No. 616,080. Patented Dec. 20, 1898.

W. A. CORY.

RAILWAY TURN TABLE.

(Application filed May 19, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

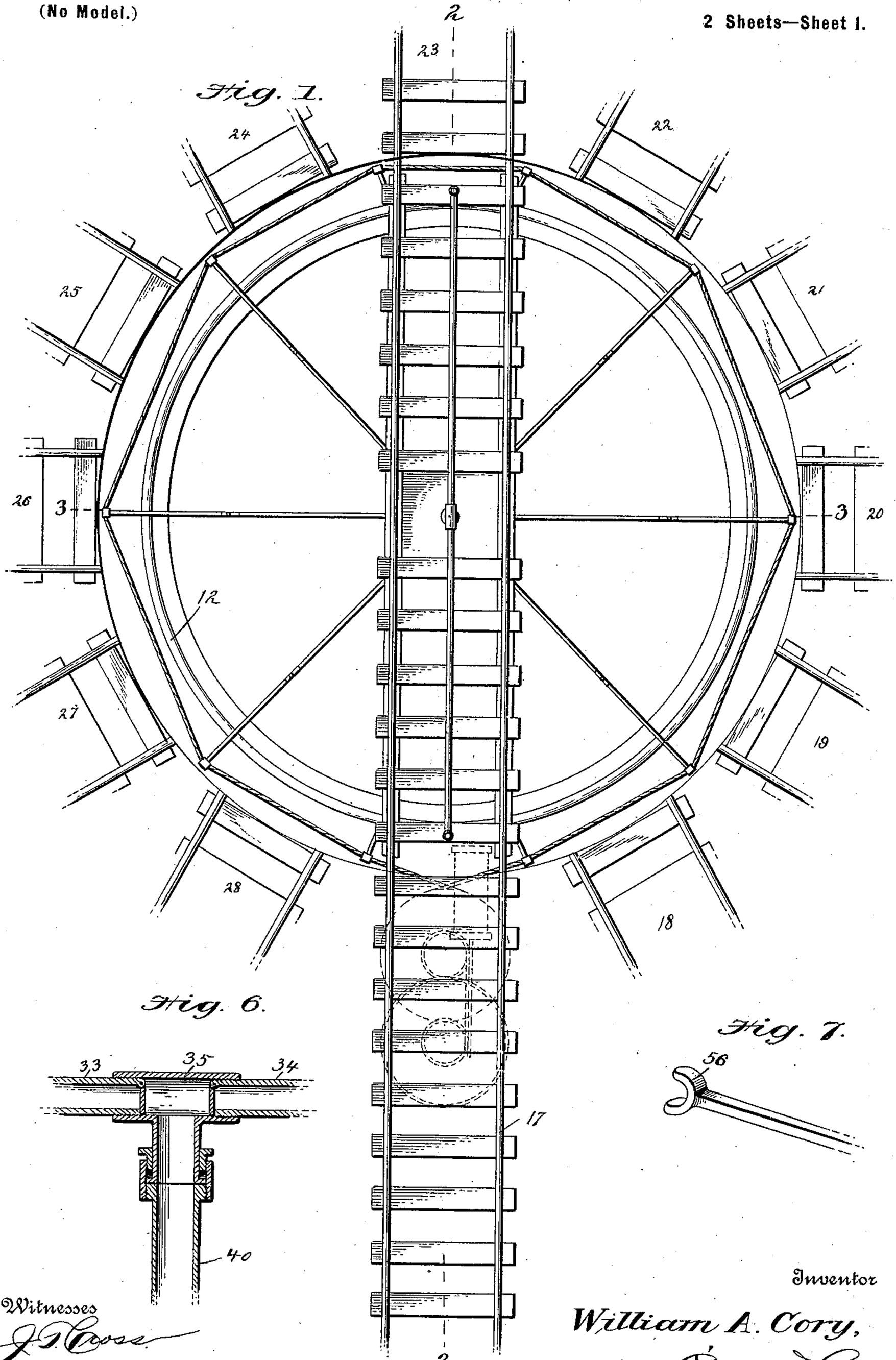

Fig. 6.

Fig. 7.

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Fig. 2.

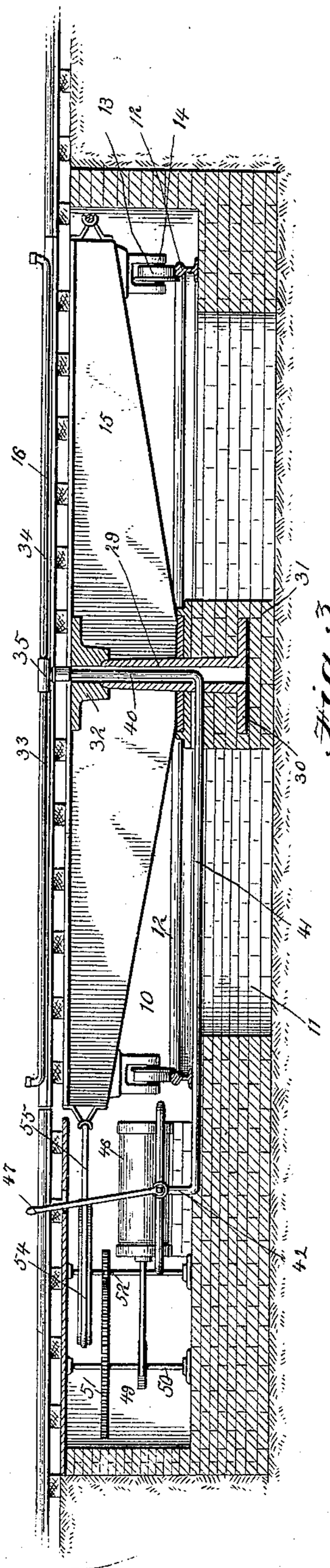

Fig. 3.

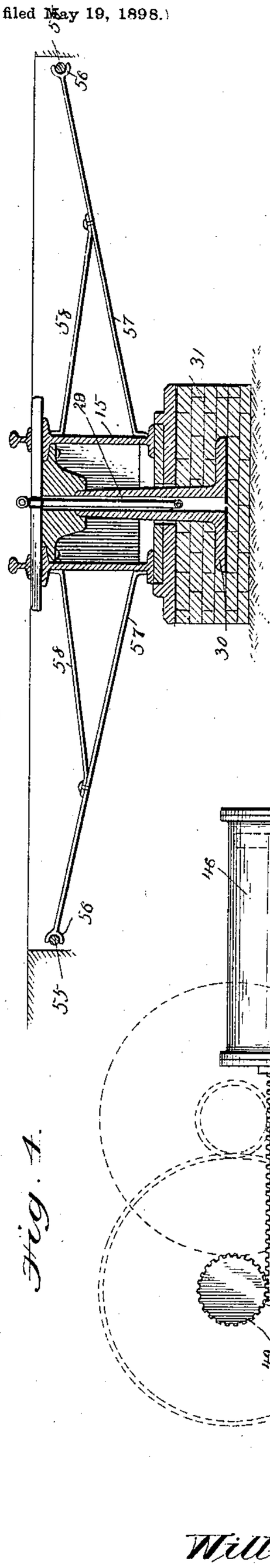

Fig. 5.

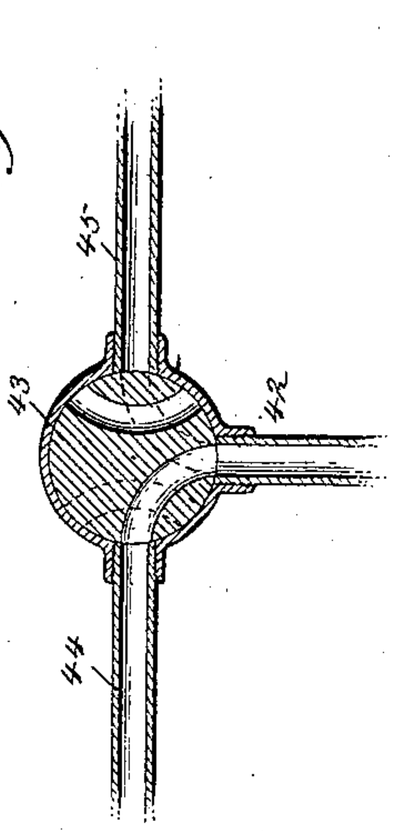

Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM A. CORY, OF LEAVENWORTH, KANSAS.

RAILWAY TURN-TABLE.

SPECIFICATION forming part of Letters Patent No. 616,080, dated December 20, 1898.

Application filed May 19, 1898. Serial No. 681,153. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. CORY, a citizen of the United States, residing at Leavenworth, in the county of Leavenworth and State of Kansas, have invented a new and useful Railway Turn-Table, of which the following is a specification.

My invention relates to railway turn-tables, and has for its object to provide an improved construction whereby the air-pump on the engine or the steam from the boiler may be utilized in turning the turn-table with an engine on it.

With this object in view my invention consists in a turn-table provided with radial braced arms, forked at their outer ends to receive a cable or drive-chain, a pulley adjacent to the turn-table adapted to carry and drive the cable, and gearing actuating the pulley and driven by a piston in a cylinder in a pit adjacent to the turn-table pit, there being suitable connections between the cylinder and a pipe on the turn-table adapted to be connected with the engine by means of a hose or other flexible connection.

My invention further consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the appended claim.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of a turn-table constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section therethrough on the line 2 2 of Fig. 1, illustrating the operative mechanism. Fig. 3 is a vertical sectional view on the line 3 3 of Fig. 1. Fig. 4 is a detail view of the operating-cylinder and connections. Fig. 5 is a detail view of the valve for admitting air or steam to the cylinder. Fig. 6 is a detail view illustrating the connection of the pipes at the center of the turn-table. Fig. 7 is a detail view of the ends of one of the cable-supporting arms.

Like numerals of reference mark the same parts wherever they occur in the different figures of the drawings.

Referring to the drawings by numerals, 10 indicates the pit in which the turn-table is mounted and which is surrounded by a brick wall in its lower portion, (marked 11,) which forms a solid base upon which to mount a circular rail 12, upon which run car-wheels 13, suitably journaled in depending brackets 14, secured to girders 15, which support the track 16 of the turn-table. This track, which is usual in turn-tables, is arranged to coincide with and form a continuation of either of the tracks 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, or 28, according as the turn-table is turned or adjusted.

The whole structure is arranged to be turned about a central hollow column 29, provided with a base 30, embedded in a brick pier 31, a bearing-block 32, also hollow, resting upon the upper end of said column. 33 and 34 indicate branch pipes extending in opposite directions from the central T-coupling 35, arranged to swivel on the vertical arm 40 of a pipe 41, the vertical arm 40 being located within the hollow column 29 and the pipe 41 leading laterally below the track 12 into a lateral extension 42 of the pit, in which extension the mechanism for turning the turn-table is located. At its outer end the pipe 41 is branched upward to a three-way valve 43, by means of which it is made to communicate at will with either of the pipes 44 or 45, the first of which leads to one end of a cylinder 46 and the second to the other end, the valve being operated by a hand-lever 47.

The cylinder 46 contains a piston-head, (not shown,) to which is attached a rack 48, which forms the piston-rod. This rack engages a pinion 49 on a vertical shaft 50, which carries above the pinion a large gear-wheel 51, which in turn meshes with a pinion 52 on another vertical shaft 53, which carries above the pinion 52 a grooved pulley 54, around which passes the cable 55, which also passes around the turn-table, being supported in the forked ends 56 of laterally-extending levers 57, secured to the girders 15 and stiffened by braces 58, connecting the levers at about their centers with the upper portion of the girders.

The construction of my invention will be readily understood from the foregoing description, and its operation may be described as follows: An engine to be turned is moved onto the turn-table and either of the pipes 33 or 34 coupled by means of a hose or flexible tube with either the air-pump or boiler, suitable means being provided to prevent the escape of steam through the opposite pipe. Steam or air is now turned on and passes through either the pipe 33 or 34, the vertical arm 40, pipe 41, and branch 42, through the three-way valve and into the cylinder through either the pipe 44 or 45. As illustrated, the steam will pass through the pipe 45 into the inner end of the cylinder and will force the rack piston-head 48 outward, turning the pinion 49, shaft 50, gear-wheel 51, pinion 52, shaft 53, and pulley 54. The rotation of this pulley will cause the rotation of the turn-table through the medium of the cable 55, the rack 48 and gearing being adjusted in length and size to cause the turn-table to be rotated one-half a revolution at each stroke of the rack. In turning this half-revolution the engine is reversed in position and may be moved off the turn-table on the same track from which it came, or in the opposite direction.

It will be readily understood by railroad men how the engine may be headed in either direction onto any of the tracks surrounding the turn-table.

From the foregoing description it will be apparent that I have provided means whereby the usual hand-lever or separate power necessary to turn turn-tables is dispensed with and the means always at hand on the engine economically utilized to effect the necessary results.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

The combination in a turn-table, of a cable surrounding the structure, a driving-pulley engaging said cable, a vertical shaft carrying the driving-pulley, a second vertical shaft carrying a pinion, a cylinder with a rack piston-rod engaging the pinion, a pipe provided at one end with branches leading to opposite ends of the cylinder, and at the opposite end with a vertical arm projecting centrally to a point between the tracks of the turn-table, and branch pipes between the tracks of the turn-table, having a swiveling connection with the upper end of the central vertical arm, substantially as described.

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