July 28, 1925. 1,547,282

R. E. YOUKER

BUSHING FOR OIL WELL CASING ELEVATORS

Filed Sept. 12, 1924 3 Sheets-Sheet 1

FIG. 1

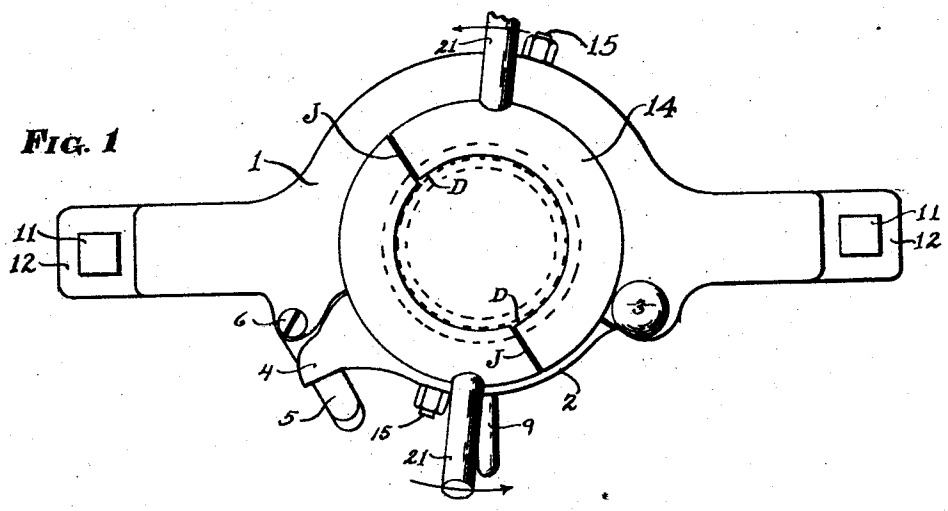
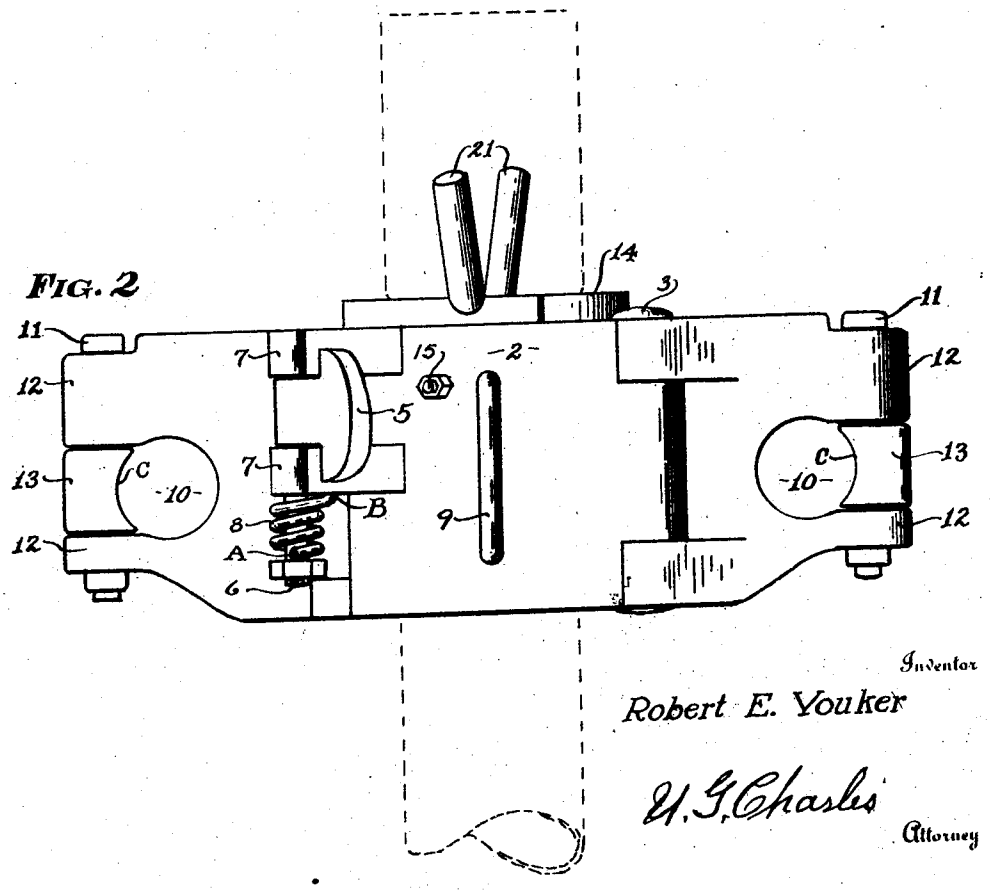


FIG. 2



Inventor

Robert E. Youker

U. G. Charles

Attorney

July 28, 1925. 1,547,282

R. E. YOUKER

BUSHING FOR OIL WELL CASING ELEVATORS

Filed Sept. 12, 1924 3 Sheets-Sheet 2

FIG. 3

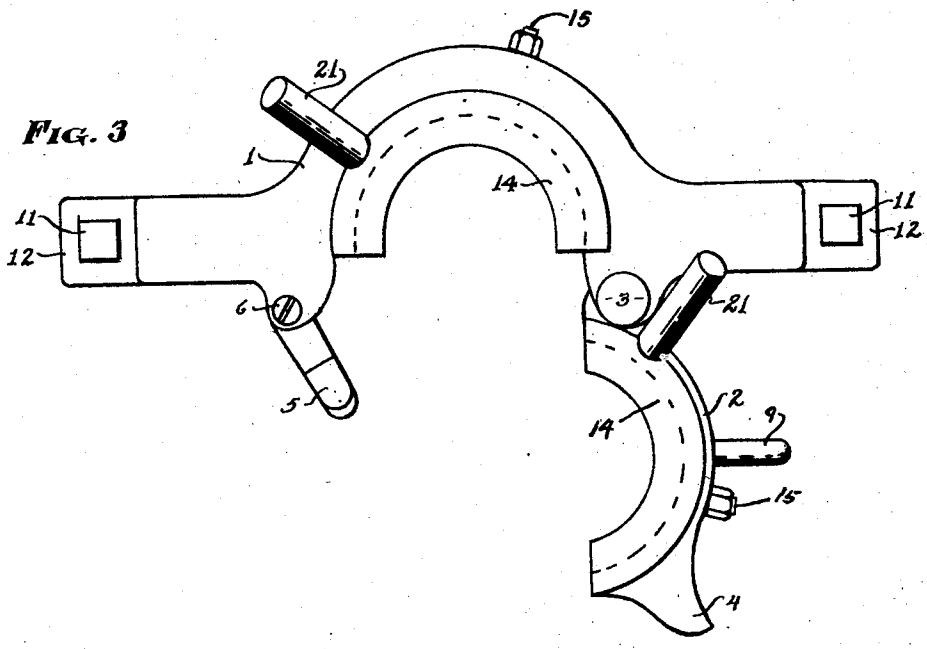
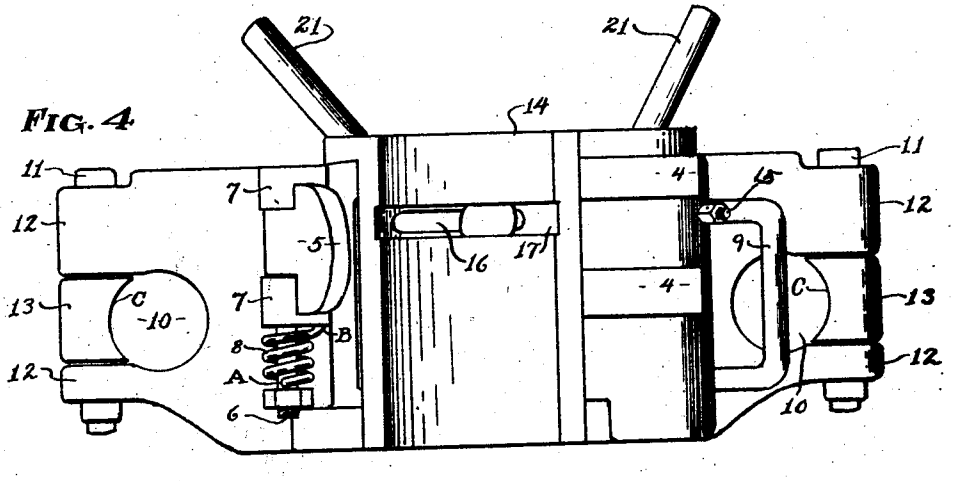


FIG. 4



Inventor

Robert E. Youker

U. G. Charles

Attorney

July 28, 1925. 1,547,282

R. E. YOUKER

BUSHING FOR OIL WELL CASING ELEVATORS

Filed Sept. 12, 1924 3 Sheets-Sheet 3

FIG. 6

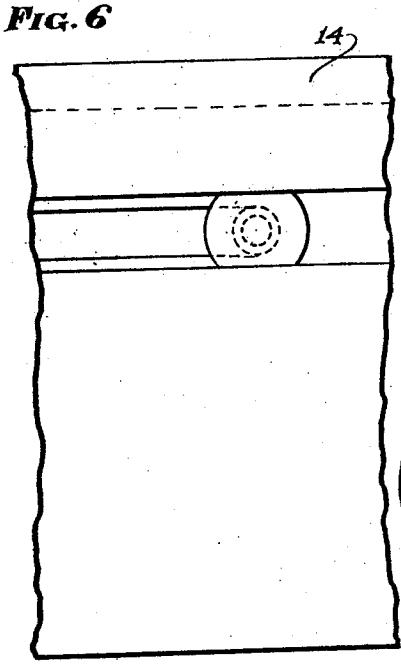
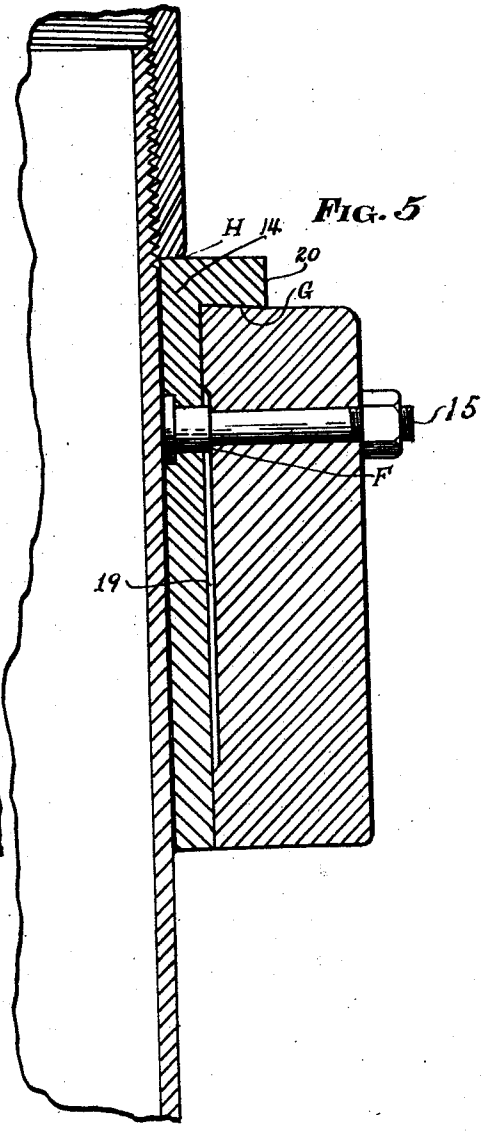


FIG. 5



Inventor

Robert E. Youker

U. G. Charles

Attorney

Patented July 28, 1925. 1,547,282

UNITED STATES PATENT OFFICE.

ROBERT E. YOUKER, OF HUTCHINSON, KANSAS.

BUSHING FOR OIL-WELL-CASING ELEVATORS.

Application filed September 12, 1924. Serial No. 737,395.

To all whom it may concern:

Be it known that I, ROBERT E. YOUKER, a citizen of the United States, residing in Hutchinson, county of Reno, and State of Kansas, have invented new and useful Improvements in Bushings for Oil-Well-Casing Elevators, of which the following is a specification, reference being had to the accompanying drawings, which form a part of this application.

This invention relates to bushings for oil well casing elevators.

The objects of my invention are:

First, to provide a bushing to be placed in the bore of a standard oil well elevator to accommodate the various sizes of pipes employed.

Second, to provide a bushing that is revolvably mounted within said bore of the elevator, one portion remaining in the elevator proper while the other portion will travel with the gate, for convenience of entering the casing.

Third, to provide a bushing that when placed on the casing, it can be revolved to such a degree that it will strengthen the hinged portion, hereinafter described as the gate.

These and other objects will be hereinafter more fully described.

Referring to the drawings; Fig. 1 is a top view of the elevator with the bushing in place. Fig. 2 is a side view of Fig. 1. Fig. 3 is a top view with the gate opened. Fig. 4 is a side view of Fig. 3. Fig. 5 is an enlarged sectional view through the bushing and shell of the block. Fig. 6 is an inside view of the bushing, showing the groove and head of the bolt.

1 is an elevator having a door 2, hingedly mounted at 3, and having ears 4, the said ears being integral with the gate. 5 is a latch that is pivotally mounted by means of a bolt 6. The said bolt engages through ears 7 and below the bottom ear is a spring 8, the end of which is attached to the bolt as at A, and the opposite end to the ear as at B. The said spring functioning as tension means for the latch, holding it in engagement with the ears. 9 is a handle by which means the gate is opened when the latch is detached. On each end of the block is an eye 10, adapted to receive the loops of a bail and to the said bail is attached a cable, which is the means for raising the elevator. 11 is a bolt passing through the ears of the lugs 12, of the elevator, 13, is a sleeve having one side curved as shown at C, conforming to the shape of the bail, and to enter the loop of the bail the bolts and sleeves are removed, and when replaced function as a safe guard preventing the bail from spreading when in the act of drawing a casing from the well.

The above description applies to a standard make of elevator, and such I do not claim broadly as my invention, but owing to the gate required for entering the casing I found that this portion of the elevator was weakened, so in order to overcome the deficiency, I have provided a bushing 14 that functions for two purposes, first, that the bushing may be made with the bore varying in diameter, so that it will fit the different sized casings, but the outside diameter of the bushing remains the same so that it will apply to the standard make of elevator, second, that when the bushing is revolved, the joint through the bushing and the jambs of the gate will not register, therefore the solid body of the bushing will engage over the jambs of the gate equalizing the strength about the periphery of the bore of the elevator.

The bushing is composed of two members, by cutting it open at one side of the axis so that the smaller portion will equal in length to that of the gate, and the greater portion (the edges of which pass the axis) will have its edges cut tangent and parallel as shown at D, so that the casing will enter freely and each member of the bushing is revolvably mounted in the elevator being held in position by means of a bolt 15, which is rigidly connected to the shell of the elevator, the end of which protrudes through and engages in a slot 16 in the bushing, and the said bolt having the sides of the head flattened is adapted to engage in a groove 17, functioning as means to hold the bolt from turning when being tightened, and the said bolt being enlarged where it passes through the bushing provides a shoulder F, by which means when the bolt 15 is tightened, the bolt is bound firmly to the shell of the elevator allowing the bushing to revolve freely. To overcome friction I have recessed the shell as shown at 19, functioning as an oil retainer.

The bushing 14 is provided with a rim 20 being seated on the shell of the elevator as at G, and the seat being beveled so that the

segmental parts of the bushing will be inclined to ride on the inside face of the shell of the elevator.

21 are the arms radially disposed and angling outward from the center being formed integral with the bushing, and functioning as handles to revolve the bushing when the gate is closed.

To operate the mechanism, the elevator being suspended by a bail which is connected to the cable, for hoisting purpose, (the cable and bail not being shown in the drawings,) I open the gate as shown in Fig. 3, and swing the elevator until it engages with the casing, under the union as shown at H, in Fig. 5. Then I close the gate which will automatically lock itself in a closed position, then I take hold of the handles 21, and revolve the bushing so that the joint J will not register with the hinged or the opposite side of the gate and by so doing, the joints J and the hinged and opposite side of the gate will engage on solid metal, both of the bushing, and the shell of the elevator, and this reinforcing means will strengthen the joints occasioned by the gate.

When the pipe varies in size, I have provided a number of bushings that will conform to each, and by removing the bolts 15, the bushings can be removed and changed as desired.

Such modifications may be made as lie within the scope of the appended claims, and what I claim as new and desire to secure by Letters Patent is:

1. In a bushing for oil well casing elevator, an annular bushing having a rim to engage on the periphery on the opening in an oil well casing elevator, said bushing being severed longitudinally and at one side of the axis of the bore in said bushing, and the inside walls of the greater segmental portion being cut parallel, equaling the diameter of said bore, so that the casing will enter freely, means for opening and closing the segmental parts of said bushing and means for rotating said bushing so that the joint therein will engage over solid portions of the said elevator for the purpose described.

2. In a bushing for oil well casing elevator, a bushing comprising two parts, an annular groove in each part thereof, and a slot within said groove, a bolt attached firmly to the walls of said elevator, and the head thereof engaging in said slot and groove as retaining means, so that said parts of the bushing may be revolved independently of each other and simultaneously, substantially as shown and for the purpose set forth and described.

3. In a bushing for oil well casing elevator, a bushing of the kind described, said bushing being interposed within the bore of the elevator, and one end of said bushing having a rim, engaging on the side of said elevator, so that the end of the casing union will engage on the end of said bushing adjacent to said flange, functioning as means for elevating said casing and the said bushing having a bore of different diameters to accommodate for different diameters of casings, and the said bushings being held firmly in the bore of the elevator by the closing and latching of the gate, of said elevator.

ROBERT E. YOUKER.