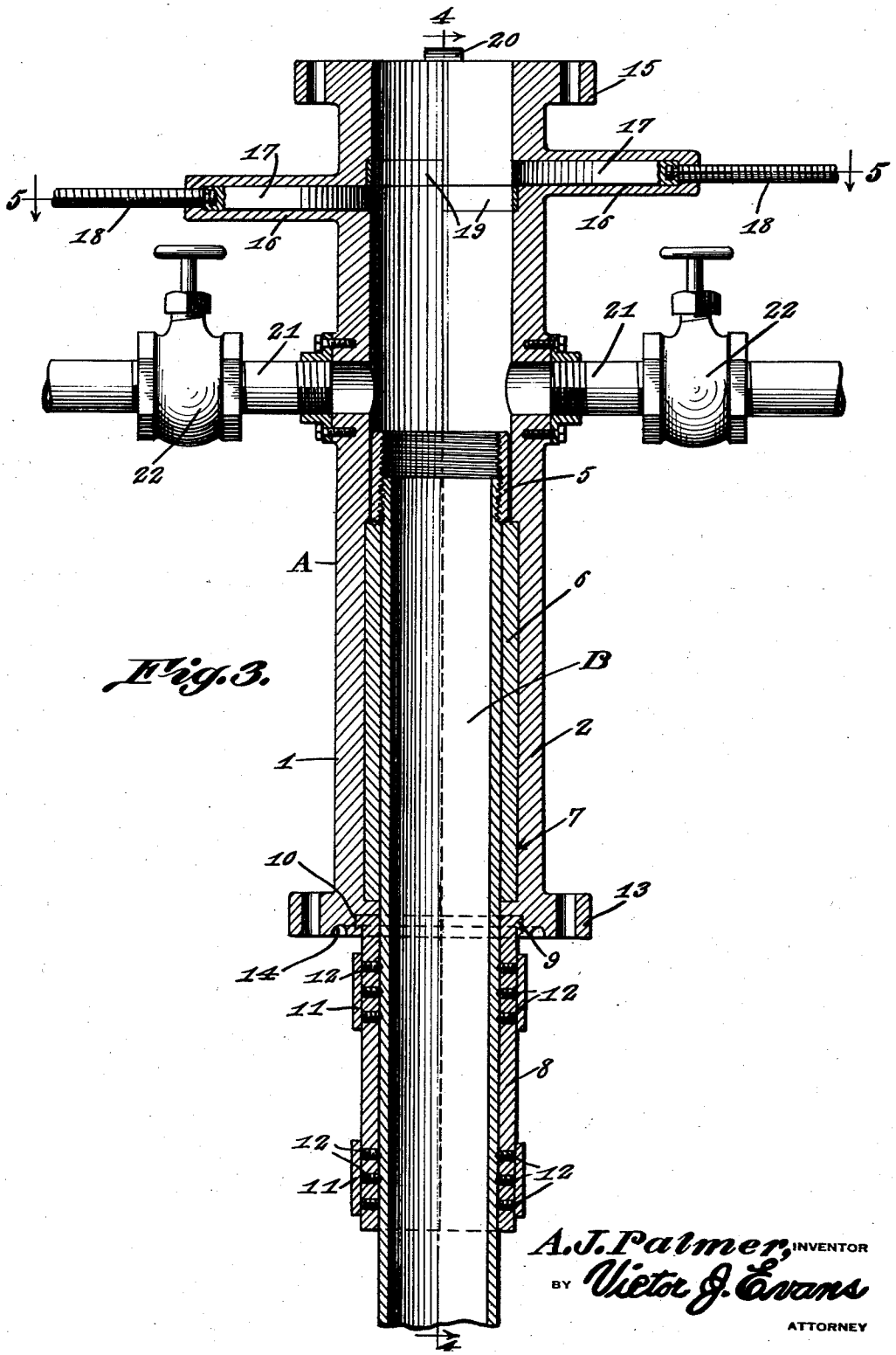


Fig. 3.

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CONTROLLING VALVE FOR OIL WELLS

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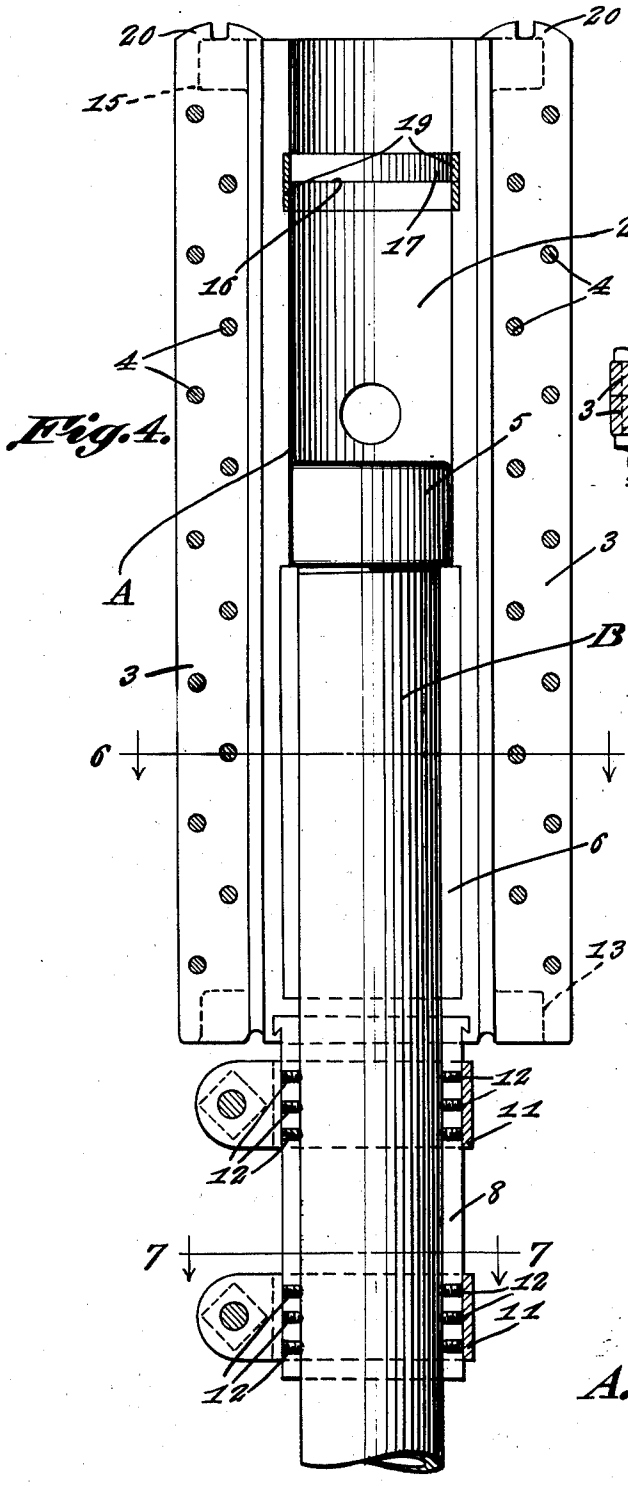


Fig. 4.

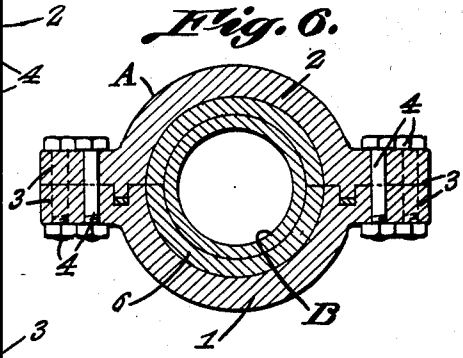


Fig. 6.

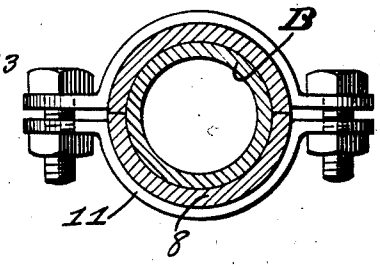


Fig. 7.

A. J. Palmer, INVENTOR

BY Victor J. Evans

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Patented Feb. 9, 1932

1,844,792

UNITED STATES PATENT OFFICE

ALBERT J. PALMER, OF WOODSBORO, TEXAS

CONTROLLING VALVE FOR OIL WELLS

Application filed November 28, 1930. Serial No. 498,819.

This invention relates to valves for oil wells and the like, the general object of the invention being to provide means for controlling the flow of fluid from the well, with means whereby the invention can be used to extinguish a fire at the top of the well by placing the valves underground and providing means for uncoupling the top of the well casing from the valve carrying part thereof.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is an elevation, with parts in section, showing the underground arrangement for uncoupling the top part of the well casing from the lower part and showing the valve means for closing the casing and the means for carrying off the oil or gas from the part of the casing under the valve means.

Figure 2 is a section on line 2—2 of Figure 1.

Figure 3 is a vertical sectional view through the valve means and a part of the casing to which such means are attached.

Figure 4 is a section on line 4—4 of Figure 3.

Figure 5 is a section on line 5—5 of Figure 3.

Figure 6 is a section on line 6—6 of Figure 4.

Figure 7 is a section on line 7—7 of Figure 4.

In these drawings, the letter A indicates a valve casing which is formed of the two sections 1 and 2, the sections being provided with flanges 3 which are fastened together by the bolts 4. This casing is adapted to be placed around a section of the oil line B, the section having a coupling 5 threaded on its upper end and a gasket 6 is placed between the section and the valve casing and extends from the lower end of the coupling to a point adjacent the lower end of the valve casing. The casing is formed with an internal recess 7 to receive portion of the gasket.

A sectional sleeve 8 has a head 9 at its upper end which fits in an undercut recess 10 in the bottom of the valve casing, and said sleeve is clamped to the oil pipe below the valve casing by the clamping collars 11, set screws 12 being placed in the sleeve and contacting the oil pipe so that when the clamps 11 are tightened, the ends of the set screws will bite into the pipe. These screws are placed under the clamping collars.

The bottom of the valve casing is formed with a flange 13 having a groove 14 therein so that a jack can be placed under the same to properly position the casing on the oil pipe, and the top of the casing is formed with a flange 15 so that the casing can be bolted to another part, if desired.

A pair of oppositely arranged housings 16 extends from the valve casing, adjacent the upper end thereof, for the gate valves 17. The housings are so arranged that the valves will overlap each other when they are moved out of the housings and thus the valves will close the bore of the casing to shut off the flow of oil therethrough. Each valve is provided with a threaded stem 18 which passes through a threaded hole in the end of the housing so that by turning the stem, the valve will be moved to open and closed position. Gaskets 19 are placed in grooves in the casing and are engaged by the valves when the same are in closed position to form a fluid-tight joint between the parts. Parts 20 are arranged at the top of the valve casing for receiving anchor chains or cables to hold the same in a vertical position. A pair of oppositely arranged pipe lines 21 is in communication with the valve casing below the valves, and each line contains a valve 22. Thus by closing the valves 17 and opening either or both of the valves 22, oil or gas in the oil line can be carried off by these pipes 21.

Figures 1 and 2 show the invention arranged in a tunnel C, with an oil pipe B′ passing into the valve casing and threaded to the coupling 5. The line extends above the

surface and a second tunnel C′ is arranged above the first tunnel so that chain tongs 23 can be attached to the pipe B′ below the surface. These tongs are manipulated from a distant point through means of the cables 24, one of which is connected with the ends of the tongs and the others with the sides thereof, the latter cables passing over the guiding pulleys 25. Thus if a fire should occur at the mouth of the well, the tongs 23 can be manipulated from a distant point so as to disconnect the pipe B from the coupling 5 and when this is done, the pressure in the well will force the pipe B′ upwardly and as soon as the pipe passes the valves 17, these valves can be closed from a distant point through means of the connections 26 connected with the threaded stems of the valves. Thus the flow of oil and gas at the surface of the well will cease and the fire will be extinguished.

Chain tongs 27 are connected with the oil line at the bottom of the tunnel C to prevent this part of the line from turning, these tongs being supported by the upright 28 and the water pipes 29 and surface pipes 30 are formed in sections, as shown in Figure 1.

From the foregoing it will be seen that I have provided simple means whereby the flow of oil or gas or other fluid can be controlled either at the top of the well or underground, with means for tapping the line below the valves when the same are closed and means for detaching the upper part of the oil line from the lower part.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. In combination with an oil well casing, upper and lower tunnels surrounding the well casing, a threaded coupling connecting the upper part of the well casing to a lower part thereof, a valve casing surrounding the well casing from a point above the coupling to a point below the same, valve means in the valve casing, said valve casing being located in the lower tunnel, means in the upper tunnel for turning the upper part of the well casing from a distant point to free the same from the coupling means, means for operating the valve means from a distant point to close such means after the upper part of the well casing has been moved above the valve means, a pipe line connected with the valve casing below the valve means and a valve in said line.

2. The combination of superposed tunnels, a well valve including a casing in one of the tunnels, a sectional well casing located in both tunnels, means for fastening the valve casing to a part of the well casing, gate valves in the valve casing, means for opening and closing the valves at a considerable distance therefrom in one tunnel, and means in the respective tunnels for separating the sections of the well casing from said valve casing and operative when the gate valves are closed.

In testimony whereof I affix my signature.

ALBERT J. PALMER.