Nov. 3, 1931. J. E. STEPHENS 1,829,879

PIPE HANDLING APPARATUS

Filed Jan. 3, 1930 2 Sheets-Sheet 1

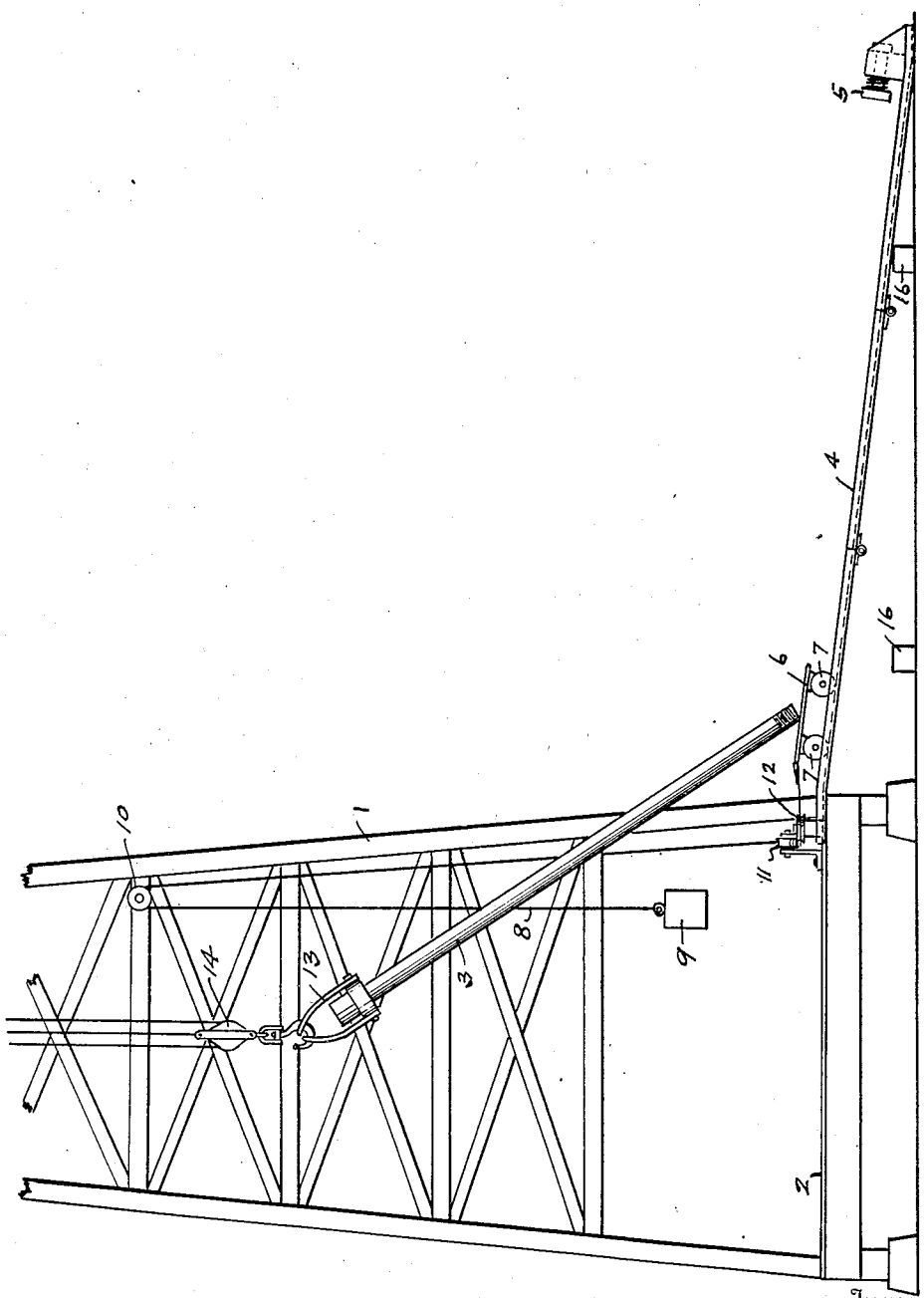


Fig. 1.

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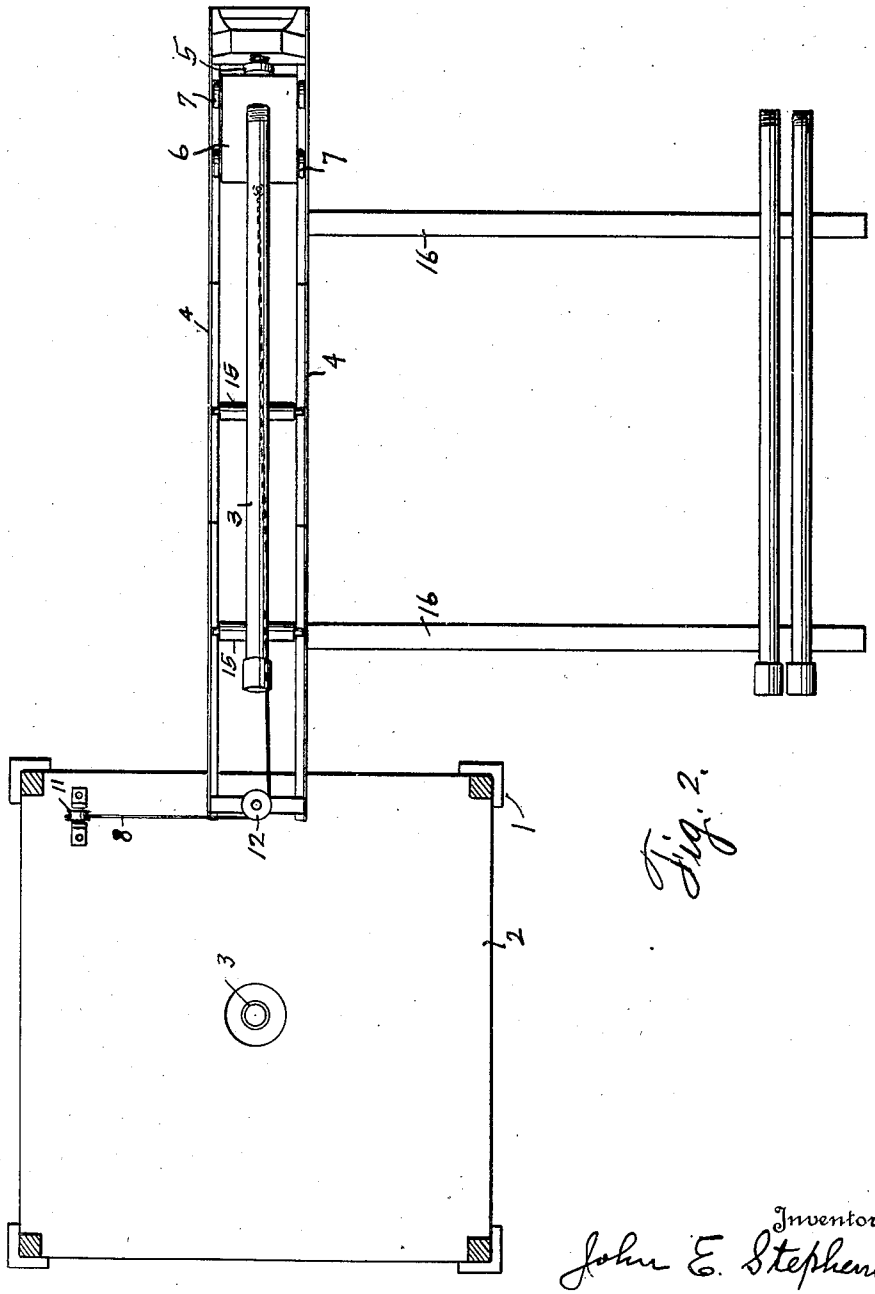


Fig. 2.

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UNITED STATES PATENT OFFICE

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PIPE HANDLING APPARATUS

Application filed January 3, 1930. Serial No. 418,361.

This invention relates to new and useful improvements in pipe handling apparatus.

One object of the invention is to provide apparatus of the character described specially designed for use in connection with wells, for handling pipe or casing as the same is withdrawn from the well.

Another object of the invention is to provide apparatus of the character described by means of which the joints or sections of pipe as the same are broken up or withdrawn from a well may be conveniently and easily disposed of to one side of the derrick and arranged in racks or stacks for further disposition.

While the device has been particularly designed for use in oil fields or in connection with wells, the apparatus is capable of general use.

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

Figure 1 shows a side elevation of the apparatus as associated with a well derrick and

Figure 2 shows a plan view thereof, showing the derrick in horizontal cross section.

In the drawings the numeral 1 designates the derrick as a whole having the floor 2. As is well known, the derrick is erected over a well in which pipe or casing as 3 is located. Declining from one side of the derrick floor are the spaced rails 4, 4, preferably formed of angle irons suitably joined together and forming a track. However if desired, the usual T-rails may be used. At the lower end of the track there is a suitable bumper 5 which may be yieldable if desired. There is a carriage 6 mounted on the carriage wheels 7 which are shaped to conform to the type of rails used. This carriage is movable along said track. There is a cable 8 one end of which carries a suitable weight 9. This cable works around an overhead sheave 10 mounted up in the derrick and passes thence around a sheave 11 at one side of the derrick floor and on around a horizontally disposed sheave 12 on the derrick floor aligned midway of the track and its other end is attached to said carriage 6. The weight 9 normally holds the carriage at the upper end of the track. In operation, as a section of the pipe or casing is withdrawn from the well, and broken out, by the use of the conventional elevators 13 and tackle block 14, its lower end is swung onto the carriage and the tackle block then gradually lowered. The weight of the pipe section will force the carriage 6 downwardly along said track carrying said pipe section downwardly and outwardly as it approaches a horizontal position. When the carriage 6 reaches the lower end of the track the upper end of the pipe section will come to rest on the horizontally disposed rollers 15, 15 mounted between and disposed transversely of the rails 4, 4. The section of pipe may be then easily rolled off of the carriage and rollers onto the skids, 16, 16 forming a rack for the pipe and disposed to one side of and adjacent the track. When the carriage 6 is relieved of the weight of the load and the track is cleared of the pipe section the carriage will move back up the track to its original position under the influence of the weight 9.

The drawings and description disclose 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. Apparatus for handling pipe including a declining track, a carriage thereon for supporting the lower end of a section of pipe, a stop at the lower end of the track, mechanism normally holding said carriage at the upper end of said track, said mechanism being formed to permit the carriage to move, under the influence of the weight of the load thereon, to the lower end of said track.

2. Apparatus for handling pipe including a declining track, a carriage thereon, a stop at the lower end of the track, mechanism normally holding said carriage at the upper end of said track, said mechanism being formed to permit the carriage to move, under the influence of the weight of the load thereon, to the lower end of said track, and a transverse,

load supporting roller mounted in the track arranged to support a pipe section disposed parallel with the track.

3. Apparatus for handling pipe including a declining track, a carriage movable thereabout, a stop for the carriage at the lower end of the track, and a transverse support adjacent the upper end of the track and shaped to support horizontally disposed pipe sections.

4. Apparatus for handling pipe including a declining track, a carriage movable thereabout and adapted to support the lower end of a pipe section, a carriage stop at the lower end of the track, a cable attached to the carriage, sheaves around which said cable works, one of said sheaves being elevated, a suspended weight carried by the cable and arranged to operate, through said cable, to normally hold the carriage at the upper end of the track, said weight and cable being arranged to permit the carriage to move, under the influence of a load on the carriage, to the lower end of said track.

5. Apparatus for handling pipe including a declining track, a carriage movable thereabout to receive the lower end of a section of pipe, a carriage stop at the lower end of the track, a cable attached to the carriage, sheaves around which said cable works, one of said sheaves being elevated, a suspended weight carried by the cable and arranged to operate, through said cable, to normally hold the carriage at the upper end of the track, said weight and cable being arranged to permit the carriage to move under the influence of a load on the carriage, to the lower end of said track, and a transverse roller in the track adjacent the upper end thereof arranged to support the pipe when lowered onto said track.

In testimony whereof I have signed my name to this specification.

JOHN E. STEPHENS.