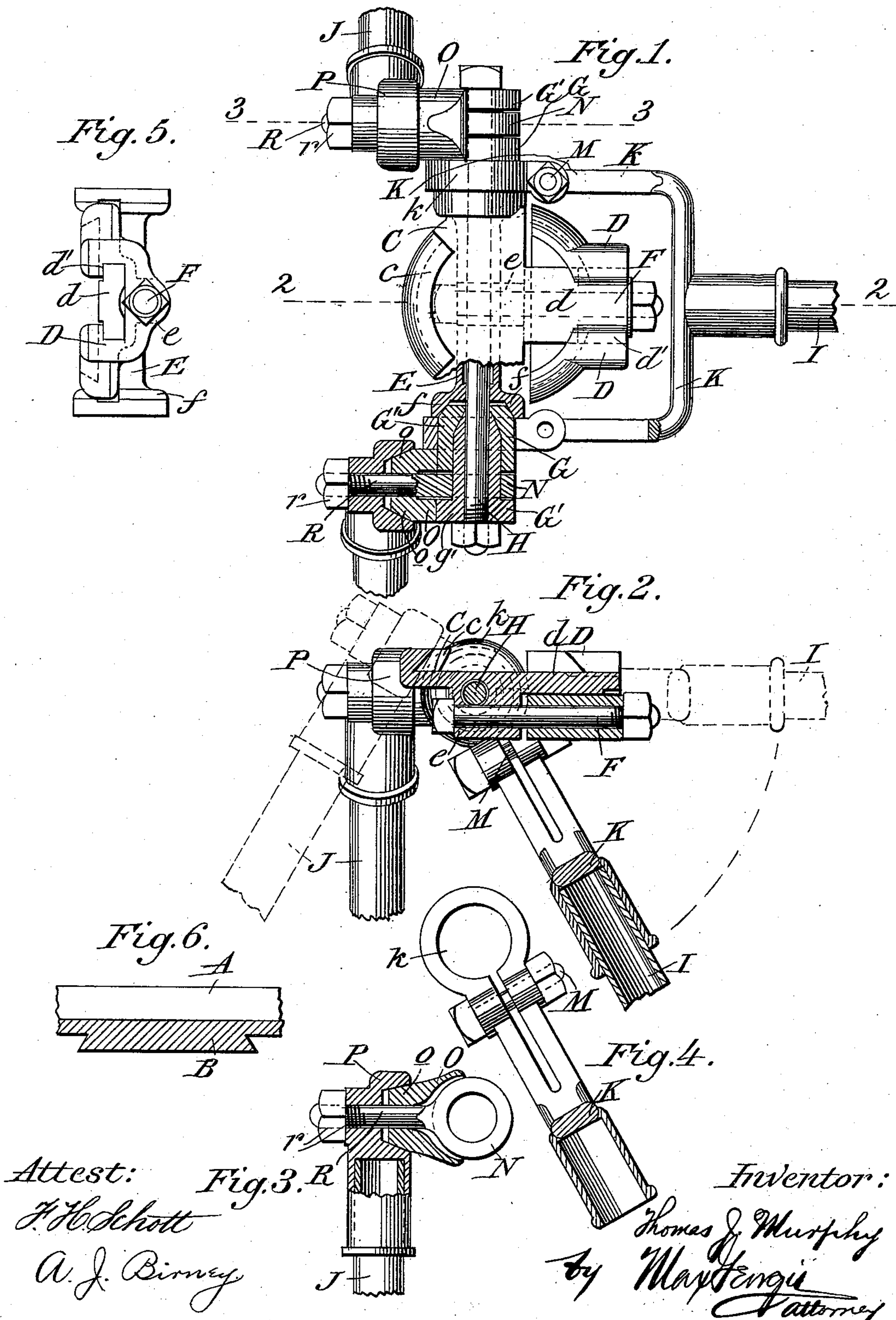


(No Model.)

T. J. MURPHY.
TRIPOD FOR ROCK DRILLS.

No. 534,372.

Patented Feb. 19, 1895.



UNITED STATES PATENT OFFICE.

THOMAS J. MURPHY, OF NEW YORK, N. Y.

TRIPOD FOR ROCK-DRILLS.

SPECIFICATION forming part of Letters Patent No. 534,372, dated February 19, 1895.

Application filed September 29, 1894. Serial No. 524,448. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. MURPHY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Tripods for Rock-Drills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in supports or tripods for rock drills and similar machines.

The object of my invention is to produce a joint for the legs of rock-drill supports or tripods, which may be readily locked and unlocked, and, at the same time, is rigid when locked, besides being very durable.

A further object is to produce a strong holding device for securing the drill to the support or tripod.

The invention consists in the features, details, and combinations of parts which will be first described in connection with the accompanying drawings and then particularly pointed out in the claims.

In the drawings—Figure 1 is a plan view of a device embodying my invention. Fig. 2 is a central vertical section on the line 2—2, Fig. 1. Fig. 3 is a section, partly in elevation, on the line 3—3, Fig. 1. Fig. 4 is a detail sectional view of the rear leg and its cross head. Fig. 5 is a detail end view of the jaw-plate and movable jaw. Fig. 6 is a detail sectional view of a part of the drill head.

Referring to the drawings, A represents a portion of the drill-stock to which the support or tripod is attached, said portion, A, having a projecting dovetail-shaped or flanged hub, B, which may be made integral with the portion, A, or attached thereto, in any suitable manner.

C is a stationary jaw-plate, or seat for the drill-hub, B, provided with a dovetailed segmental projection or flange, c, arranged to engage and hold the corresponding portion of the dovetailed hub, B.

D is a movable jaw arranged to engage the opposite portion of the hub, B, and having a slide-way, d', for a purpose hereinafter described.

The jaw-plate, C, has on its lower side a lateral horizontal spool, E, which is preferably formed integral with plate, C, and is provided with bell-shaped ends, f. The plate C, is also provided with a tongue, d, which is adapted to enter the slide-way, d', in the movable jaw.

To force the movable jaw toward the projection, c, and thereby firmly clamp the dovetailed drill-hub, B, between the said projection and the movable jaw, a bolt, F, is employed, said bolt passing through the movable jaw and through a projection, e, on the spool, E, being provided with a head at one end and a nut at the other end, as will be plain from the drawings. By loosening the nut, the movable jaw may be drawn backward and the drill-hub, B, released, whereupon the drill may be removed from the support or tripod.

In the cavity of each bell-shaped end, f, is located a closely-fitting journal, G, which is tapered to correspond to the conical form of the cavity, these journals being themselves hollow and each provided with an interior taper, as shown in Fig. 1, thus forming sockets with conical bottoms. Into each socket is inserted a hub, G', having a conical end arranged to fit snugly into its respective journal. The hubs, G', are also provided with flanges, g', at their outer ends, for a purpose hereinafter referred to.

Through the longitudinal axes of the hubs, G', journals, G, and spool, E, is passed a bolt, H, provided with a head at one end and a nut at the other end, whereby the said parts are held firmly together, the hubs, G', being of such length that their flanges, g', do not contact with the outer ends of the journals, G, a space thereby being left between the said ends and flanges. In each of said spaces is located the ringed end, N, of a bolt having a stem, R, said ringed end snugly fitting over its hub, G', and being capable of orbital movement thereon when not clamped, as hereinafter more fully explained. Each bolt-stem, R, passes through a trunnion-block, O, having an approximately segmental recess to receive that portion of the ringed end, N, which is next to the bolt-stem, R, of its respective bolt. The exterior of each trunnion-block, O, is provided with a conical end, o, arranged to enter

and fit snugly within the conically-recessed bell-shaped end of a leg-socket, P, each leg-socket carrying a front leg, J, which legs are attached to their respective sockets in any suitable manner.

The outer ends of the bolt-stems, R, pass through the leg sockets, P, and are provided with the usual threads and nuts, r, whereby the leg-sockets may be held to the trunnion-blocks, O, and the latter crowded into contact with the front surfaces of the hubs, G', and journals, G, the ringed ends, N, of the bolts being pulled tightly against the rear surfaces of the hubs, G'. It will be seen that by this construction, the legs, J, may each be rotated in two planes at right angles to each other, whereby the complete adjustment of the positions of the front legs is possible.

I is a central rear leg having a forked end or cross head K, of which each end terminates in a loop or ring, k, closely fitting around its respective journal, G, and adapted to move orbitally thereon, the forks being each slotted from the loop rearward, to allow the loops to yield. A lateral screw-bolt, M, passes through the ends of each loop, by means of which each loop may be tightened around the periphery of its respective journal, whereby the rear leg, I, may be clamped in any desired position.

It will be apparent that by loosening the bolt, H, the journals, G, and hubs, G', may be rotated, so as to bring new portions of their peripheries into the positions of hardest wear, so that the durability of the said journals and hubs is thereby greatly increased.

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

1. In a support for rock-drilling machines, the combination, with a spool having bell-shaped ends, of a hollow journal at each end of said spool, each journal entering the cavity of its respective bell-shaped end, a rear leg having loops engaging each journal, a hub inserted into each journal, a bolt passing through the said hubs, through the journal and through the spool, and a leg movably attached to each hub, substantially as set forth.

2. In a support for rock drills, the combination, with a hub, and means for supporting the hub, of a bolt having a ringed end encircling the hub and provided with a stem, a trunnion-block arranged to bear against the hub and provided with an opening through which the bolt-stem passes, a leg-socket engaging the trunnion-block and also provided with an opening through which the bolt-stem passes, and a nut on the end of the bolt-stem, substantially as set forth.

3. In a support for rock drills, the combination, with a hub, and means for supporting the hub, of a bolt having a ringed end encircling the hub and provided with a stem, a trunnion-block having a segmental recess to receive the ringed end of the bolt and provided with a coned end, a leg-socket having a bell-shaped end arranged to receive the coned end of the trunnion-block, said trunnion-block and leg-socket having openings through which the bolt-stem passes, and a nut on the end of the bolt, substantially as set forth.

4. In a support, the combination, with a jaw-plate having a spool integral therewith, said spool having bell-shaped ends, hollow journals provided with conical ends engaging the bell-shaped ends and having interior conical bottoms, and hubs provided with flanges and coned ends located in the journals, of a rear leg provided with a cross-head having looped ends encircling the journals, a pair of front-leg-sockets having bell-shaped ends, a pair of trunnion-blocks having segmental recesses and conical ends, the latter entering the bell-shaped ends of the socket, a pair of bolts passing through the leg sockets and trunnion-blocks and having ringed ends encircling the hubs, and a bolt passing through the hubs, the journals and the spool, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS J. MURPHY.

Witnesses:

OTTO KOCH,
N. MURPHY.