

UNITED STATES PATENT OFFICE.

JOHN H. COOK, OF NEW YORK, N. Y.

TOGGLE-BOLT.

No. 867,799.

Specification of Letters Patent.

Patented Oct. 8, 1907.

Application filed March 28, 1907. Serial No. 365,130.

To all whom it may concern:

Be it known that I, JOHN H. COOK, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Toggle-Bolts; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

10 This invention is an improved toggle bolt for use in securing brackets and other objects to the inner face of a hollow wall, and it consists of a bolt stem in connection with a bar having an opening through which said stem extends to enable the bar to be turned angularly
15 on the bolt, and also having oppositely-facing longitudinal channels communicating with said opening and adapting said bar to be turned parallel with said stem to cause said stem to enter said channels and said bar to lie in a common plane with said stem to render the toggle bolt compact, when not in use, and for storage and shipment, and to also adapt the bolt and bar to be readily passed through a small opening in the wall when installing the toggle bolt, as hereinafter more fully described and claimed.

25 In the accompanying drawings,—Figure 1 is an elevation of a toggle bolt embodying my invention, showing the same applied to a hollow wall, said hollow wall being indicated in section; Fig. 2 is a perspective view of my improved toggle bolt, showing the bar turned parallel with the bolt stem; Fig. 3 is an elevation of the toggle bolt with the bar in the same position as in Fig. 2, and indicated in longitudinal section; Fig. 4 is a sectional view, taken on the plane indicated by the line *a-a* of Fig. 1; Fig. 5 is a similar view, taken on the line
30 *b-b* of Fig. 1; and Fig. 6 is an end elevation showing the holding pin on the end of the bolt stem.

My improved toggle bolt comprises the bolt 1 and the cross bar 2. The bolt is provided with a head 3 at one end and with a nut 4. The bar 2 is struck up from sheet
40 metal and formed with oppositely-facing, longitudinal channels 5, 6, which extend from its center to its ends, so that the arms or opposite end portions of said bar are substantially U-shaped cross sectionally. That portion of the bar between the two channels is bent obliquely,
45 as at 7, and is provided with an opening 8 to receive the stem of the bolt and of greater diameter than said bolt, so that said opening not only adapts the bar to be turned at right angles to the bolt to bear against the interior surface of the hollow wall when the toggle bolt is installed, as shown in Fig. 1, but the said opening forms
50 a communication between said channels of the bar and coacts with the said channels to adapt the bar to be turned parallel with and to lie in a common plane with

the stem of the bolt, so that the said bolt stem lies in the said channels 5, 6, as shown in Figs. 2 and 3, thus enabling the bolt and its bar to be readily inserted through a comparatively small opening in the wall until the bar has cleared the interior surface of the hollow wall, when the said bar will by gravity turn to a position at an angle with respect to the bolt. The latter may be then slightly drawn outward to cause the bar to be turned at right angles thereto, and to bear squarely against the interior surface of the hollow wall, as shown in Fig. 1, when the bracket or other object which is to be secured to the wall by the said bolt may be placed on the projecting end of said bolt, as will be understood. This construction of the bar which enables it to be turned either angularly with respect to or parallel with the bolt stem, also enables the bolt to be disposed very compactly when not in use, which greatly facilitates the storage and transportation thereof.

To prevent the toggle bolt from casually slipping inwardly and becoming lost in the hollow wall before the bracket or other object to be fastened has been installed, I provide a holding pin 9, which is made from a single piece of spring wire bent substantially in U-shape to form arms 10, 11, which tend to spring together and the free ends of which are bent outwardly in opposite directions, as at 12, to enable the pin to be readily placed astride of the end of the bolt stem by slipping it lengthwise across the bolt. After the bolt and the bar have been inserted through the opening in the wall. The arm 11 of said bolt pin is provided at a point at or near its center with a substantially semi-circular out-turned off-set
85 13 to engage one side of the bolt stem and lie in the screw-thread thereof, so that said holding pin is prevented from being casually detached from the bolt stem, either by longitudinal movement of said holding pin in the direction of its own length, or by movement of said pin in the direction of the length of the bolt stem, as will be readily understood. After the nut 4 has been screwed partly on the bolt, the pin 9 may be withdrawn and used again on another bolt, as above described.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention, as defined by the appended claims.

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

1. A toggle bolt comprising a stem and a bar having an opening through which the stem extends, and oppositely-

5 facing longitudinal channels communicating with said opening, said opening adapting the said bar to be turned angularly with respect to said stem and coaxing with said channels to adapt said bar to be turned parallel and to lie in a common plane with said stem, for the purposes set forth.

2. In combination with a toggle bolt, a holding pin having arms to be disposed astride of said bolt, one of said arms having an offset to engage one side of the said bolt

and lie in the screw-threads thereof, for the purposes set forth. 10

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN H. COOK.

Witnesses:

DAVID GRANT,
L. B. MEYER.