

E. S. WINCHESTER.

Supporting Clamp for Rock-Drilling Machines, &c.

No. 159,241.

Patented Jan. 26, 1875.

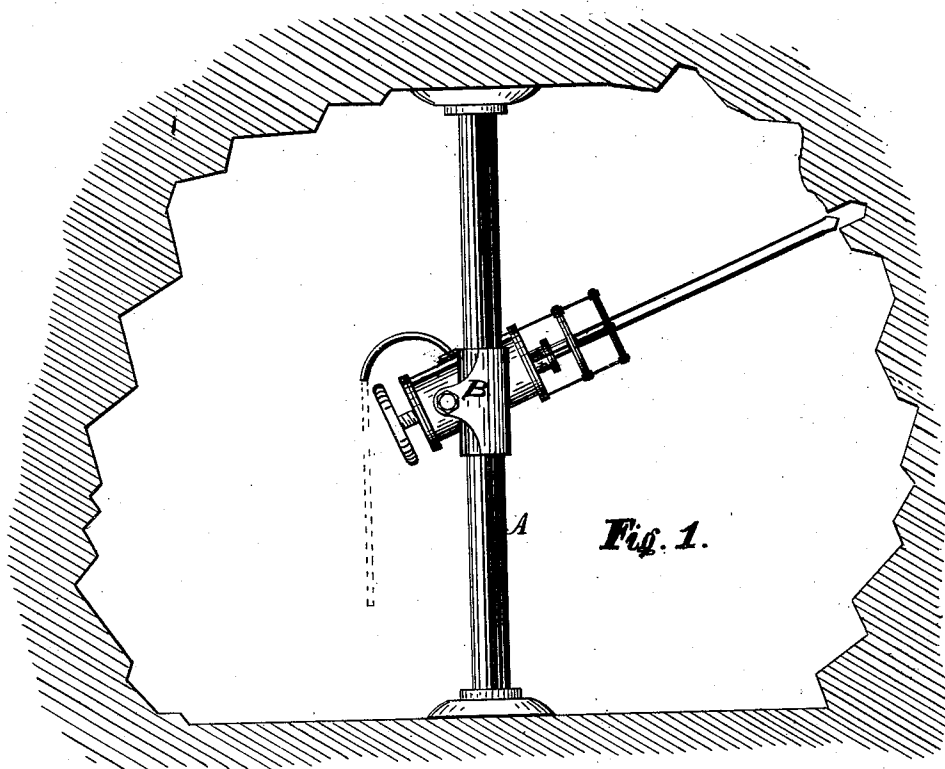


Fig. 2.

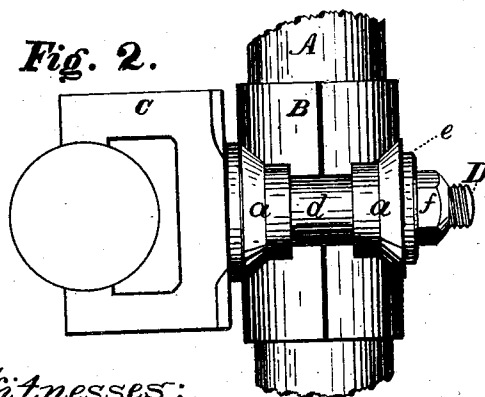
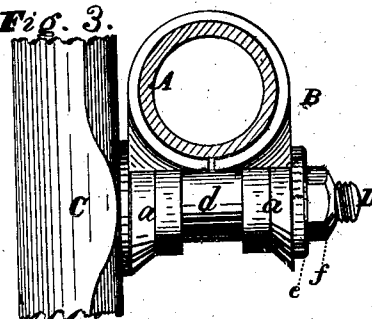
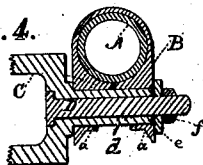


Fig. 3.



Witnesses;
Thos. Naughton.
Willist. Dodge

Fig. 4.



Inventor;
E. S. Winchester
By Dodgson,
attys.

UNITED STATES PATENT OFFICE.

EDWARD S. WINCHESTER, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SUPPORTING-CLAMPS FOR ROCK-DRILLING MACHINES, &c.

Specification forming part of Letters Patent No. 159,241, dated January 26, 1875; application filed December 11, 1874.

To all whom it may concern:

Be it known that I, EDWARD S. WINCHESTER, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Supporting-Clamps for Rock-Drilling Machines, &c., of which the following is a specification:

My invention relates to a universal clamp or joint for supporting a rock-drilling machine, and permitting the same to be adjusted in all required directions; and it consists in the combination of a standard, a clamp encircling the same, and a drill-frame provided with a trunnion mounted in the clamp, as hereinafter described.

Figure 1 represents a side elevation of a drilling-machine provided with and supported by my clamp; Fig. 2, an enlarged side view of the same; Fig. 3, a top-plan view of the same; and Fig. 4, a transverse horizontal section of the clamp.

A represents a round upright or standard, which will be held in place by stepping its ends in the rock, as shown, or by a suitable frame. B is a band or clamp encircling the standard A, and having one side split or divided, and provided on its ends with two arms, *a*, which extend outward parallel with each other—each arm having a hole made transversely through it, as shown in Fig. 4. C represents the frame on which the drilling mechanism is mounted, provided on one side with a horizontal trunnion, *d*, which extends through the holes in the two arms *a* of the clamp B, as shown. D represents a bolt passed centrally through the trunnion, from the frame outward, and provided on its outer end with a washer, *e*, and a nut, *f*, as shown in Fig. 4. The washer *e* bears upon the side of the clamp-arm *a*, and the trunnion *d* is made of such length that a small space exists between its end and the washer, as shown in Fig. 4, so that upon turning the nut *f* the two arms are drawn together, so as to compress the band or clamp tightly around the standard, and also tighten the trunnion, so that it cannot turn in the arms.

It will thus be seen that by simply tighten-

ing up the nut the parts are all clamped tightly together and prevented from moving, and the machine thus secured rigidly in position. By simply loosening the nut the trunnion is released and the clamp or band loosened. By turning the frame on the trunnion the drill may be set at any inclination desired; by turning the clamp around the standard the drill may be caused to work outward toward any required point of the compass; and by sliding the clamping-band up and down on the standard the machine may be set at any required height, and thus it will be seen that there is no position or inclination in which the drill cannot be placed and secured.

In practice it will be found that by slightly loosening the nut the parts may be released sufficiently to admit of their being readily adjusted, while at the same time they will be sustained and prevented from falling.

It is obvious that, instead of using the bolt, the thread may be cut on the end of the trunnion, and the nut placed thereon; that the form of the frame and construction of the drill are immaterial.

It is also obvious that, in place of the nut, a wedge or eccentric or other tightening device may be used.

The invention is applicable not only to stone-drilling machines, but to other machines and devices which require similar support and adjustment.

What I claim as my invention is—

A support for rock-drilling machines and similar devices, consisting of a standard, A, a band, B, encircling the standard, and provided with arms *a*, and a frame, C, provided with a trunnion passing through the arms of the clamp, and provided with a nut, *f*, or equivalent tightening device, substantially as shown and described, whereby tightening the single nut serves to clamp all the parts rigidly in position.

EDWARD S. WINCHESTER.

Witnesses:

C. O. L. DILLAWAY,

W. A. TRIPP.