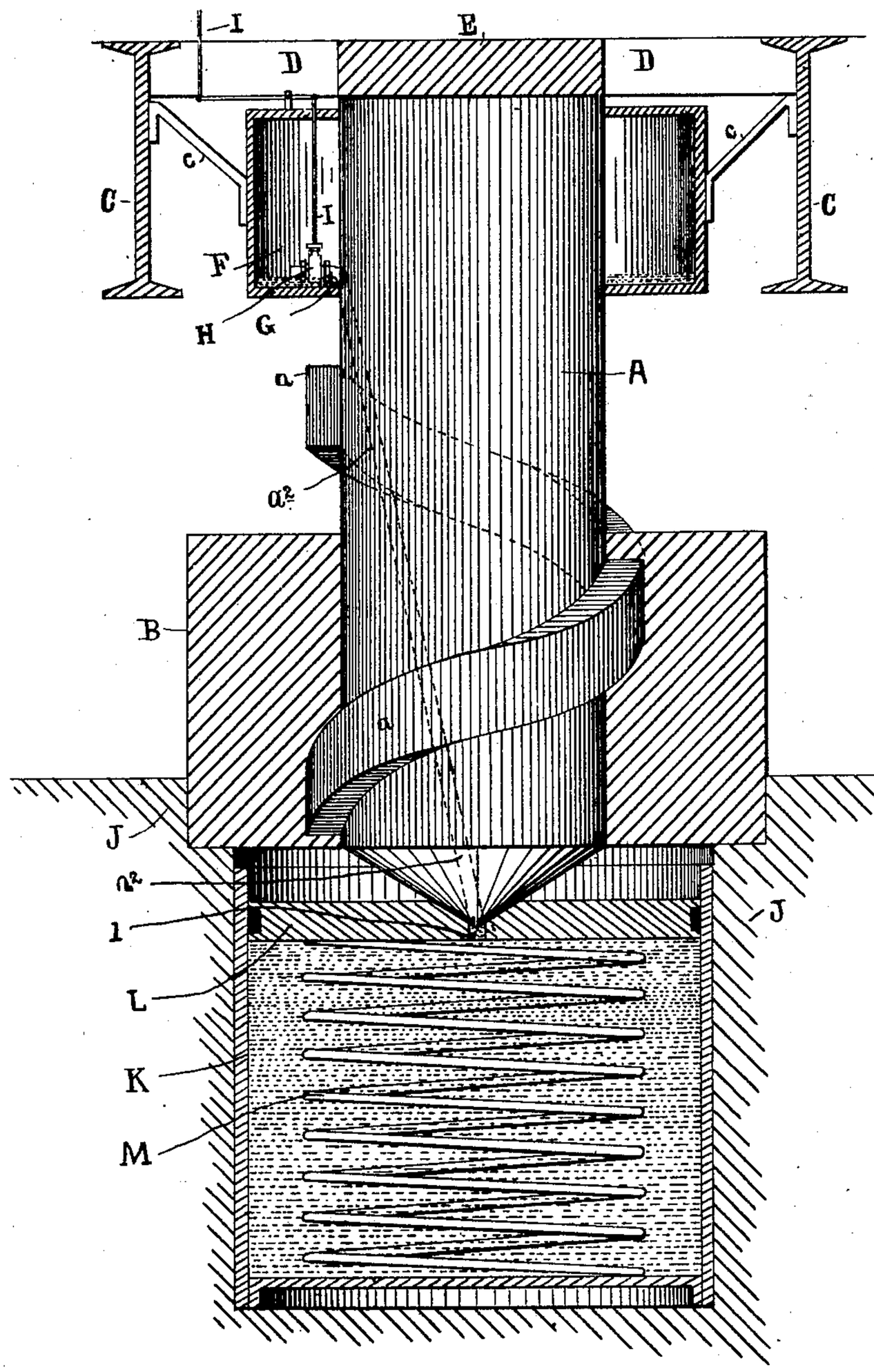
No. 678,085. Patented July 9, 1901.

A. C. WOLFE.

SCREW WEDGE.

(Application filed Mar. 30, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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SCREW-WEDGE.

SPECIFICATION forming part of Letters Patent No. 678,085, dated July 9, 1901.

Application filed March 30, 1900. Serial No. 10,749. (No model.)

To all whom it may concern:

Be it known that I, ANDREW C. WOLFE, a citizen of the United States, residing at Freeport, in the county of Armstrong and State of Pennsylvania, have invented or discovered new and useful Improvements in Screw-Wedges, of which the following is a specification.

In the accompanying drawing, which makes part of this specification, the figure is partly in elevation and partly in section of a view of my mechanical movement applied to a turn-table, but for the purpose of illustration only.

The purpose of my invention, generally stated, is to devise a simple and powerful mechanical movement of rotation through the medium of a screw-wedge and a power-box by the application of end pressure on the said screw-wedge.

In the accompanying drawing I have shown the invention as applied to the rotation of a turn-table; but this is only one of a large variety of uses in which the mechanism is valuable, and I intend to claim the mechanical movement broadly as well as in connection with the particular details which fit it to be used with the turn-table structure.

A is a screw-wedge having a thread *a* formed thereon sufficiently close to parallelism with the longitudinal axis of the screw-wedge, so that an end thrust on said screw-wedge will cause the said wedge to move in its box or bearing by a rotary progressive movement.

B is what I call the "power-box" or "bearing," which has threads corresponding to the thread on the screw A.

Now it is apparent that an end thrust applied to the screw A will rotate the same and at the same time advance the screw with a movement of great power and force. In the present case this mechanical movement is adapted to the use of a turn-table by virtue of the following mechanism.

C C represent the side beams of the turn-table; D, a cross beam or beams, between which is the central block E, rigidly secured to the wedge A. Surrounding the upper portion of the wedge A is a liquid-reservoir F.

a^2 is a passage extending through the screw-wedge A. G is a nipple screwed into the upper end of said passage, and H a valve on said nipple. The valve is controlled by suitable levers I I.

c c are braces for the turn-table.

The power-box B is supported upon the walls J J of a suitable pit. In this pit is placed a cylinder K, provided with a piston-head L. In this piston-head L is an opening *l*, communicating with the passage a^2 in the power-screw A. Power-screw A is suitably seated in or upon said piston-head L and in the drawing is shown as being convex at the lower end and resting in a corresponding concave seat on the upper side of the piston-head L.

M is a powerful spring interposed between the under side of the piston-head L and the bottom of the cylinder K.

The operation of the device is as follows: The engine is run upon the turn-table with the valve H closed, thus making a liquid-lock which prevents the motion of the power-screw. The attendant by means of levers I I opens the valve H to the required degree, thus permitting the liquid which fills the cylinder K to pass out through the passage a^2 under the pressure imparted to the piston-head L by the weight of the turn-table and engine resting upon the screw-wedge A. As the screw-wedge A settles it must also rotate to any required arc and correspondingly turn the turn-table and engine through the same arc. When the rotation required has been gained, the valve H is cut off and the mechanism thus locked in position. After the engine has been run off the table the spring M will return the parts to their normal position, and the level of liquid in the reservoir K is restored by introducing a fresh supply thereto through the passage a^2 or any other desired way. Instead of the spring M a hydraulic pump may be connected to the reservoir K, and by pumping the piston-head L may be returned to its proper position and the reservoir K filled to its full level.

Having described my invention, I claim—

1. The combination of a screw-wedge, a stationary power-box threaded to conform with the thread of said screw-wedge, means for

supplying pressure to said screw-wedge, a piston-head supporting said screw-wedge, a cylinder containing liquid in which said piston-head moves and a valve-controlled discharge from said cylinder.

2. The combination of the screw-wedge A, a turn-table supported upon the end thereof; the stationary power-box B; a piston-head supporting said screw-wedge A; a cylinder containing liquid in which said piston-head moves and a valve-controlled discharge from said cylinder.

3. The combination of the screw-wedge A, a turn-table supported upon the end thereof; the stationary power-box B; a piston-head supporting said screw-wedge A; a cylinder containing liquid in which said piston-head moves; a valve-controlled discharge from said cylinder and means for returning said piston-head to its original position.

4. The combination of the screw-wedge A, a turn-table supported upon the end thereof; the stationary power-box B; a piston-head supporting said screw-wedge A; a cylinder containing liquid in which said piston-head moves; and a valve-controlled passage through said piston-head and through said screw-wedge.

5. The combination of the screw-wedge A, a turn-table supported upon the end thereof; the stationary power-box B; a piston-head supporting said screw-wedge A; a cylinder containing liquid in which said piston-head moves; a valve-controlled passage through said piston-head and through said screw-wedge and a reservoir carried by the turn-table with which said passage communicates.

6. In a screw-wedge, a stationary member, a rotatable member, means for rotating said member, a reservoir, a cylinder below said members, a piston-head in said cylinder, the end of said rotatable member resting on said piston-head and means for controlling the flow of liquid between said cylinder and said reservoir, whereby the speed of said rotatable member is governed.

Signed at Pittsburg this 21st day of March, 1900.

ANDREW C. WOLFE.

Witnesses:
WM. L. PIERCE,
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