Sept. 6, 1932. E. C. BAYNES 1,876,386

METHOD OF MAKING BOLT HOLDING DEVICES

Filed May 27, 1931

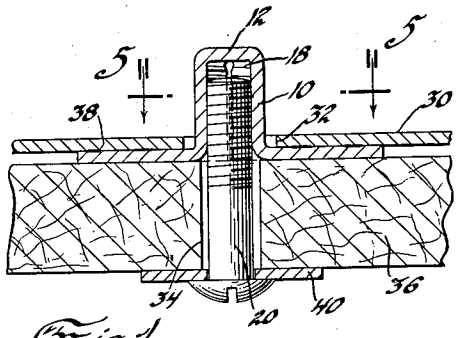



Fig. 1

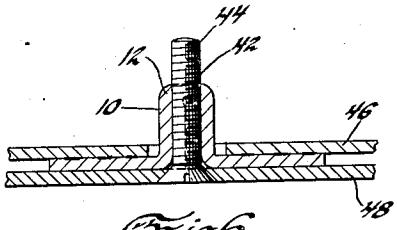



Fig. 6

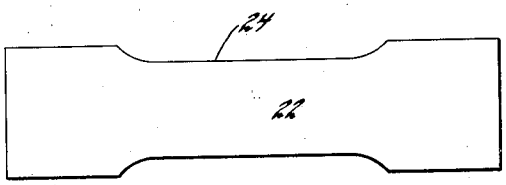



Fig. 2

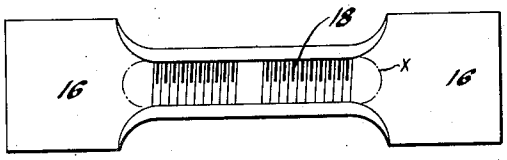



Fig. 3

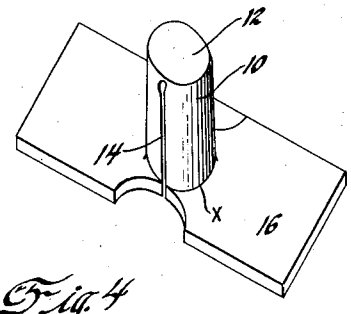



Fig. 4

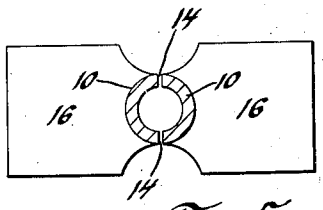



Fig. 5

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# UNITED STATES PATENT OFFICE

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## METHOD OF MAKING BOLT HOLDING DEVICES

Application filed May 27, 1931. Serial No. 540,489.

This invention relates to bolt holding devices and particularly to such devices, made in one piece from a blank of sheet metal.

An object of this invention is a device of the character described above including a longitudinally, split, internally threaded sheet metal cylinder having integral therewith plate-like diametrically opposed wings extending from free end portions of the cylinder.

A further object is a novel process of making a bolt holding device of the character described above which includes the steps of (*a*) providing a sheet metal blank; (*b*) stamping threads upon the central portion of the blank; and (*c*) forming the latter portion to provide a longitudinally split, internally threaded thimble-like cylinder having plate-like, diametrically opposed wings extending from the free ends of the cylinder.

A still further object is a device of the character described above wherein the cylinder is slightly tapered.

A still further object is a device of the class described above wherein the web which connects ends of the cylinder is cut away, at least partially, if desired.

Still further objects will readily occur to those skilled in the art upon reference to the following description and the accompanying drawing in which

Fig. 1 shows a device of the invention in use.

Fig. 2 shows a blank from which the device may be made.

Fig. 3 shows a device in the process of manufacture.

Fig. 4 shows a completed device.

Fig. 5 is a section as if on the line 5—5 of Fig. 1.

Fig. 6 shows a modified form of the device, in use.

Referring to the drawing it will be seen that the device includes a sheet metal cylinder 10 having one end closed by a web 12 and so formed as to be longitudinally split along the diametrically opposed lines 14. Integral with the cylinder and extending from the free ends of the latter are diametrically opposed plate-like wings 16. Further, the cylinder is internally threaded as shown at 18 for cooperation with the threads of a bolt 20.

The device may be made by a process which includes the steps of (*a*) providing a sheet metal blank 22 of the form of Fig. 2, the blank being necked down as illustrated in Fig. 2 at 24; (*b*) stamping the threads 18 on the central portion of the blank and forming the threaded portion to a trough-like, substantially cylindrical form as illustrated in Fig. 3, the axis of the thus curved threads being coincidental with the axis of the trough; and (*c*) deforming the parts so shaped along the lines X to form a longitudinally split, internally threaded, thimble-like cylinder, having plate-like diametrically opposed wings 16 extending from the free ends of the cylinder on the lines X—X.

One use of the device is illustrated in Fig. 1. In this figure there is shown a sheet metal support or panel 30 having an aperture at 32 aligned with an aperture 34 in a wooden support 36. The device is secured to the sheet metal panel 30 by spot welding the wings 16 to the panel 30 on the spots indicated at 38, the cylinder 10 extending thru the aperture 32. The supports are then brought together and the bolt 20 is passed thru the aperture in the washer 40, thru aperture 34, and into the thimble 10, its threads then engaging the threads 18 of the thimble to effect an interlock between the bolt and the thimble and thus to effect a securement between the supports 30 and 36.

In Fig. 6 there is disclosed a device which, while of the form of the device of Figs. 1 to 5, is slightly different therefrom in that the web 12 is cut away to provide an aperture 42 through which may project the screw bolt 44. Further, in this figure the device is illustrated in connection with two sheet metal panels or supports 46 and 48, to one of which, namely, 46, is welded the device, the wings of the latter being disposed between the supports as shown.

It will be observed that the cylinder 10, of Fig. 4, is shown as having a slight taper so that its closed end is slightly smaller in di-

ameter than its open end. A cylinder thus formed is more efficient in operation than a perfectly straight cylinder, for the reason that the threads of the cylinder engage the threads of the bolt more tightly as the latter is further threaded into the thimble.

It will also be observed that by virtue of the fact that the cylinder is split on diametrically opposed lines, it is possible to make the device in one piece from a sheet metal blank and it is possible to stamp the threads therein while the device is in flat blank form, thus eliminating the necessity of cutting threads in the cylinder. Further the aperture 42 in web 12 (Fig. 6) may be cut away while the device is still in blank form.

It will further be seen that a device of this character may be made with the use of a number of dies in separate operations or by a compound die in substantially one operation, these operations occurring simultaneously or in rapid succession, as desired.

Further, it will be seen that the device of this character may be made far more cheaply than similar devices.

Now having described the invention and the preferred embodiment thereof, it is to be understood that the said invention is to be limited, not to the specific details herein set forth, but only by the scope of the claim which follows:

What I claim is:

That process of making one piece sheet metal bolt holding devices which includes the steps of (*a*) providing an elongated sheet metal strip blank, (*b*) stamping threads on and transversely across the central portion of said strip blank and forming the centrally threaded portion to a trough-like, elongated substantially semi-cylindrical form with the axis of the threads extending longitudinally, coincidental with the axis of the trough, (*c*) folding the strip across the axis of the threads into a U to bring the ends of the semi-cylindrical threaded portion together and (*d*) bending the ends of the strip away from the axis of the threads.

In testimony whereof, I sign this specification.

EDWARD C. BAYNES.