(No Model.)

C. A. HIGBEE.

SCREW BOLT AND NUT.

No. 447,775. Patented Mar. 10, 1891.

FIG. 1.

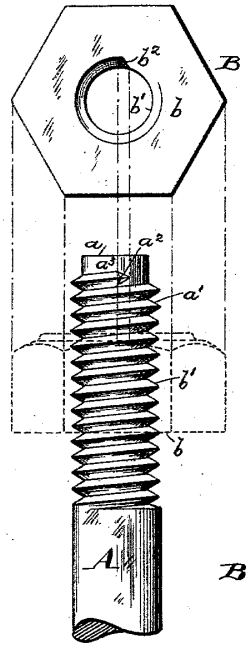


FIG. 2.

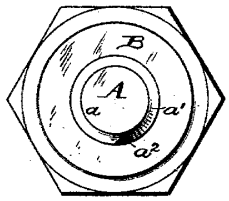


FIG. 3.

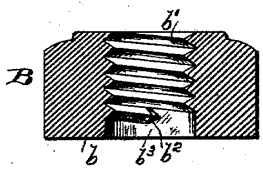


FIG. 4.

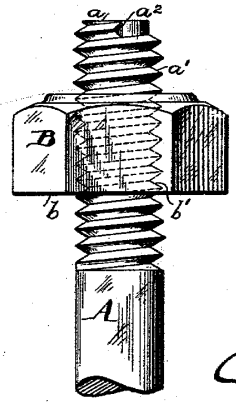


FIG. 5.

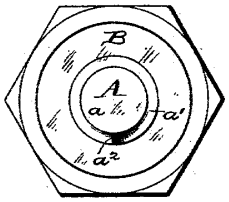
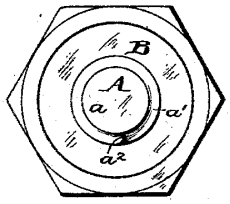


FIG. 6.



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UNITED STATES PATENT OFFICE.

CLINTON A. HIGBEE, OF PRINCETON, KENTUCKY.

SCREW BOLT AND NUT.

SPECIFICATION forming part of Letters Patent No. 447,775, dated March 10, 1891.

Application filed September 22, 1890. Serial No. 365,766. (No model.)

To all whom it may concern:

Be it known that I, CLINTON A. HIGBEE, of Princeton, county of Caldwell, State of Kentucky, have invented a certain new and useful Improved Screw Bolt and Nut or Similar Screw-Coupling, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to screw-coupling devices, of which the screw bolt and nut are the most familiar examples, but which include as well all threaded coupling devices made up of two parts having, respectively, male and female screw-threads—such, for instance, as pipe-couplings, lamp-burner unions, axle points and nuts, and, in short, all fittings or parts adapted and formed to screw into each other by providing them with male and female threads, respectively. In threaded couplings of the kind described the thread is usually turned in or on a cylindrical or annular part prepared to receive it, and at the end of said part the thread merges gradually in its face, which is usually in a plane at right angles to the center of the thread. As a result of this mode of construction the end of the thread is for some distance very thin and by no means symmetrical to the center line of the thread. As a result of this mode of construction the two parts of the screw-union can be and frequently are put together wrongly, not only cramping and binding the parts but breaking and injuring the threads. Besides this, the thin end of the thread is so situated as to be most exposed to injury, and having but little strength it is very apt to get bent or broken.

My invention is intended to overcome the defects noted; and it consists in terminating the thread below the face-level of the cylinder or annulus on or in which it is formed, and forming the extreme end so that it will have a broad blunt face lying symmetrically on each side of the center line of the thread. By this construction the ends of the threads are made strong, stout, and of substantially the same cross-section as the thread itself, and the two parts of the union are fitted together with automatic precision, so that there is the least possible risk of jamming or breaking the thread.

My invention will be better understood as described in connection with the drawings, in which I have illustrated it as applied to a bolt and nut, and in which—

Figure 1 shows a bolt and nut constructed in accordance with my invention, the nut being shown both in face view and in dotted lines as applied to the bolt. Fig. 2 is an end view showing the bolt and nut screwed together, the bolt projecting through the nut. Fig. 3 is a cross-sectional view of the nut. Fig. 4 is a view of a somewhat modified bolt with nut screwed upon it, and Figs. 5 and 6 show modified forms of thread ends.

A is the bolt, a its end, a' its thread, and a^2 the thread end.

a^3, Fig. 1, is a cylindrical extension of the internal diameter of the nut-thread between the thread end a^2 and the bolt end a.

B is the nut, b its end or face, b' its thread, and b^2 its thread end.

b^3 is a round extension of the threaded hole, of substantially the outer diameter of the bolt-thread, extending between the thread end b^2 and the end b of the nut. It will be noticed that the thread end a^2 or b^2 lies below the face or end a or b of the part in or on which it is formed. In Fig. 4 its upper edge is shown as just flush with said end, and in Fig. 1 the thread end begins at some little distance below the face a. By leaving the smooth extensions a^3 or b^3 as shown the nut and bolt or their equivalents are brought together and properly aligned before the thread ends engage, and thus an additional safeguard against misadjustment is provided. The exact form of the thread end is not very important so long as it is blunt and substantially symmetrical with respect to the center line of the thread. It may be cut off on an oblique plane, as in Figs. 1, 2, 3, and 4, or cut off square, as in Fig. 5, or rounded, as in Fig. 6.

I prefer and strongly recommend that both the male and female parts of my screw-coupling should be formed as I have shown and described. To attain the full benefit of my invention this is necessary; but improved results can also be secured by using one screw-thread of usual construction with another having my improvement; and, as I believe the device to be broadly new with me, I desire to protect by this patent not only the complete

coupling, but a coupling having either part provided with the improved construction of thread end.

I desire it to be clearly understood that my device is exclusively intended and adapted for screw couplings or unions consisting of two parts each threaded to fit the other, and has no reference to wood-screws which are intended to force their way into yielding substances.

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

1. In screw-bolts, nuts, and equivalent threaded objects adapted for use in screw-couplings or unions, as specified, a screw-thread having its end terminating in a blunt broad face beneath the end or face of the part in or on which it is formed, said end being symmetrically disposed, or substantially so, with respect to the line of the center of the thread, substantially as shown and described, and for the purpose specified.

2. In screw-threaded bolts and nuts and equivalent male and female threaded objects adapted to screw together and form a screw coupling or union, threads having their ends terminating beneath the ends or faces of the threaded parts of the coupling, and each end symmetrically disposed, or substantially so, with respect to the center line of the threads, all substantially as shown and described, and for the purpose specified.

3. In screw-bolts, nuts, and equivalent threaded objects adapted for use in screw-couplings, as specified, a screw-thread having its end terminating in a blunt broad face symmetrically disposed with respect to the center line of the thread, and a cylindrical extension, as a^3, formed to fit neatly in the other member of the coupling, said extension extending between the end of the thread and the face of the threaded object, all substantially as and for the purpose set forth.

CLINTON A. HIGBEE.

Witnesses:

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