

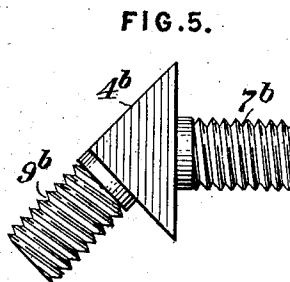
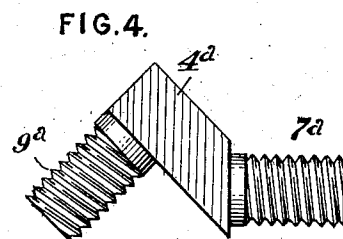
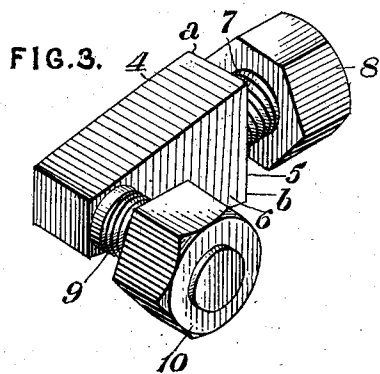
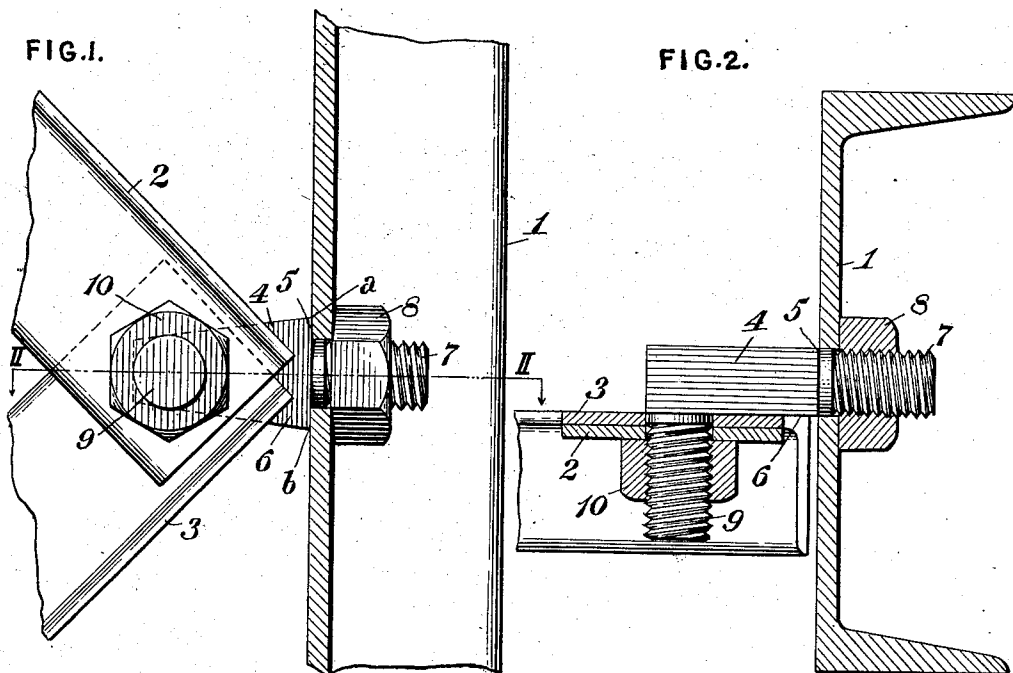
F. M. BOWMAN & A. H. BOVARD.

BOLT DEVICE.

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1,057,217.

Patented Mar. 25, 1913.



WITNESSES

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UNITED STATES PATENT OFFICE.

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BOLT DEVICE.

1,057,217.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, FRANK M. BOWMAN, of Bellevue, and ALEXANDER H. BOVARD, of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Bolt Devices, of which the following is a specification.

The prime object of our invention is to provide new and improved means for connecting a plurality of members, such, for example, as structural steel members, lying in intersecting planes.

In the embodiments of our invention as illustrated by the accompanying drawing, we show the connecting means in form of a bolt-device or bolt comprising a body-portion, two threaded shank-portions with the body-portion constituting heads for the respective shank-portions.

A further object of our invention is to provide a simple and efficient connecting means of the character mentioned comprising an integral structure designed to be employed in connection with standard commercial nuts for connecting members whose connected faces lie in different planes which intersect at an angle with each other, thereby dispensing with the use of separable gussets, lug-angles and separable bolts or rivets as has heretofore been the practice.

In the accompanying drawing, which illustrates applications of our invention Figure 1 is a part elevational view and a part sectional view of a plurality of intersecting structural steel members and our connecting means; Fig. 2, a similar view with the section taken on line II—II of Fig. 1; Fig. 3, a perspective view of the connecting means or bolt-device embodying our invention; and Figs. 4 and 5 elevational views showing modified forms of our invention.

Referring to the drawing, 1 designates a channel-member, and 2 and 3 angle-members lying in intersecting planes and connected together by our connecting means.

The connecting means as illustrated and as preferred consists of a bolt-device or bolt comprising in an integral metallic structure a body-portion and two threaded shank-portions, said body-portion constituting heads for the respective shank-portions. We have illustrated several forms of connecting means constructed in accordance

with our invention and referring first to the form particularly shown by Fig. 3, the bolt-device comprises a body-portion 4 of tapering or keystone-shape having flat contacting faces 5 and 6 lying in planes substantially at right angles with each other. Projecting outwardly from the face 5 is a threaded shank 7, and adapted to be mounted on said shank is a nut 8. The width of the face 5 is substantially the same as the diameter of the shank-portion 7, but the length of the face is considerably greater than the diameter of said shank thus providing shoulders or portions *a* and *b* which are designed to bear against the member interposed between the nut 8 and the said shoulders *a* and *b*, or as illustrated the member 1. 9 designates a second threaded shank-member or portion extending outwardly from the face 6 of the body, and this member is adapted to receive a nut 10. The axes of the shank-portions 7 and 9 lie in intersecting planes substantially at right angles with each other.

In the form of Fig. 4, we show a modified form of our invention comprising a body-portion 4^a and the shank-portions 7^a and 9^a disposed at a different angle with respect to each other than that shown by the form of Fig. 3.

Fig. 5 shows a still further modification of our invention comprising a body-portion 4^b and two shank-portions 7^b and 9^b.

What we claim is:—

1. A device of the character described comprising a rigid body-portion having contacting faces lying in angularly disposed planes, a shank-portion projecting from each of the said faces, and means on a shank-portion for securing a member between said means and the contacting face from which the shank portion having the securing means projects.

2. A device of the character described comprising a rigid body-portion having contacting faces lying in angularly disposed planes, a shank-portion projecting from each of the said faces, and separable means on a shank-portion for securing a member between said means and a contacting face.

3. A bolt-device comprising a body-portion and two shank-portions disposed at an angle with each other, said body-portion constituting heads for the shank-portions,

one of said shank-portions being threaded, and a nut on the threaded portion.

4. A bolt-device comprising a body-portion and two threaded shank-portions disposed at an angle with each other, said body-portion constituting heads for the shank-portions, and a nut mounted on each shank-portion.

5. A bolt-device comprising a rigid body-portion and two threaded shank-portions, the axes of the shank-portions being disposed in planes intersecting each other substantially at right angles.

6. A device of the character described comprising a rigid body-portion having contacting faces lying in angularly disposed planes, a shank-portion projecting from each face, and means coacting with the shank-portion for securing a member on a shank portion between the contacting

face from which the shank portion projects and said means.

7. A bolt device of the character described comprising a rigid keystone-shaped body-portion having flat contacting faces lying in angularly disposed planes, a threaded shank-portion projecting from each face, and a nut on each shank-portion.

8. A bolt device of the character described comprising a rigid keystone-shaped body-portion having flat contacting faces lying in angularly disposed planes, and a shank-portion projecting from each face.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANK M. BOWMAN.

ALEXANDER H. BOVARD.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."