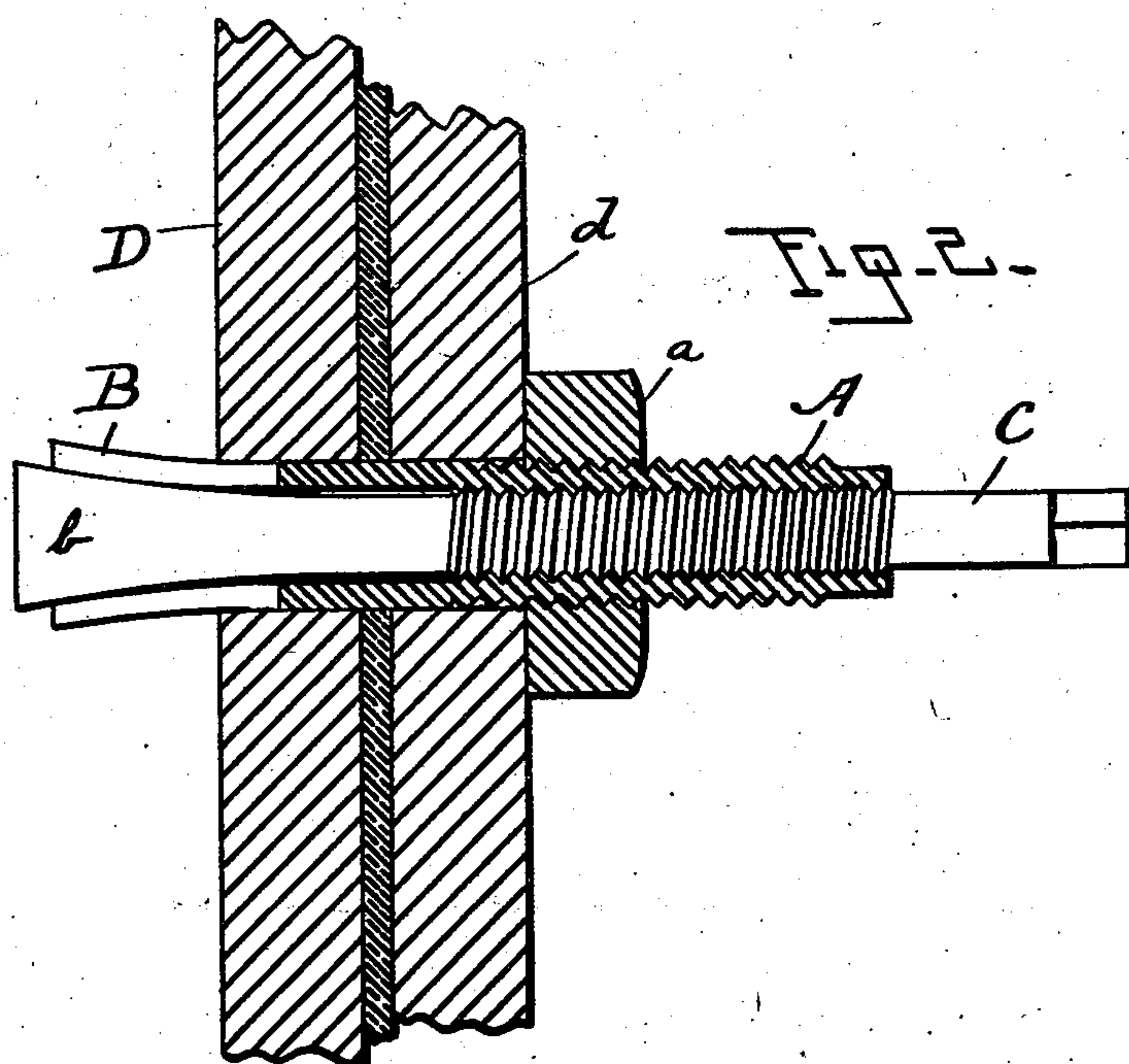
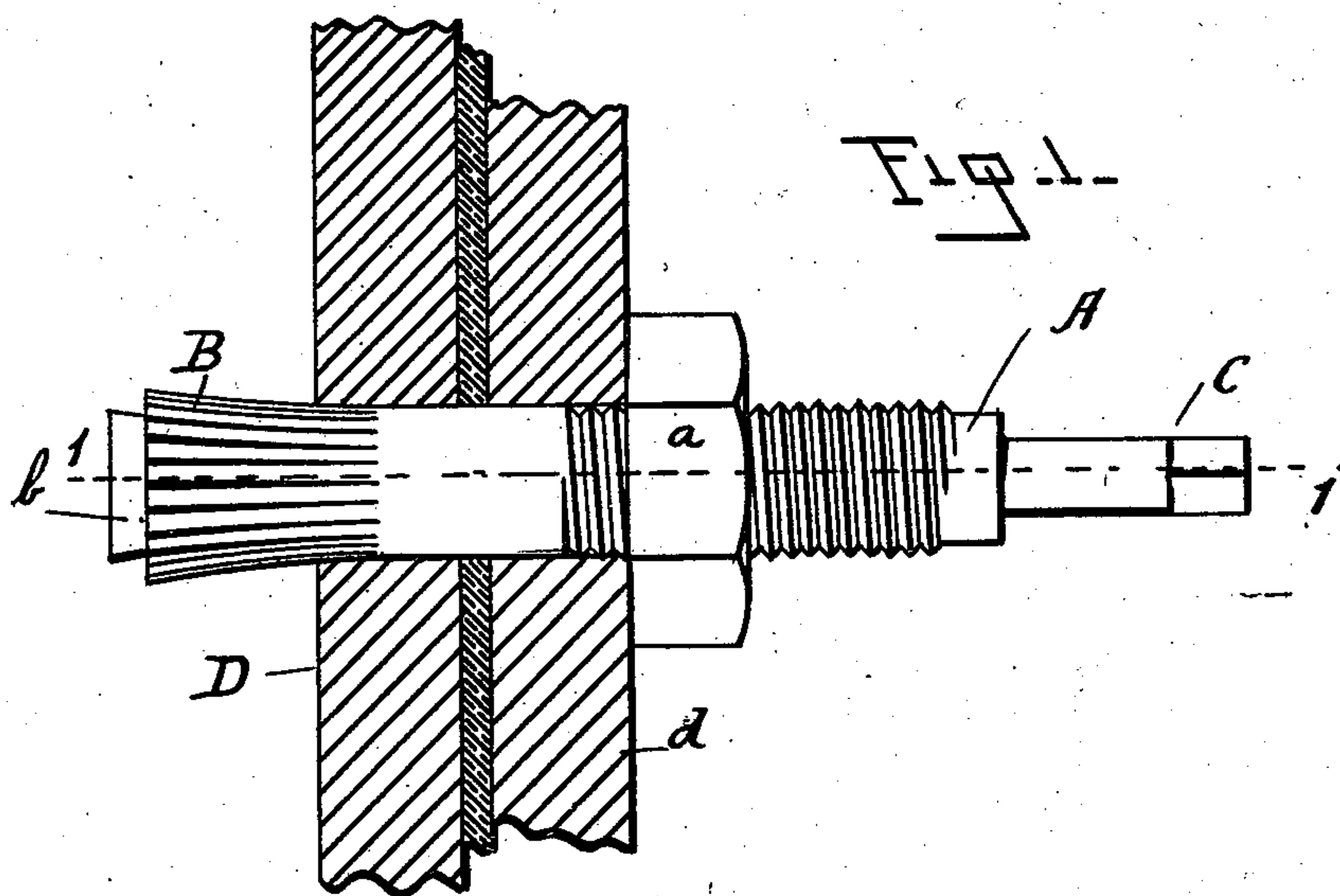


(No Model.)

J. HODGSON.
BOLT.

No. 534,331.

Patented Feb. 19, 1895.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH HODGSON, OF SAN FRANCISCO, CALIFORNIA.

BOLT.

SPECIFICATION forming part of Letters Patent No. 534,331, dated February 19, 1895.

Application filed February 5, 1894. Serial No. 499,220. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH HODGSON, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and useful Improvement in Bolts, of which the following is a full, clear, and exact description of said invention, which will enable others skilled in the art to which it appertains to make, use, and practice the same.

My invention relates to a novel way of making bolts and the manner of constructing the head of same and it consists, first, of a cylindrical shell threaded on its outer and inner side; secondly, of a partly conical rod placed within said shell and provided with threads cut thereon to correspond with the inner threads of the shell.

The object of my invention is to provide a convenient means whereby one or more pieces can be bolted together from one side and will be found particularly desirable for temporary repairs in damaged vessels or boilers, &c.

Referring to the drawings forming a part of this application, Figure (1) represents an edge view of two planks cut away and fastened together with my improved bolt. Fig. (2) is a vertical sectional view of Fig. (1) taken from line 1 to 1.

Similar letters of reference are used to denote corresponding parts throughout the entire specification and both views of the drawings.

Let A represent the cylindrical shell partially threaded upon its outer and inner side and *a* the ordinary nut corresponding with the outer threads. The rear end of said cylindrical shell is notched or denticulated as at B clear around its circumference in such manner as to make this part of the shell flexible.

The rod C, working within the shell A is partly provided with threads cut thereon corresponding with the female threads of the shell. The rear end of said rod is conical as at *b* and the diameter at the edge of the cone must be made equal to the diameter of the shell while the fore end may be made square to facilitate the turning of the rod when in operation with a key or other mechanical means.

To carry my invention into practice I screw through the shell A the rod C until its conical rear end reaches the denticulated edge of the shell. I then bore through the wall D a

hole corresponding to the diameter of the shell A through which the shell is being pushed until the denticulated edge is nearly out of the wall. I then screw forward the rod C with a key or other means. While the conical part of the rod is being carried forward the inner side of the flexible or denticulated edge of the shell will be forced to spread out thereby enlarging the diameter of the shell and preventing the same from slipping out. Thus my bolt is ready to receive the patch plank *d* bored also according to the diameter of the shell A and as soon as the patch plank is placed in position and the shell through the hole, I then screw the nut *a* tightly against the plank. Thus I provide a simple and effective means to patch up temporary damage to vessels or boilers, &c.

Having described my invention, what I claim as new, and desire to secure protection in by Letters Patent of the United States, is—

1. A bolt for securing a plate to a rigid wall for the purpose of temporarily patching the same, consisting of a cylindrical shell provided with inner threads at its fore end, and adapted to form a removable head at its rear end; a spreading device consisting of a rod working within said shell and provided with threads at one end corresponding with the inner threads of the shell, said rod terminating in a cone-shape at the other end and means to screw and unscrew said rod for the purpose of forming the removable head as set forth.

2. The herein described bolt consisting of a cylindrical shell provided with outer and inner threads and denticulated rear end, in combination with a rod working within said shell having at one end threads cut thereon corresponding with the inner threads of the shell, and a cone shape at the other adapted to spread out the denticulated end of the shell, substantially as set forth.

3. A bolt for the purpose described consisting of a cylindrical shell provided with outer and inner threads and a flexible end in combination with a conical rod partly threaded to correspond with the inner thread of the shell substantially as set forth.

JOSEPH HODGSON.

Witnesses:

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