

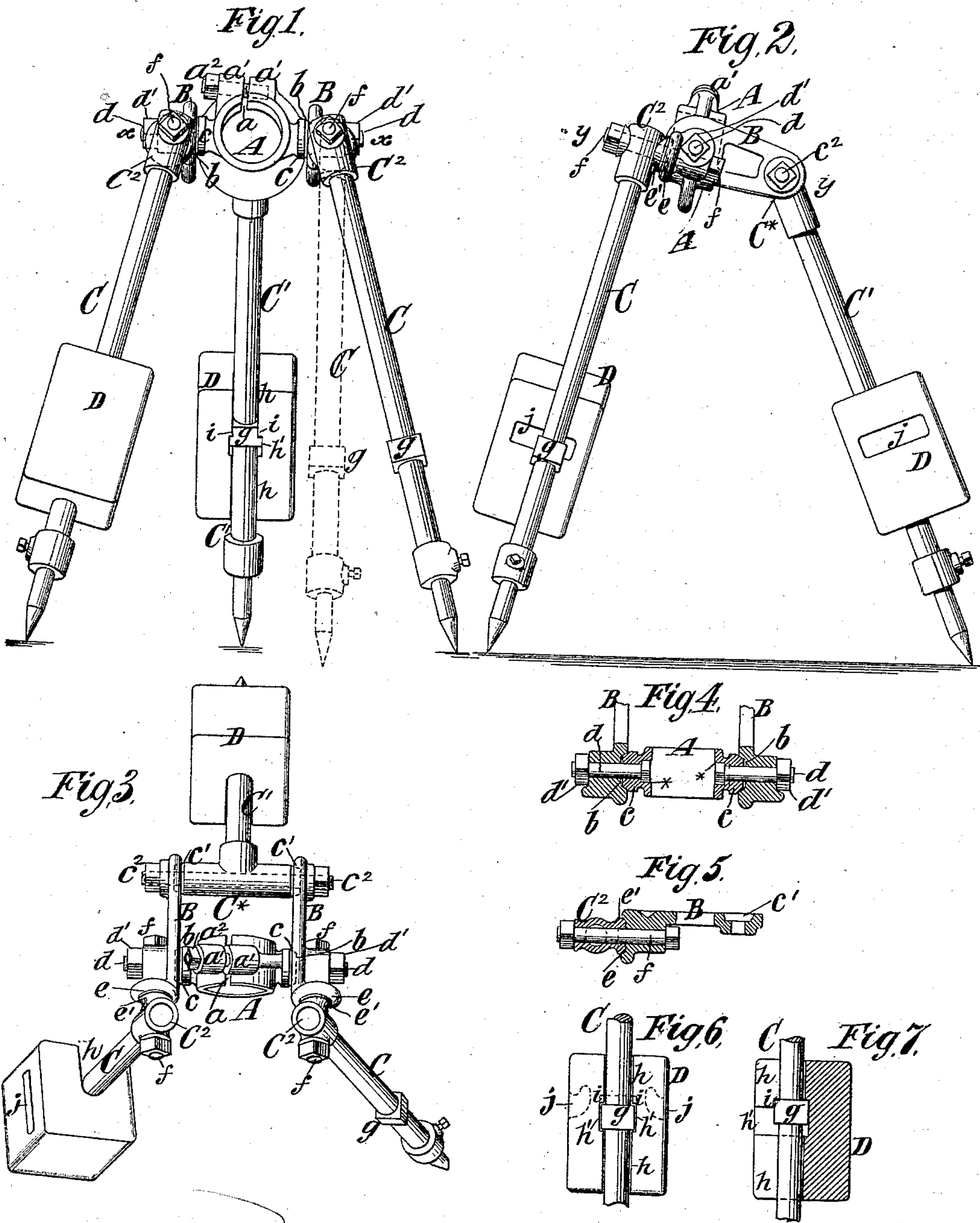
(No Model.)

H. C. SERGEANT.

TRIPOD SUPPORT FOR ROCK DRILLS.

No. 316,666.

Patented Apr. 28, 1885.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY C. SERGEANT, OF NEW YORK, N. Y.

TRIPOD-SUPPORT FOR ROCK-DRILLS.

SPECIFICATION forming part of Letters Patent No. 316,666, dated April 28, 1885.

Application filed November 6, 1884. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. SERGEANT, of the city and county of New York, in the State of New York, have invented a new and
5 useful Improvement in Tripod-Supports for Rock-Drills, of which the following is a specification.

My invention relates to tripod-supports comprising a body or clamp in which the drill-back
10 is held, hip-pieces on opposite sides of and supporting said body or clamp, legs extending one from each hip-piece, and a back leg or brace common to both hip-pieces and pivoted between them, so as to provide for setting the legs
15 at various angles desired. The body or clamp is pivotally connected with the hip-pieces, so that it may be turned relatively thereto to present the drill at different angles.

An important object of my invention is to
20 provide a tripod-support in which the several parts are connected in a manner to secure all necessary adjustments, and which is composed of few parts and simple in construction.

The invention consists in novel features of
25 construction and combinations of parts herein-after described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of a tripod embodying my invention. Fig. 2 is a side elevation thereof.
30 Fig. 3 is a plan thereof. Fig. 4 is a horizontal section of the clamp or holder for the drill-cylinder, and portions of the hip-pieces wherein it is secured, on the plane of the dotted line xx , Fig. 1. Fig. 5 is a sectional view of the upper
35 joint of one leg and the hip-piece to which it is pivoted, on the plane of the dotted line yy , Fig. 2. Fig. 6 is an elevation of a weight and a portion of one of the legs in the relative position they occupy when placing the weight
40 in position on the leg, and Fig. 7 is a vertical section of a weight and leg.

Similar letters of reference designate corresponding parts in all the figures.

The holder or clamp for holding the drill-
45 back consists of a collar or clamp, A, divided or split at a , and provided with ears or lugs a' , through which is inserted a bolt, a^2 , for contracting the collar or clamp A in a well-understood manner. The collar or clamp A is ribbed
50 externally to give it the necessary strength, and

is adapted to receive and securely hold a wrist or circular hub on the drill-back. When the drill-back (not here shown) is to be secured in the clamp, its hub or circular projection is slipped into the clamp, and there secured by
55 tightening the clamping-bolt a^2 .

B B designate the two hips or hip-pieces of the tripod. These are made right and left, and are similar in appearance and construction. In the inner side of each hip or hip-piece B,
60 near the larger end thereof, is a conical seat or bearing, b , and on opposite sides of the split collar or clamp A are trunnions c , having taper or conical ends which fit the conical seats or bearings b . Through each trunnion c ex-
65 tends a bolt, d , having at the inner end a head, which is received in a socket or countersink, *, on the inside of the split collar A, and thereby holds the bolt against turning. Each bolt
70 d is provided outside the hip-piece with a nut, d' , and by tightening the nuts d' the collar or clamp A may be held tightly against movement relatively to the hip-pieces, while by
75 loosening said nuts the turning of the clamp or collar on its trunnions c is provided for.

C C designate the two front legs, and C' designates the back leg arranged between and pivoted to the rear portion of the hip-pieces B. At the upper end of the back leg, C', is a head portion or horizontal socket or sleeve, C*,
80 having conical ends, which enter conical or taper seats or bearings c' in the inner sides of the hips, and are there held by a bolt, c^2 , which passes through the horizontal sleeve and hips, and is provided with nuts. By tightening up
85 the nuts on the bolt c^2 the conical ends of the sleeve C* will be tightly clamped into the conical seats or bearings c' , and the swinging of the back leg will be prevented, while by loosening said nuts such swinging or adjustment will
90 be permitted.

In the front end of each hip-piece B, and at a point below the center of the trunnions c of the clamp A, is a conical seat or bearing, e , and on the upper end of each front leg C is a trans-
95 verse eye or socket piece, C², having at the end a conical or taper projection or trunnion, e' , fitting the seat or bearing e , as best shown in Figs. 5 and 2. In each hip, and at right angles to the bolt d therein, is a bolt, f , which passes
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through the seat or bearing *e*, and on which the transverse socket or eye *C*² at the head of each front leg is pivoted. One of these bolts *f* is clearly shown in Fig. 5. At the front end thereof is a nut, and by screwing up the nut the conical projection or trunnion *e'* will be crowded into and tightly held against turning in its seat *e*.

From the above description it will be clear that the inclination of the legs may be varied by swinging the adjustable back leg in a plane parallel with and between the hip-pieces, and that the clamp or holder *A* may be swung on its trunnions to vary the inclination of the drill, and clamped in place after adjustment by tightening the nuts *d'* of the bolts *d*.

Owing to the two adjustments above referred to it is wholly unnecessary to have the front legs, *C C*, swing in planes parallel with the hip-pieces *B* forward and backward. It is very desirable, however, that provision be afforded for the swinging of the front legs in planes transverse to the hip-pieces or parallel with the plane in which are the trunnions *e* of the clamp or collar *A*. Such provision is afforded by the turning of the heads or sockets *C*² of the front legs *C* on the bolts *f*, as before described.

Both legs *C C* of the tripod may have or be adjusted to an outward inclination divergent from each other, as shown by full lines in Fig. 1, or either leg may be swung inward, so as to stand in a nearly vertical plane with a forward inclination only, as shown by dotted lines in Fig. 1. Such adjustment of the front legs as is indicated by the dotted lines in Fig. 1 is very advantageous, as it provides for bringing the drill to act close or near to the side walls in tunneling, building sewers, and other analogous work.

By my invention I provide a tripod-support which has but few parts, and is of simple construction, and which withal has provision for all necessary adjustments.

D designates the weights, one of which is applied to each leg. On each leg *C C C'* is a portion, *g*, which is forged square. Each weight *D* is slotted or recessed from one side inward, as shown at *h*, the slot or recess being of suffi-

cient width throughout to receive the round part of the leg, and having between the ends of the weight *D* an enlarged portion, *h'*, made sufficiently wide and high to admit the square *g* on the leg, as shown in Fig. 6. Inside the weight the enlargement *h'* is carried upward slightly, as shown in Fig. 7, thereby forming shoulders or guards *i*. (Shown in Figs. 6 and 7.) In the sides of the weights are cavities *j*, which form handles for lifting them.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the hip-pieces and front and back legs of a tripod-support, of a split collar or clamp constituting a holder for a drill-back, and provided with trunnions which are journaled in the said hip-pieces, a bolt and nut for tightening the split collar or clamp, and bolts independent of the tightening-bolt for securing said trunnions to the hip-pieces, substantially as herein described.

2. The combination, with the hip-pieces *B B*, having conical seats *b*, of the split collar or clamp *A*, having conical trunnions *e*, a tightening-bolt, *a*², for contracting the collar or clamp *A*, and the tightening-bolts *d* with their nuts *d'*, for securing the trunnions in the hip-pieces, all substantially as herein described.

3. The combination, with the hip-pieces *B B*, having conical seats *b* and *e'*, of the split collar or clamp *A*, having conical trunnions *e*, the bolt *a*², for contracting the collar or clamp *A*, the back leg, *C'*, and its head *C*^{*}, having conical ends fitting the seats *e'*, and the tightening-bolts *d c*², substantially as herein described.

4. The combination, with the hip-pieces *B B*, provided in their inner sides with seats *b* and in their front ends with seats *e*, of the split clamp or collar *A*, provided with trunnions *e*, and tightening-bolts *d*, the legs *C* each having a trunnion, *e'*, fitting the seat *e* in a hip-piece, and tightening-bolts *f*, all substantially as herein described.

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Witnesses:

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