(No Model.)

E. W. SPRAGUE.

BOLT LOCK.

No. 283,725. Patented Aug. 21, 1883.

Fig. 1.

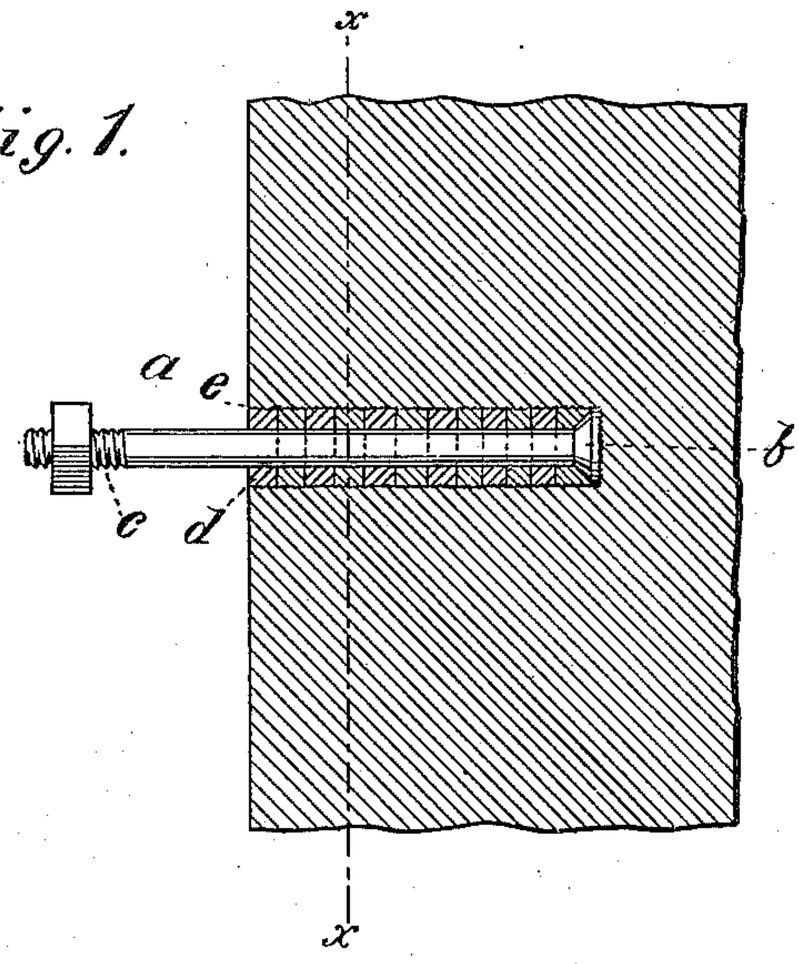


Fig. 2.

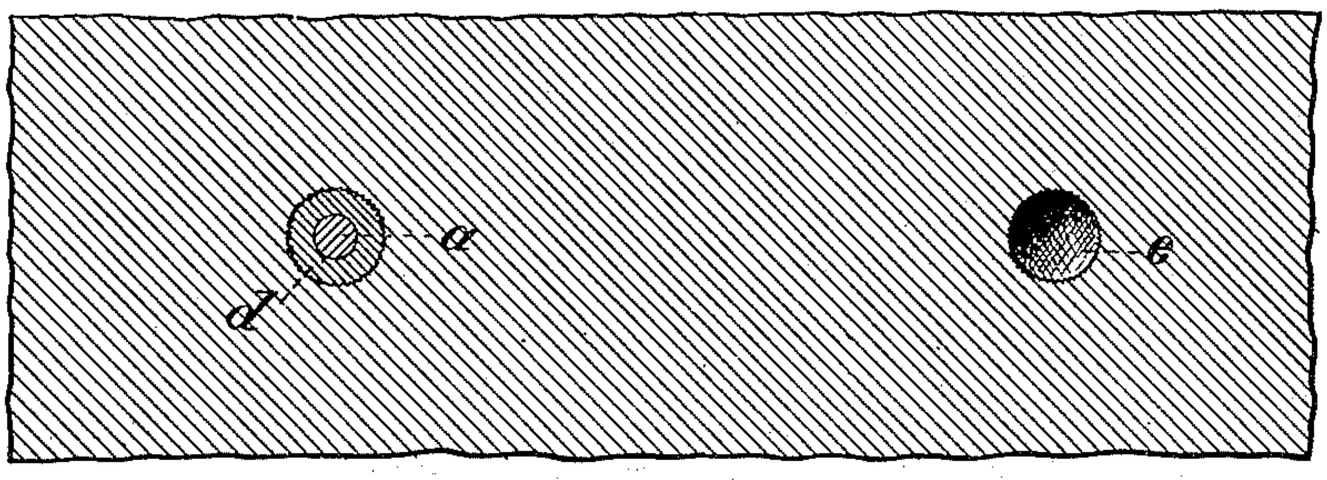


Fig. 3.

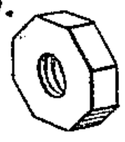


Fig. 4.

Fig. 5.

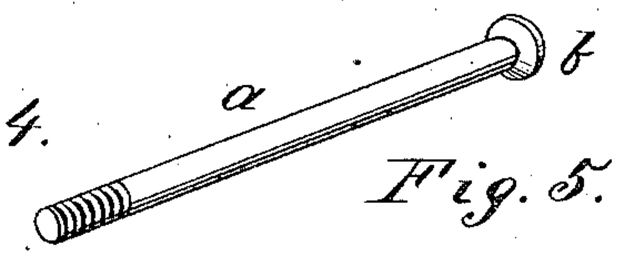
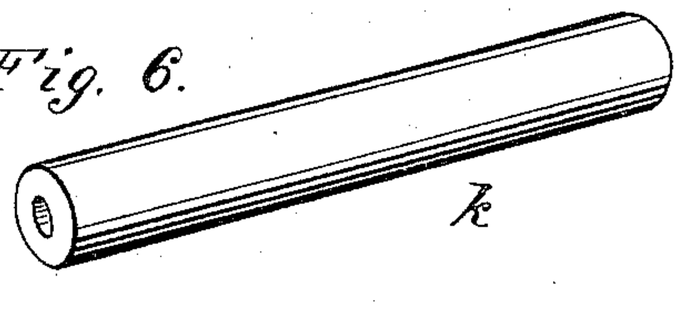


Fig. 6.



WITNESSES

Villette Anderson.

Philip P. Lemasi.

INVENTOR

E. W. Sprague,

by Anderson & Smith

his ATTORNEYS

UNITED STATES PATENT OFFICE.

EDWARD W. SPRAGUE, OF BUELL'S LOWELL, OHIO.

BOLT-LOCK.

SPECIFICATION forming part of Letters Patent No. 283,725, dated August 21, 1883.

Application filed December 2, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWARD W. SPRAGUE, a citizen of the United States, residing at Buell's Lowell, in the county of Washington and State of Ohio, have invented certain new and useful Improvements in Bolt-Locks; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of this invention, and shows a vertical section. Fig. 2 is a cross-section taken through the broken line *x x* in Fig. 1. Figs. 3, 4, and 5 are details showing the different parts in perspective views. Fig. 6 is a perspective view of the hollow punch used in tamping the washers.

This invention has relation to means for fastening bolts in masonry on land or under water; and it consists in the process and device hereinafter set forth, and particularly pointed out in the appended claims.

In the annexed drawings, the letter *a* designates a bolt having an enlargement, *b*, at its toe and threaded at its other end, as indicated at *c*, to receive a nut. Lead rings or rings of other soft metal having an inner diameter sufficient to allow them to pass easily over the threaded end of the bolt and along the same to the enlargement *b* are indicated at *d*. When the bolt is to be secured in the masonry, a perforation, *e*, is made in the latter of sufficient diameter to admit the enlarged toe of the bolt. This perforation is made into but not through the wall or piece of masonry, its depth being such that when the bolt is driven home its threaded end will project sufficiently for its purposes. The bolt, having been driven home, as stated, is secured in the wall by means of the lead rings. These are passed over the outer end of the bolt and along the same until they are stopped by the enlargement *b* at its inner end. By means of a hollow punch, *k*, the lead rings are forcibly compressed and packed or tamped in the cylindrical interval between the body of the bolt and the wall of the perforation *e* in the masonry until the interspace is filled with the packed soft metal. This operation is easily effected, as the bolt is readily introduced into the large perforation, and the hollow punch in its tamping operation keeps the bolt true. The metal, being packed cold around the bolt, will not shrink, but will always maintain its full bearing against the wall of the perforation, so that the bolt will be firmly and effectually secured.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. The process of securing bolts in masonry, consisting, first, in boring a perforation in the masonry of larger diameter than the body of the bolt; second, placing therein a bolt having an enlarged toe, and, third, packing the interval between the body of the bolt and the wall of the perforation with lead rings duly tamped, substantially as specified.

2. The combination, with a bolt having an enlarged toe, *b*, and threaded outer end, *c*, of the lead packing-rings *d*, arranged on the body of the bolt, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD W. SPRAGUE.

Witnesses:
G. L. CHAMBERLIN,
DUDLEY S. NYE.