

No. 653,306.

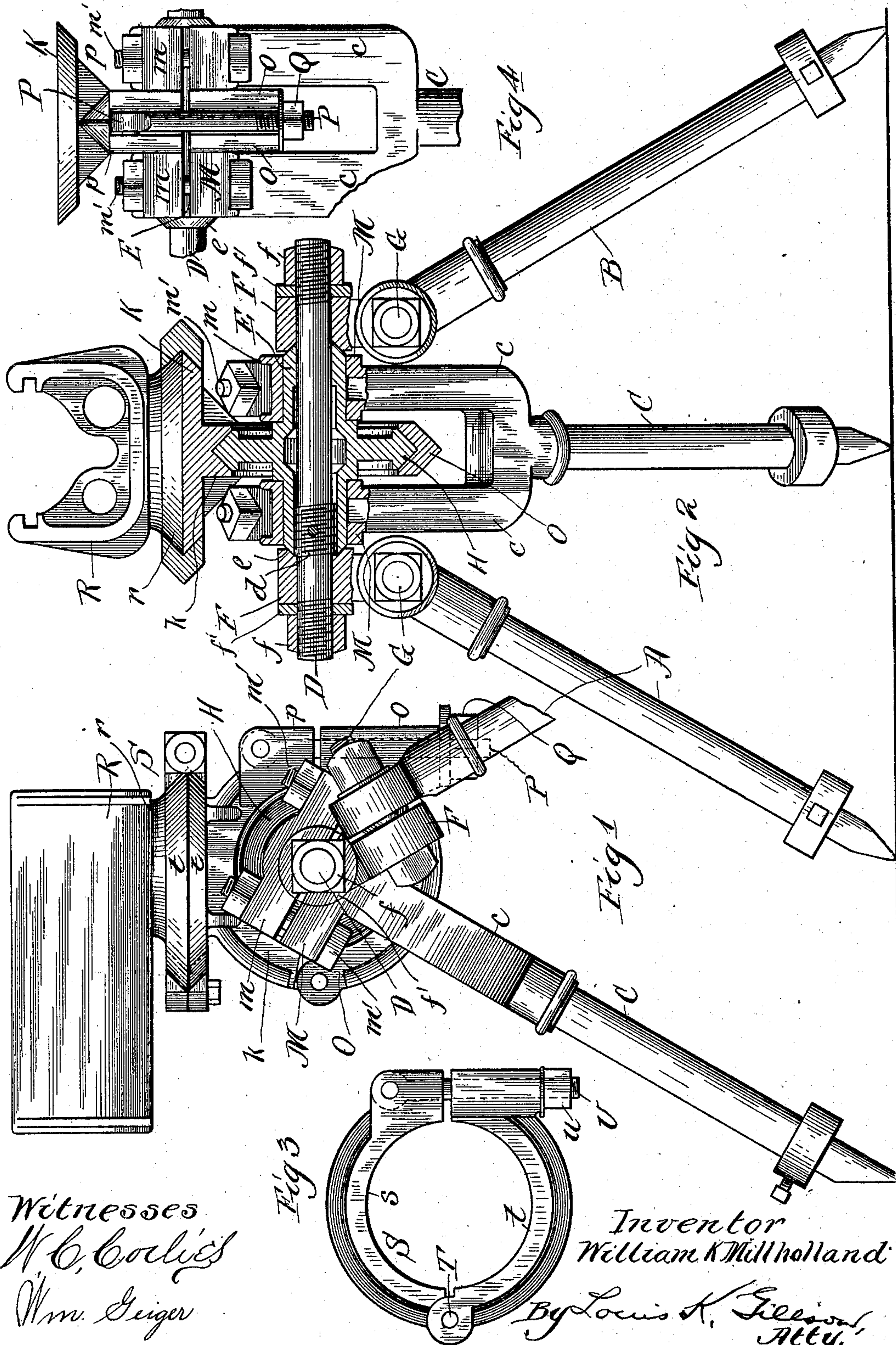
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W. K. MILLHOLLAND.

TRIPOD AND CLAMP FOR ROCK DRILLS.

(Application filed May 11, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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TRIPOD AND CLAMP FOR ROCK-DRILLS.

SPECIFICATION forming part of Letters Patent No. 653,306, dated July 10, 1900.

Application filed May 11, 1899. Serial No. 716,358. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM K. MILLHOLLAND, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Tripods and Clamps for Rock-Drills, of which the following is a specification, and which are fully illustrated in the accompanying drawings, forming a part thereof.

The invention relates to the means for jointing the several legs of the tripods to the head thereof and for adjustably clamping the slide-frame for the cylinder of the drill to the head of the tripod.

The invention consists in the various parts and arrangement of parts, as hereinafter fully described and as illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the tripod. Fig. 2 is a front elevation of the same, the head being shown in vertical section. Fig. 3 is a plan view of the clamp for securing the swivel of the slide-frame to the cylinder. Fig. 4 is a detail front elevation of the tripod.

The front legs of the tripod are shown at A B and its rear leg at C, the latter being bifurcated at its upper end, having the two arms *c c*, each of which is provided with a journal-box M, having a cap *m* secured thereto by means of bolts *m'*. The leg C is by means of the boxes M M and their caps pivoted upon a sleeve E, mounted upon a shaft D and in screw-threaded engagement therewith, as shown at *d*.

The front legs A B are pivoted upon the shaft D at the opposite ends of the sleeve E by means of hip-rings F F, to which they are jointed by means of the pivot-bolts G G. The extreme ends of the shaft D are threaded, and nuts *f f* are fitted thereto, washers *f' f'* being interposed between these nuts and the hip-rings F F, so that as the nuts *f f* are turned up the hip-rings are forced against the ends of the sleeve E. The ends of this sleeve are beveled, as shown at *e*, and the hip-rings F are correspondingly recessed, so that a conical bearing is secured and the parts may be very readily locked together by the application of pressure in turning up the nuts *f*. It will be seen that each of the

hip-rings F is thus secured independent of the other, so that either one of the front legs may be adjusted without the collapse of the tripod, the other two legs being secured. It will also be seen that the adjustment of the rear leg C may be accomplished without loosening either of the front legs. By this arrangement the tripod becomes much more easily managed than when, as is usual in such devices, the loosening of one leg results in the loosening of one or both of the others.

A disk H, integral with the sleeve E, is located intermediate of the arms *c c* of the rear leg C, and its periphery is V-shaped. The saddle-block K, having a semicircular base *k*, internally grooved, rests and slides upon the disk H. A semicircular locking-strap O is pivoted to one end of the part *k* and is provided with an internal groove adapted to the periphery of the disk H. A draw-bolt P is pivoted to suitable lugs *p p*, projecting from the opposite end of the part *k*, and the clamping-strap O is provided at its free end with a pair of lugs *o o*, between which the bolt E is adapted to enter, so that a nut *q*, applied to the end of the bolt, may be turned up against the rearward faces of such lugs, so as to securely clamp the parts *k* and O about the disk H. This clamping device being loosened, it will be seen that the saddle-block K may be moved to any desired position, thereby changing the pitch of the drill-cylinder.

The upper portion of the saddle-block K is in the form of a flat round table having its edges beveled inwardly and downwardly, and the slide-frame R, adapted to carry the drill-cylinder, (not shown,) is provided with a foot-block *r* of like form, its edges being beveled upwardly and inwardly.

A circular clamp S, comprising two semicircular members *s* and jointed together, as shown at T, and having an internal V-shaped groove, is adapted to encircle the table of the saddle-block K and the footpiece *r* and to be clamped thereto by means of the draw-bolt U, pivoted to one of the members *s* of the ring and engaging by means of its nut *u* suitable lugs on the other member *t*. When this clamp-ring is loosened, the frame R may be turned to any desired angular position, and by tightening up the ring it may be securely

clamped in such position. The form of the ring and of the parts clamped thereby is such that by a wedge action the contacting faces of the foot *r* and the table of the saddle-block are drawn together, the groove of the clamping-ring also binding tightly against both parts, so as to prevent rotation.

I claim as my invention—

1. In a tripod for rock-drills, in combination, a shaft having threaded ends, a sleeve fixed upon the shaft and constituting a saddle-support, a leg having its upper end bifurcated, its two arms being swiveled upon the sleeve, clamps for locking such arms and sleeve against relative movement, a hip-ring swiveled upon the shaft at each end of and abutting against the sleeve, and a nut fitted to each end of the shaft for clamping the hip-rings against the sleeve.

2. In a tripod for rock-drills, in combination, a circular saddle-support having a V-shaped periphery, a saddle-block having a semicircular base adapted to slide upon the circular support, a semicircular strap for completing the circle of the support and means for drawing such base and strap together to clamp them upon the support.

3. In a tripod for rock-drills, in combination, a circular saddle-support having a V-shaped periphery, a saddle-block having a semicircular base adapted to slide upon the circular support, a semicircular strap pivotally attached at one end to such base and

adapted to complete therewith the circle of the support, and a draw-bolt pivoted to the base and engaging the free end of the strap whereby the base and strap may be tightened upon the support to clamp them thereto.

4. In a swivel-joint for drills, &c., in combination, a pair of flat circular plates of substantially the same diameter and adapted to bear and to have free radial and rotative movement one upon the other, such plates having their peripheries beveled backwardly from their contacting faces, and being adapted, the one to be secured to a support and the other to carry a drill-frame; a pivotally-jointed strap for encircling the peripheries of such plates and having its inner face grooved to receive their beveled edges; and a draw-bolt for tightening such strap to clamp the plates.

5. In a tripod for rock-drills, in combination, an axle having its ends reduced, a bifurcated leg having its arms swiveled upon the central portion of the axle, a saddle-block swiveled upon the axle between the arms, an independent clamp for the arms and for the saddle-block, a hip-ring swiveled upon each reduced end of the axle, and a nut applied to each end of the axle to bind the hip-ring against the enlarged portion.

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Witnesses:

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