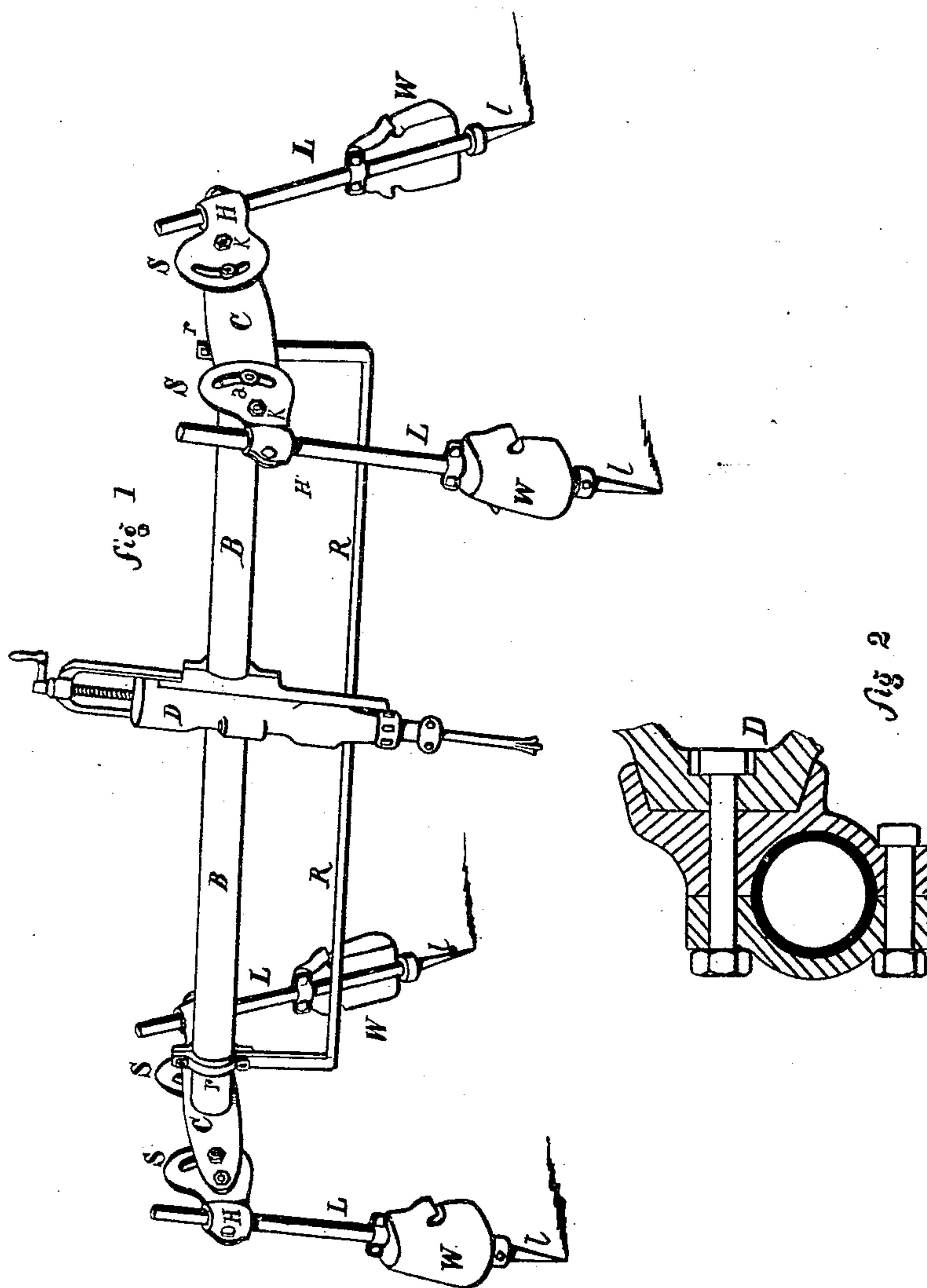


(No Model.)

G. R. CULLINGWORTH.  
QUARRY FRAME FOR ROCK DRILLS.

No. 248,638.

Patented Oct. 25, 1881.



Witnesses:  
Slosson Reid  
Edward H. Pickens

Inventor:  
G. R. Cullingworth

# UNITED STATES PATENT OFFICE.

GEORGE R. CULLINGWORTH, OF NEW YORK, N. Y.

## QUARRY-FRAME FOR ROCK-DRILLS.

SPECIFICATION forming part of Letters Patent No. 248,638, dated October 25, 1881.

Application filed August 11, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE R. CULLINGWORTH, a resident of the city, county, and State of New York, and a citizen of the United States, have invented a new and useful Improvement in Quarry-Frames for Rock-Drills, of which the following is a full and complete description, reference being had to the accompanying drawings, forming part of the specification.

In working marble and dimension-stone quarries it is required to drill holes in close proximity and perfectly parallel to each other. The ordinary tripod-frame on which steam or air rock-drills are generally secured is not suited to this kind of work, as the frame has to be moved and shifted for every hole, thus involving delays, besides great difficulty in drilling the holes parallel to each other. Bars are used, which are secured in place and to which the drill is attached by means of a clamp, so that the bar remains stationary while the clamp and drill may be shifted and secured to any point along the bar.

My invention relates to this class of frames; and the object of it is to produce a frame which shall be readily set up and adjusted, and which shall also insure a perfect parallelism of the holes drilled while the drill is moved along the bar. A perspective view of this frame is shown in Figure 1.

I use a hollow bar or tube, B, of iron, which is provided at each end with cast iron or steel cross-pieces, C, securely pinned or otherwise fastened thereon. Fastened to the ends of both cross-pieces C are four segments or quadrants, S, made of cast iron or steel, which are secured to the cross-pieces C by means of the bolts K upon which they may revolve as pivots. The segments S have a slot through which pass loosely the bolts *d* tapped into the cross-pieces C, so that by tightening the nuts the segments S can be secured and held in any required position. The segments S are provided with split hubs H, and proper clamping-bolts through which run the legs L, carrying the holding-down weights W and having telescoping pointed extensions *l*. By slacking the tightening-bolts on the split hubs H of segments S the legs L may be moved up or down, and thereby the frame may be raised or lowered without swinging the segments S on their piv-

ots K; or the same result may be accomplished by spreading or bringing together the legs L—that is, by swinging the segments S without at all changing the length of the legs L; or, again, by the joint use of the lateral adjustment due to the swinging of the segments S and of the adjustment in length of the legs by means of the split hubs H and the telescopic extensions *l*, any required position can be given to the bar, both as to height from the ground and angle; and a fair bearing can be secured for each and every separate leg, regardless of the nature and surface of the ground. In addition to this adjustment of the bar I provide for an independent adjustment of the drill while secured on the bar.

The drill is shown in Fig. 1, and is represented by the letter D. The same letter in Fig. 2 designates a portion of the drill back in section with the clamp and bar. It will be seen that one of the bolts which secures the clamp on the bar also acts as a pivot for the drill on the clamp, thus giving the drill two motions—one around the bar by swinging the clamp, and one in a plane perpendicular to that of the drawing by swinging the drill around the bolt which holds it to the clamp. This forms virtually a universal joint, so that the drill may be trained to any required position regardless of the position of the bar.

Another and a very desirable feature of my invention consists in the steady-rest or guide-bar R. The object of this device is to insure a whole set of perfectly-parallel holes after the bar and drill have been once set for the first one. This steady-rest or guide-bar is a plain bar of iron or steel, or any suitable material, which is always parallel to the main bar B and secured thereto at the required angle by means of the clamps *r* at each end of it. When the main bar B and the drill D have been set for the first hole the steady-bar R is adjusted and secured by means of the clamps *r*, so that it just bears under the drill, so that when the main clamp-bolts are slacked to move the drill along to take the next hole the drill finds a support on the steady-bar, and when moved along the main bar always remains parallel to its original position.

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

1. The segments S, pivoted on the bolts K,



and provided with split hubs H, for clamping the legs, substantially in the manner herein described, whereby provision is made for the double adjustment of said legs, substantially  
5 as set forth.

2. The combination of the bar B and cross-pieces C rigid thereon, the segments S, and the legs L, the parts being arranged substantially as described, whereby provision is made for an  
10 independent adjustment of said legs both as to length and position, as set forth.

3. In combination with the main bar B, carrying the drill D, the steady-bar R, parallel to and adjustable on the bar B at any required angle, substantially as and for the purpose set  
15 forth.

In witness whereof I have hereunto set my hand this 10th day of August, 1881.

GEORGE R. CULLINGWORTH.

Witnesses:

SLOSSON REID,

EDWARD F. PICKENS.