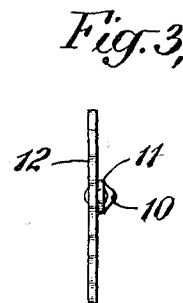
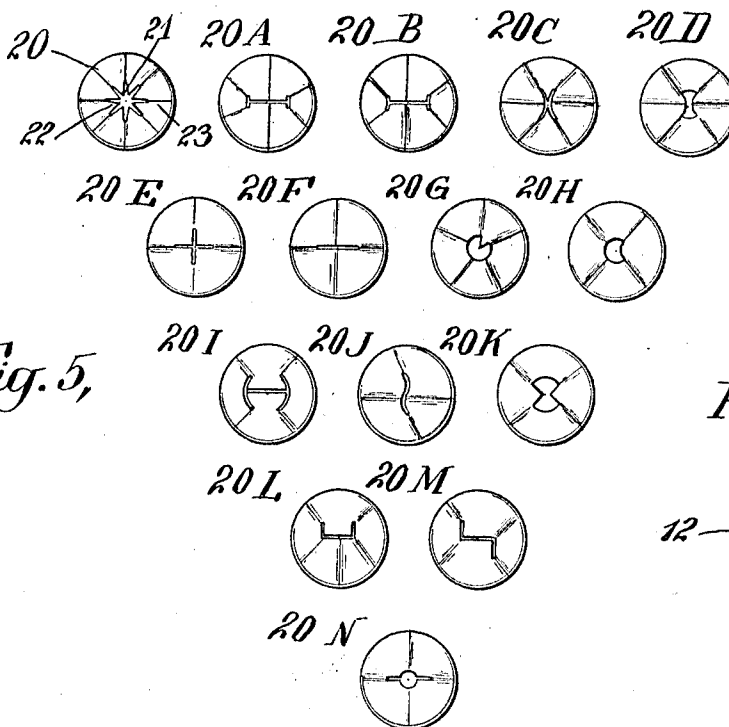
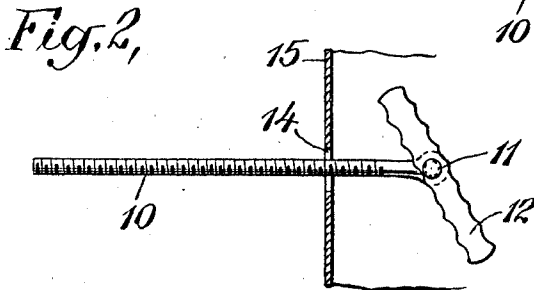
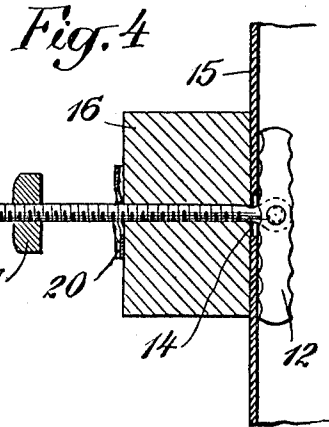


1,061,480.

Fig. 1,

10 12 14 15



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JOSEPH KENNEDY, OF NEW YORK, N. Y.

STAY-WASHER.

1,061,480.

Specification of Letters Patent.

Patented May 13, 1913.

Application filed July 6, 1912. Serial No. 707,981.

To all whom it may concern:

Be it known that I, JOSEPH KENNEDY, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Stay-Washers, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

My invention relates particularly to a device which I have called a "stay-washer" which is especially adapted for use in conjunction with pivot-bolts such as that herein shown and described.

I will describe my invention in the following specification and will point out the novel features thereof in appended claims.

Referring to the drawings, Figure 1 shows in elevation a pivot bolt with the parts thereof in the relative positions they are made to assume when being passed through an opening. Fig. 2 is a similar view of the same device with the pivoted holding member thereof swung into a different position. Fig. 3 is an end elevation of the bolt shown in Fig. 2. In Fig. 4 the pivot bolt is shown in similar elevation, in its holding position with one of my novel stay washers upon it. In Fig. 5 I have illustrated in front elevation a plurality of forms of stay washers.

Like characters of reference designate corresponding parts in all of the figures.

The threaded shank of the pivot bolt is designated by the numeral 10. One end of this bolt is flattened as at 11 to form a bearing face offset to the side of the threaded portion of the shank for a holding member 12 which is loosely pivoted thereto. The holding member is preferably of flat metal with the edges thereof corrugated or roughened as shown. The pivot is at one side of the center, measured longitudinally, of the holding member so that when the bearing face 11 is held in a vertical plane, this member will swing into a vertical position.

Pivot bolts of this general character have been known before, but before describing the stay-washer which I have invented, I will point out briefly the manner in which they are used.

By placing the holding member in a position in alinement with the bolt, it may be thrust through a hole such as is shown in Figs. 1, 2, and 4 at 14 in a wall 15 for ex-

ample of sheet metal. When this end of the bolt has been thrust far enough through the hole to allow the holding member to clear the inner face of the wall, this member will swing by gravity about its pivot, as shown in Fig. 2 after which the bolt may be drawn back until arrested by the engagement of the holding member with the wall. It is shown in such position in Fig. 4, in which figure it is illustrated as passing through a block 16 which it is in this case to hold against the wall 15. To facilitate the use of such bolts, I have found it desirable to provide some means for holding them in position until the nut 17 can be turned into place. Heretofore nothing particularly adapted for this purpose has been available and the workman has been obliged to hold the bolt with his fingers or to resort to some makeshift such as tying a piece of string or winding a wire about the bolt. To fill this need, I have invented the stay-washer 20 which is made of very thin springy sheet metal having a central hole therein smaller than the diameter of the bolt 10 and cut away as at 21 so as to form a plurality of inwardly projecting prongs 22. The sheet metal is preferably creased radially as at 23 in order to increase the resiliency of the prongs. Now when the bolt is in the position in which it is shown in Fig. 4, one of these stay-washers may be slipped over it longitudinally. As it passes over the bolt, the prongs 22 will snap over the threads thereon, ratchet-like, and will cause the washer to be retained on the bolt with sufficient grip to hold the bolt in place temporarily until the nut 17 is placed thereon and turned into holding position. It is to be noted that the stay-washer will prevent the end pressure attendant upon putting the nut onto the bolt from pushing the bolt into the inside of wall 15 which in many conditions would cause it to be lost. When the nut is screwed on, it will seat upon and flatten out the washer which will form a bearing surface for the nut and will in no way detract from the appearance of the device in use.

At 20^A, 20^B, 20^C, 20^D, 20^E, 20^F, 20^G, 20^H, 20^I, 20^J, 20^K, 20^L, 20^M, 20^N, in Fig. 5 a variety of forms of stay-washers is shown. These are added merely to show that the specific form of that portion of the stay-washer which engages the threads of the bolt is not an essential feature, but that they

may be cut in a large variety of shapes. These forms are so simple that no specific description of them is necessary.

What I claim is:

- 5 1. In combination with a machine bolt having a threaded shank and a holding member pivoted on the end thereof, a stay-washer on said shank of thin sheet spring metal constructed with an opening therein, 10 the said opening being smaller than the diameter of said shank, with the portions thereof adjacent said opening of sufficient resiliency to allow said washer to be pushed over the shank longitudinally and to catch 15 on the threads of the shank, and folds in the metal of the washer radiating from the opening therein.
2. In combination with a machine bolt having a threaded shank and a holding 20 member pivoted on the end thereof, a stay-washer on said shank of thin sheet spring metal constructed with a star-like central opening therein, the sheet metal between the points of said star forming prongs project- 25 ing toward the center of the washer but leaving between them an opening smaller than the diameter of the threaded shank, said prongs having sufficient resiliency to allow said washer to be pushed over the 30 shank longitudinally and to catch on the threads of the shank.

3. In combination with a machine bolt having a threaded shank and a holding member pivoted on the end thereof, of a stay-washer of thin sheet metal on said 35 shank constructed with an opening therein smaller than the diameter of said shank, with portions thereof adjacent said opening of sufficient resiliency to allow said washer to be pushed over the shank longitudinally. 40

4. In combination with a machine bolt having a threaded shank and a holding member pivoted on the end thereof, of a stay-washer of thin sheet spring metal on said shank constructed with a star-like cen- 45 tral opening therein, the sheet metal between the points and said star forming prongs projecting toward the center of the washer but leaving between them an opening smaller than the diameter of said shank, 50 said prongs having sufficient resiliency to allow the washer to be pushed over the shank longitudinally and to catch on the threads of the shank, and folds in the metal 55 of the washer radiating from the points of said star-like opening.

In witness whereof, I have hereunto set my hand this 5th day of July 1912.

JOSEPH KENNEDY.

Witnesses:

I. B. MOORE,

ELIZABETH ALEXANDER.