March 20, 1928. 1,663,285

O. R. STUMP ET AL

PIPE RETAINER FOR DERRICKS

Filed Feb. 19 1927

Fig. 1.

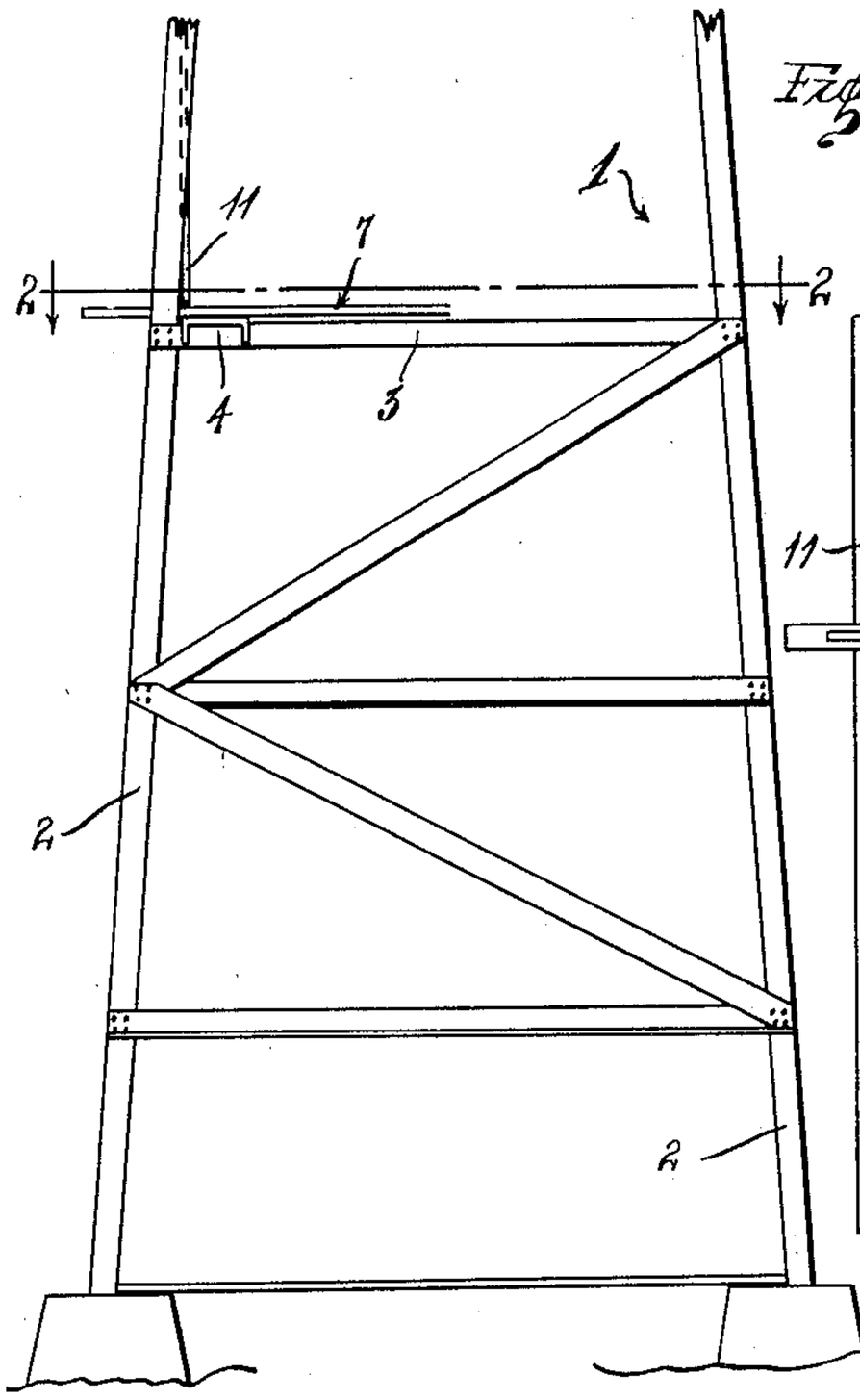


Fig. 2.

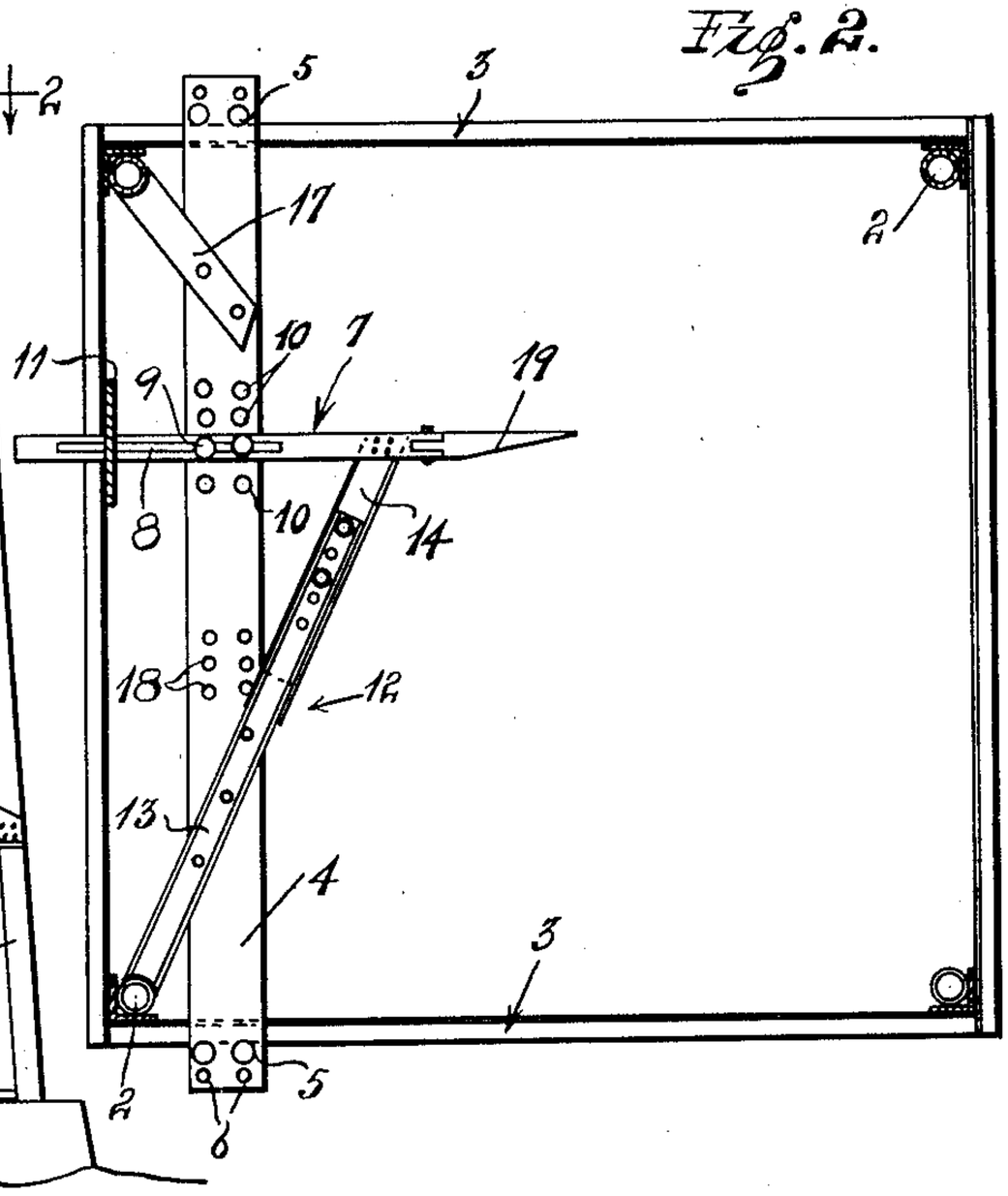


Fig. 3.

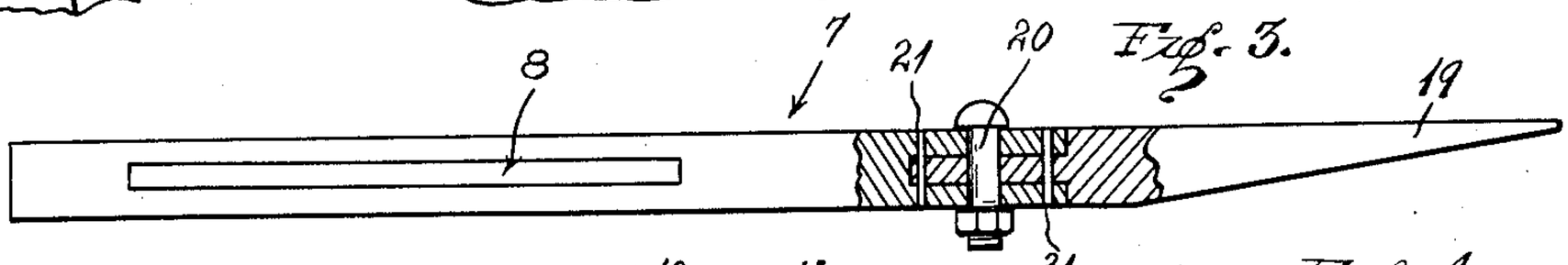


Fig. 4.

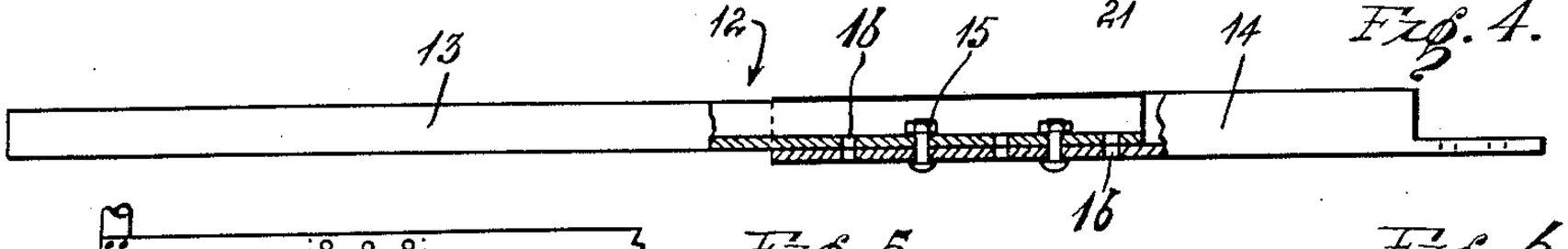


Fig. 5.

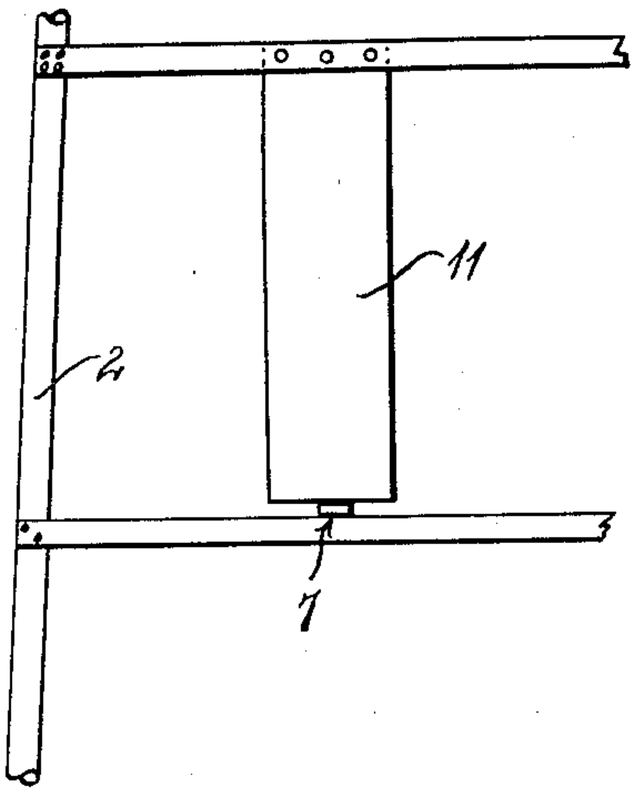
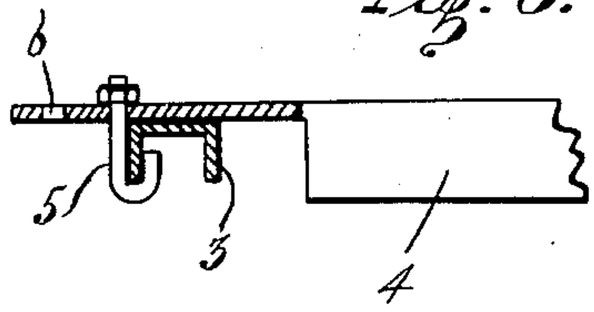


Fig. 6.



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UNITED STATES PATENT OFFICE.

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PIPE RETAINER FOR DERRICKS.

Application filed February 19, 1927. Serial No. 169,655.

In derricks erected for the purpose of drilling or operating deep wells it is customary to provide a retaining means for the pipe used in the well. This retaining means includes a board extending across the derrick a considerable distance above the floor, and a finger extending outwardly from the board towards the center of the derrick. The pipe being thus retained back of the finger leans against the board and against the side of the derrick. This board, finger, braces, et cetera, has heretofore been made of wood and was therefore very liable to be broken when the heavy blocks and other well equipment came in contact therewith. This required considerable delay in replacing the retainer and necessarily involved considerable expense.

An object of our invention is to provide a retainer for pipe in a derrick which is formed of metal and which may be quickly and easily placed in position.

Another object is to provide a finger for the retainer, the tip of which is so constructed that it will swing when the heavy blocks and the like come in contact therewith.

A further object is to provide a retainer which is adjustable to various sized derricks and to various heights in the derrick.

Still another object is to provide a retainer in which the finger may be adjusted to retain small or large amounts of pipe as desired.

Other objects, advantages, and features of invention may appear from the accompanying drawing, the subjoined detailed description, or the appended claims.

In the drawing:

Fig. 1 is a fragmentary side elevation of a derrick with our pipe retainer in position thereon.

Fig. 2 is an enlarged sectional view taken on line 2, 2, Fig. 1.

Fig. 3 is an enlarged plan view of the finger with parts broken away to show interior construction.

Fig. 4 is a side elevation of the finger brace with parts broken away to show interior construction.

Fig. 5 is a fragmentary side elevation of the derrick showing the finger brace plate.

Fig. 6 is a fragmentary side elevation partly in section of the retainer board.

Referring more particularly to the drawing:

The derrick 1 which may be of either metal or wood construction (here shown as metal) has four corner posts 2 and horizontal beams 3 secured thereto. A board 4 extends transversally across the derrick and rests on the beams 3, 3, said board being preferably formed of metal and may be either a channel beam or the like. This board is secured to the beams 3 by hook bolts 5 extending through said plate and under the beams. A plurality of holes 6 are provided in the board 4 so that the hook bolts 5 can be adjusted to suit the particular conditions.

A finger 7 is mounted on the board 4 and extends inwardly into the derrick, the purpose of said finger being to retain the pipe and hold the same in one corner of the derrick. The finger 7 is provided with a slot 8 extending lengthwise thereof and bolts 9, 9, extend through the slot into the board 4 whereby the finger 7 may be adjusted to extend a greater or less distance into the derrick thus accommodating a large or small amount of pipe.

A plurality of pairs of bolts 10 are provided in the board 4 so that the finger 7 may be adjusted along the board to suit various conditions. A finger brace plate 11 is secured to the derrick or to some of the beams 3 and extends downwardly to bear against the outer end of the finger 7. This plate is of sufficient width so that it will bear upon the finger in any of its adjusted positions.

A finger brace 12 comprising a pair of telescoping members 13, 14, the member 13 being secured to the board 4 and the end thereof rests against one of the corner posts 2. The member 14 is secured to the finger 7 adjacent the inner end thereof. The members 13, 14 may be adjusted relative to each other by the bolts 15, 15 extending there through and by a suitable number of holes 16 to accommodate said bolts.

A brace arm 17 is secured to the board 4 and bears against one of the corner posts 2 thereby bracing the said board against movement. It is sometimes desirable to move the finger 7 to the other side of the derrick in order to stack pipe therein and for this purpose we have provided a plurality of stubs 18 upon which the finger 7 may be mounted, or if desired a second finger may be mounted thereon. The finger 7 is provided with a tip 19 pivoted to the finger by a heavy bolt 20. Small pins 21 extend

through the tip to hold the same in alinement with the finger 7, but if the heavy blocks or the like should come in contact with the tip while going up or coming down, the pins 21 will shear off allowing the tip to pivot around the bolt 20 and thus not harming the finger or its mounting. The finger can readily be placed in operative position by inserting new pins 21 in place of the ones which were sheared off.

Having described our invention, we claim:

1. A pipe retainer for derricks comprising a board, means removably securing said board to the derrick, and a finger extending inwardly from the said board, said board and finger being formed of metal, and said finger being provided with a tip on the end thereof, and means pivotally mounting said tip on the finger, and means rigidly securing said tip, said last named means being releasable under high stress.

2. A pipe retainer for derricks comprising a board, means removably securing said board to the derrick, a finger extending inwardly from said board, said finger being provided with a tip on the end thereof, and means pivotally mounting said tip on the finger, means adjustably mounting said finger on the board, and means rigidly securing said tip, said last named means being releasable under high stress.

3. A pipe retainer for derricks comprising a board, means removably securing said board to the derrick, and a finger extending inwardly from the said board, and means adjustably mounting said finger on the board, a brace secured to said board and to the finger, said brace being longitudinally adjustable to compensate for the various positions of the finger.

4. In a derrick including corner posts and horizontal beams secured thereto, a metal board, hook bolts extending through said board and under the beams, a brace secured to said board and bearing against one of the posts, a finger adjustably mounted on the board, a tip on the finger, a bolt extending through the tip and finger thereby pivotally mounting the tip, and pins extending through the tip and finger, said pins being so arranged as to shear off under a high stress.

5. In a derrick including corner posts and horizontal beams secured thereto, a metal board, hook bolts extending through said board and under the beams, a brace secured to said board and bearing against one of the posts, a finger adjustably mounted on the board, a tip on the finger, a bolt extending through the tip and finger thereby pivotally mounting the tip, and pins extending through the tip and finger, said pins being so arranged as to shear off under a high stress, a brace for the finger, said brace including two telescoping members adjustably mounted each to the other, one member being secured to the board and bearing against a corner post, and the other member being secured to the finger.

6. In a derrick including corner posts and horizontal beams secured thereto, a metal board, hook bolts extending through said board and under the beams, a brace secured to said board and bearing against one of the posts, a finger adjustably mounted on the board, a tip on the finger, a bolt extending through the tip and finger thereby pivotally mounting the tip, and pins extending through the tip and finger, said pins being so arranged as to shear off under a high stress, a brace for the finger, said brace including two telescoping members adjustably secured each to the other, one member being secured to the board and bearing against a corner post and the other member being secured to the finger.

In testimony whereof, we affix our signatures.

ORVILLE R. STUMP.
JOHN N. HILES.