

(No Model.)

W. L. SAUNDERS.
CARRIAGE FOR ROCK DRILLS.

No. 298,625.

Patented May 13, 1884.

Fig. 2.

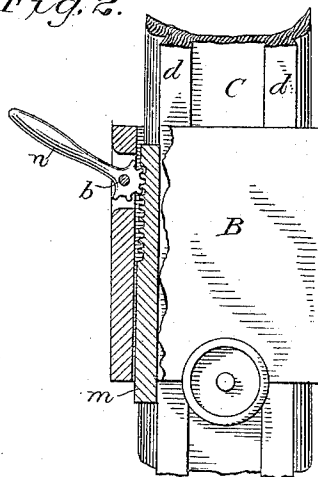


Fig. 3.

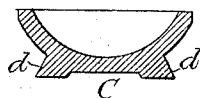
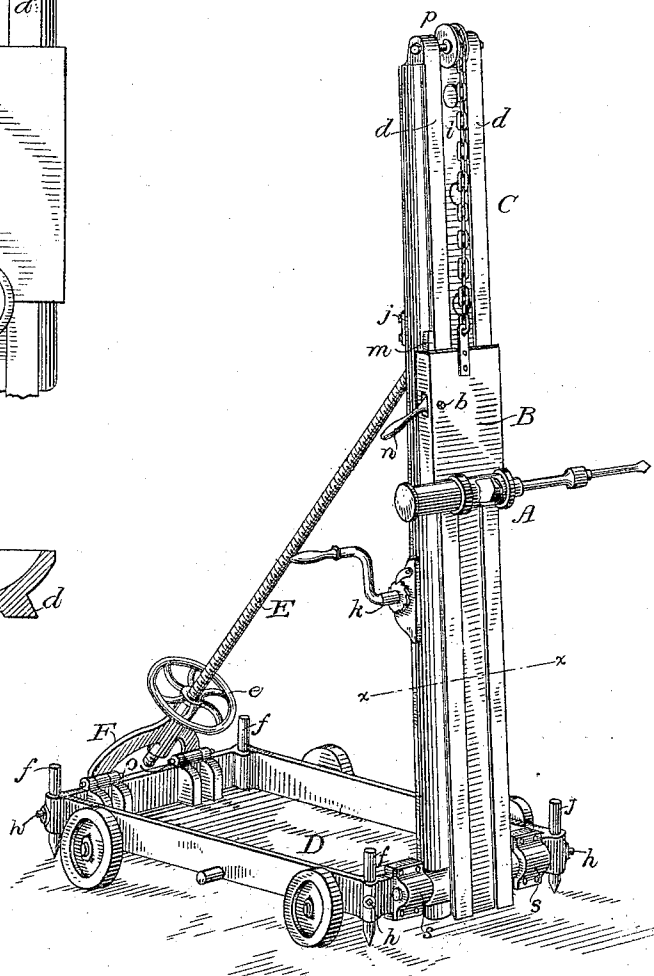


Fig. 1.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM L. SAUNDERS, OF JERSEY CITY, NEW JERSEY.

CARRIAGE FOR ROCK-DRILLS.

SPECIFICATION forming part of Letters Patent No. 298,625, dated May 13, 1884.

Application filed December 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. SAUNDERS, citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Carriages for Rock-Drills, of which the following is a specification.

My invention relates particularly to the class of machinery employed in stone-quarrying, where it is desired to drill horizontal holes into the face of the bench on a true line and in the same plane with the natural stratification of the stone.

The objects of my invention are, first, to provide a standard or post which shall serve as a carriage for a direct-acting or percussion rock-drill, and which shall be of such sectional form as to resist the vibratory thrust of the drill while operating transversely, said standard to be fixed at one end to a suitable platform, and adjustable thereto in a vertical plane from a perpendicular position to a nearly horizontal one; second, to provide an improved form of saddle to which the rock-drill is fixed, said saddle to be movable longitudinally upon the standard, and provided with a device for rapidly and rigidly fixing and releasing it therefrom. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the entire machine. Fig. 2 is an elevation of the saddle, partly in section, and illustrates my design for fixing and releasing the saddle to the standard. Fig. 3 is a cross-section through the line X X of Fig. 1, and illustrates the curved form of the standard for insuring rigidity.

A represents the rock-drill. B is the saddle, to which is fixed the drill A. This saddle is made to travel longitudinally along the standard C, which may be conveniently done by having its under surface planed to fit the guides or track *d d* of the standard C, and raising by means of a chain, *i*, attached to the saddle and passing upward over the pulley *p*, returning from thence downward and around the crank *k*. The standard C is hinged at its lower end to the platform or car

D, through the trunnions S S. At a point, *j*, on the standard C is hinged the long screw E, which passes downward through the hub of the hand-wheel *e* and through the yoke F, which is fixed to the car D by the hinge-bolts *o*. The car is mounted on wheels, and provided with corner-pins *f*, which, on being driven into the floor and set by the screws *h*, serve to hold the carriage in place. A thread is cut in the hub of the hand-wheel *e*, corresponding with that of the back screw, E. This hub has a bearing within the yoke F, and hence on turning the hand-wheel *e* the standard C is raised or lowered, and thus may be placed at any desired angle. On the under side, and running the entire length of the saddle, is placed a gib, *m*. This gib is tapered on one of its surfaces, and corresponds to a taper or incline cut on the surface of the saddle. On one side of the gib teeth are cut, which are made to gear with a pinion-arm, *n*, which is fixed to the saddle by the swivel-bolt *b*. The teeth on the pinion-arm *n* are cut on a segment of a circle described from *b*. On raising the pinion-arm *n* to the position as shown in Fig. 2, the gib *m* is thrown downward, and thus the saddle is released. On reversing the arm, the gib is thrust upward and the saddle is fixed to the standard.

I am aware that rock-drills have heretofore been mounted on vertical and horizontal bars and made to traverse the same longitudinally.

I am also aware that various forms of carriages for rock-drills have been in use in which frames for supporting the drills have been mounted on bars pivoted to blocks sliding in ways in frames hung upon wheels; but

What I claim as new and of my invention is—

1. The combination of the rock-drill A, saddle B, supporting said drill, and standard C, carrying said saddle, with means for raising and lowering said saddle and drill upon the standard, and the gib *m* and pinion-arm *n* for locking the saddle in place, substantially as and for the purposes set forth.

2. The combination of the standard C,

having the longitudinal guides *d*, with the saddle B, having the drill A fixed thereto, the screw E, hand-wheel *e*, and yoke F for adjusting the standard C, and the gib *m*
5 and pinion-arm *n* for locking the saddle in place, substantially as and for the purposes set forth.

In testimony whereof I have hereunto subscribed my name this 18th day of December, A. D. 1883.

WILLIAM L. SAUNDERS.

Witnesses:

DANL. W. EDGECOMB,
CHARLES A. TERRY.