(No Model.)

W. W. WOODFORD.

BOLT.

No. 378,857. Patented Feb. 28, 1888.

Fig. 1.

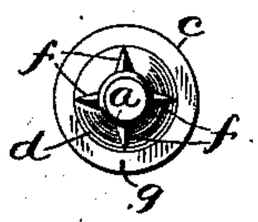


Fig. 2.

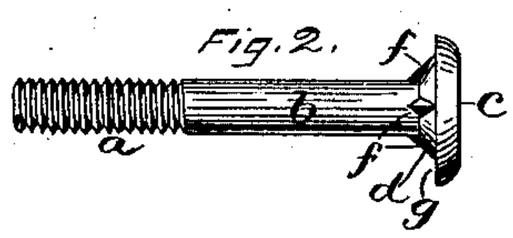
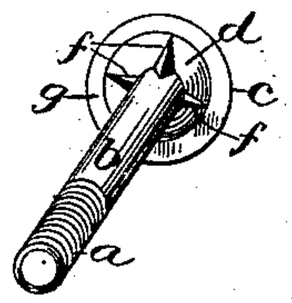


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

WESLEY W. WOODFORD, OF UNIONVILLE, ASSIGNOR TO THE UPSON NUT COMPANY, OF FARMINGTON, CONNECTICUT.

BOLT.

SPECIFICATION forming part of Letters Patent No. 378,857, dated February 28, 1888.

Application filed December 28, 1887. Serial No. 259,266. (No model.)

To all whom it may concern:

Be it known that I, WESLEY W. WOODFORD, a citizen of the United States, residing at Unionville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Bolts, of which the following is a specification.

My invention relates to improvements in bolts of the class which are designed for use in wood; and the objects of my improvement are to increase the efficiency of the bolt and to produce the same at a small cost.

In the accompanying drawings, Figure 1 is an end view of my bolt, showing the small end and under side of the head. Fig. 2 is a side elevation of the same, and Fig. 3 is a perspective view.

The threaded end *a* and body *b* of the bolt may be of any ordinary construction. The same is true with reference to the upper part of the head *c*. Underneath the head, and at the junction of the head and body, I form a conical portion, *d*, and holding wings or keys *f* on the face of said conical portion, which wings extend downwardly a short distance on the body of the bolt. The conical portion does not extend to the edge of the head, so that an annular face, *g*, is formed on the under side of the head outside of the conical portion. This conical portion brings the wings or keys farther down on the body of the bolt than would be the case with wings or keys projecting to the same extent on the under side of a flat head. It also has a tendency to firmly compact the wood around the bolt, while the annular face outside the conical portion enables the head at its edge to be brought closely in contact with the wood and make a neat finish, which would not always be the case provided the conical portion extended to the extreme edge of the head.

The holding wings or keys will effectually prevent the bolt from turning in the wood with the nut as well or better than the ordinary square neck for said purpose, while my bolt can be made cold, and therefore at much less expense than can the ordinary square-necked bolt.

I claim as my invention—

The herein-described bolt, the same consisting of the head and body portions having at the junction of said head and body the conical portion *d*, the holding wings or keys *f* on said conical portion, and an annular face, *g*, on the under side of the head outside of said conical portion, substantially as described, and for the purpose specified.

WESLEY W. WOODFORD.

Witnesses:
S. FRISBIE,
A. S. UPSON.