Feb. 23, 1937. W. C. HOLLIS 2,071,632

PIPE RACK

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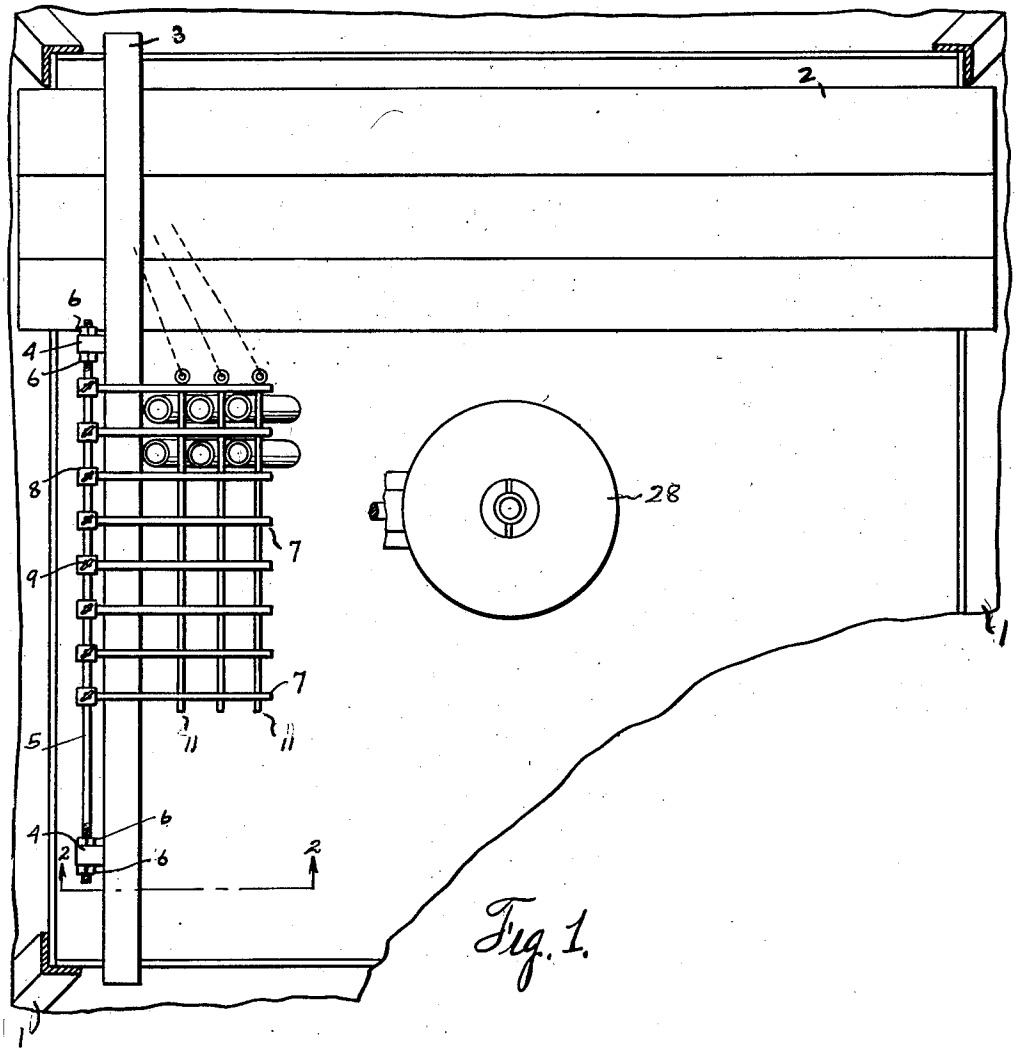


Fig. 1.

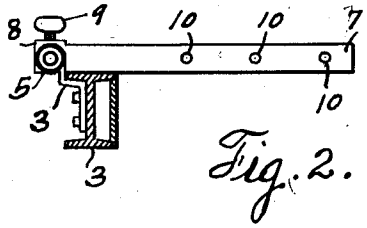


Fig. 2.

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PIPE RACK

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2 Claims. (Cl. 211—60)

This invention relates to a pipe rack.

An object of the invention is to provide a novel type of rack in which the broken up sections of the drill pipe may be stacked and secured, in carrying on well drilling operations.

With the above and other objects in view the invention has particular relation to certain novel features of construction, operation, and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawing, wherein:

Fig. 1 shows a fragmentary, horizontal sectional view of a derrick showing the apparatus in plan view mounted therein.

Fig. 2 shows a sectional view taken on the line 2—2 of Fig. 1.

Referring now more particularly to the drawing wherein like numerals of reference designate similar parts in each of the figures, the numeral 1 designates a derrick of conventional construction and mounted therein at the required elevation and at one side of the derrick there is the platform 2 for the workman who handles the pipe as the string is made up or broken up.

Extending across the derrick at right angles to the platform 2 and supported on the cross-braces of the derrick, there is an I-beam 3 arranged adjacent the legs of the derrick. The outside of this I-beam 3 has the bearings 4, 4, through which the ends of the rod 5 are fitted, and said ends are clamped in place by the clamp nut 6, 6. There is a series of fingers 7 whose outer ends have the bearings 8 which are slidably mounted on the rod 5. These fingers may be adjusted toward and from each other or may be swung upwardly and outwardly when not in use, or they may be secured in any adjusted position, on the rod 5, by means of the set screws 9 which are threaded through said bearings 8. The fingers, when in active position, extend horizontally into the derrick and rest on the I-beam 3.

As the drill stem, or other pipe, is withdrawn from the bore and broken up into sections, the lower ends of the sections rest on the derrick floor and their upper ends are located by the derrickman on the platform 2 between the fingers 7, as shown in Fig. 1, until the rack is filled with pipe, or until the string is broken up. The fingers have aligned bearings, as 10, and when a tier of sections of pipe is located between the fingers, a rod 11 may be inserted through the series of bearings 10 in front of the tier so that when the stack is completed, each tier will be separated by a rod 11, as shown in Fig. 1, and the upper ends of the stacked sections will thus be secured in place. The rods 11 are not necessarily used except in cases where the pipe is to remain stacked for a considerable length of time.

When the pipe sections are to be removed from the rack in the process of making up the pipe, the rod 11 in front of any particular tier may be removed and the upper ends of the pipe sections are then swung outwardly and moved, one at a time, toward the center of the derrick to carry the upper end of the pipe into position to be engaged by the elevators which are carried by the derrick traveling block and when the elevator is latched around the section of pipe, said section is connected into the string of pipe extending through the rotary drilling machine 28.

The drawing and description discloses what is now considered to be a preferred form of the invention by way of illustration only while the broad principle of the invention will be defined by the appended claims.

What I claim is:

1. In pipe handling apparatus, a transverse derrick beam, a rod fixed in spaced relation to the beam, a series of fingers having bearings on the rod, said fingers being mounted for adjustment relative to each other and being rotatably mounted on the rod, means for securing the fingers against movement relative to the rod, said beam forming a support for supporting the fingers in horizontal position, said fingers having series of aligned bearings, and retaining rods fitted through said bearings.

2. A pipe holding apparatus comprising a transverse beam, a rod mantained in spaced relation to the beam, a series of fingers on the rod, said fingers being mounted for adjustment relative to each other and being swingable in vertical planes, means for securing the fingers against movement relative to the rod, said beam forming a support for supporting the fingers in horizontal position, retaining rods supported by and extending transversely of the fingers and means for retaining said retaining rods against movement longitudinally of the fingers.

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