E. G. Lamson,

Stone Drill.

No. 63,262. Patented Mar. 26, 1867.

Fig. 1

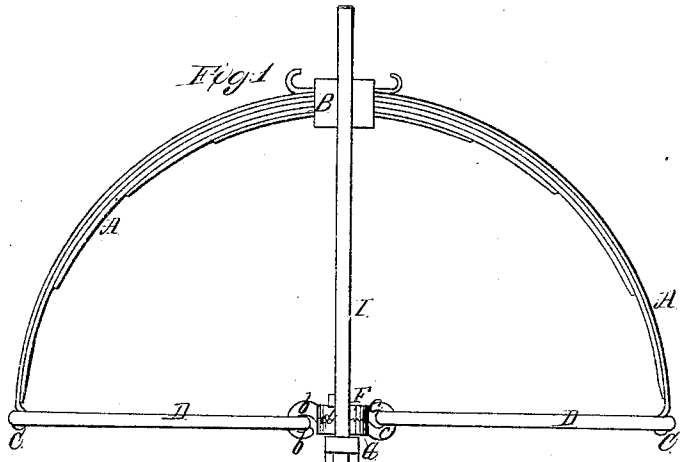


Fig. 2.

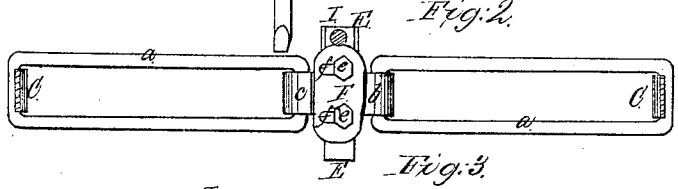
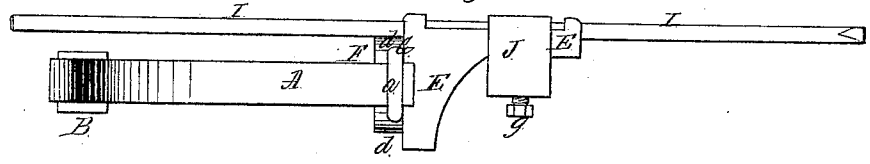


Fig. 3.



Witnesses:

Jno. D. Patten.

D. J. Chamberlain.

Inventor

E. G. Lamson,

By atty. A. B. Stoughton

AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

United States Patent Office.

EBENEZER G. LAMSON, OF SHELBURNE FALLS, MASSACHUSETTS.

Letters Patent No. 63,262, *dated March* 26, 1867.

IMPROVEMENT IN DRILL-SPRINGS FOR QUARRYING STONE, &c.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, EBENEZER G. LAMSON, of Shelburne Falls, in the county of Franklin, and State of Massachusetts, have invented a new and useful Improvement in Drill-Springs for Stone-Drilling and Quarrying Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a spring and drill connected for joint operation.

Figure 2 represents a plan of the metallic straps or cords for connecting the points of the spring.

Figure 3 represents an edge view of the spring, and showing the connection and arrangement of the drill, and drill-holder in connection therewith.

Similar letters of reference, where they occur in the separate figures, denote like parts of the apparatus in all the drawings.

Letters Patent of the United States have heretofore been granted to me for improvements in stone-drilling and quarrying machines, in which a bow-spring with a strap or cord of leather was used in connection with the drills to regulate their blow and rebound; and, though the leather strap accomplishes the purpose, I find that it rapidly wears away or cuts out, and is not durable or economical. My present invention consists in combining with the bow-spring a metallic strap with suitable holding and adjusting mechanism for straining up the spring and adjusting the drill and its holder thereto.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A represents a spring, composed of several leaves, which are clamped together, as at B, to keep them in position. The points C of the spring are united by a metallic strap or cord, D, to which the drill-stock or holder E is connected, as will be described hereafter. The strap or cord D is composed of two or more links *a a*, which connect with a divided and adjustable head, F G, one link connecting with the upper portion F of said head, as at *b*, and the opposite link connecting with the under portion G of said head, as at *c*. The two parts F G have serrated teeth, or shoulders *d*, upon them where they come in contact, and are held together by said serrations or shoulders, and made adjustable one upon the other by means of the set-screws *e e* passing through slots *f f* in the upper portion F of the head, and screwing into the lower portion G, similarly slotted, which admits of shortening the strap or cord and straining up the spring. On the lower portion of the head G there is wrought or secured a drill-stock, E, through proper bearings, in which the drill I passes, and to which drill-stock the drill is made adjustable by means of a clamp, J, and set-screw *g*, and firmly held when adjusted. The drill is held only by the stock E, and it and the spring may be raised up and let down by any mechanical means, (that used in my patent, above referred to, being satisfactory, answering well.) And instead of using but one bow-spring A, I may use two, three, or more, in connection with one drill, the strap or cord of one spring being fastened to the crown of the spring below it. The duplicating of the springs may be necessary when a heavy drill is used or when much rebound is necessary; and the strap or cord D, so that it be adjustable and made of metal, may be composed of rods or bars, instead of links.

Having thus fully described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. In combination with stone-drilling or quarrying machines a metal bow-spring and metal strap or cord for carrying and sustaining a drill, substantially as described.

2. I also claim constructing the metal strap or cord of the spring to a central divided and adjustable head, substantially as and for the purpose described.

3. I also claim the combination of the spring, strap, drill-stock, and drill, substantially as and for the purpose described.

E. G. LAMSON.

Witnesses:

HIRAM T. LOWE,

E. E. LAMSON.