C. C. ROBERTS.

EXTENSION BOLT.

APPLICATION FILED NOV. 5, 1920.

1,401,444. Patented Dec. 27, 1921.

Fig. 1.

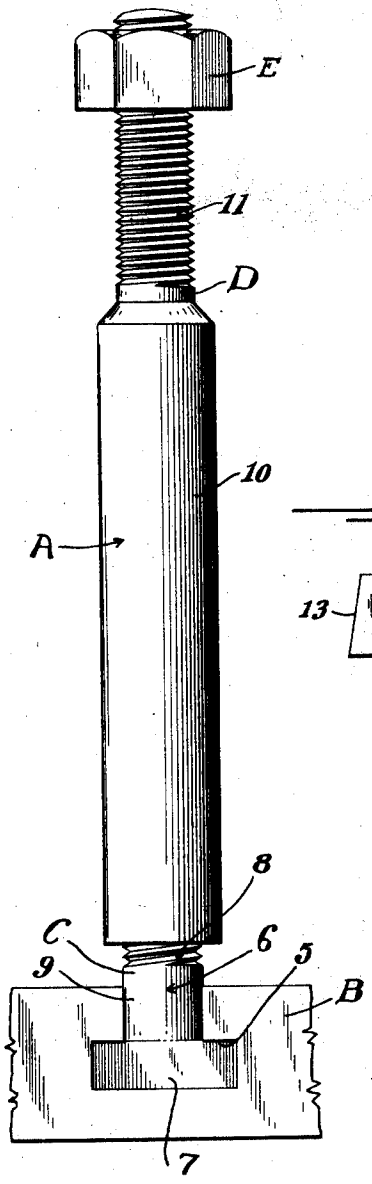


Fig. 3.

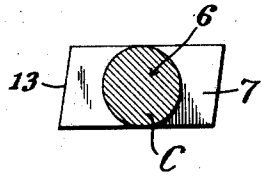
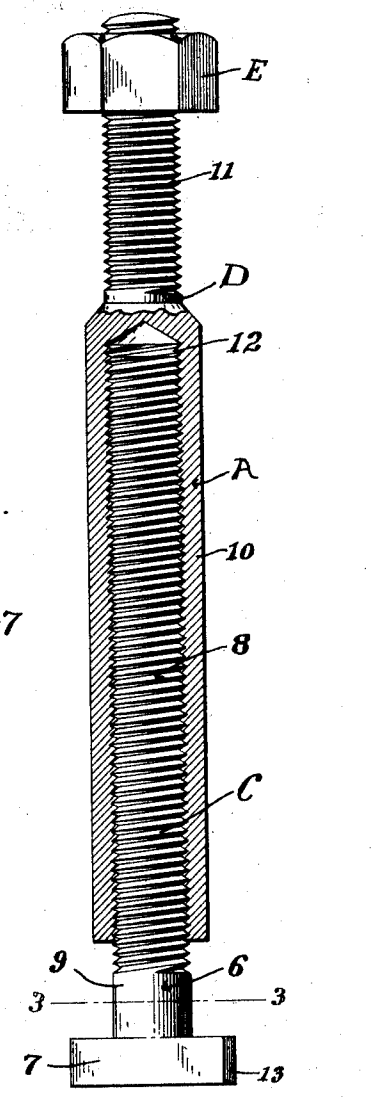


Fig. 2.



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EXTENSION-BOLT.

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To all whom it may concern:

Be it known that I, CHARLES C. ROBERTS, a citizen of the United States, residing at Springdale, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Extension-Bolts, of which the following is a specification.

This invention relates to fastening devices for use in metal working, and the primary object of the invention is to provide an improved bolt for holding the work on the bed or table of a lathe, planer, or the like, while the same is being acted upon by the tools, the bolt being so constructed as to permit the work to be quickly and instantly engaged or released in a convenient manner, the bolt being also constructed as to eliminate the extension of the bolt above the work, which is disadvantageous in some instances.

A further object of the invention is to provide a bolt for holding work on lathes and the like which can be quickly adjusted to an initial work holding position and then finally adjusted for firmly holding the work to prevent displacement thereof in the usual manner, the initial adjusting means eliminating the slow and tedious process of threading the work holding nut a considerable distance on the bolt shank, as in the usual bolt construction.

A further object of the invention is to provide a bolt for holding work upon machine beds in which the active length thereof can be adjusted in accordance with the work being held, whereby the necessity of providing a plurality of different length bolts is eliminated.

A still further object of the invention is to provide an extension bolt for lathes and the like, of the above character, which is durable and efficient in use, one that is simple and easy to manufacture, and one which can be placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings forming a part of this specification, in which drawings;

Figure 1 is an elevation of the improved extension bolt showing the same in position on a bed or table of a lathe, planer or the like.

Fig. 2 is a similar view showing a portion of the bolt in section.

Fig. 3 is a detail section through the shank of the bolt taken on the line 3—3 of Fig. 2 illustrating the type of head formed on the bolt.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter A indicates the improved extension bolt and B the table or bed of a lathe, planer or the like. The table or bed B is of the usual or any preferred construction and is provided with the usual T-slot 5 for the bolt.

The improved extension bolt A includes an inner section C, and an outer section D and the work holding nut E.

The inner section C includes a shank 6, and a head 7. The shank 6 is provided with male threads 8, which extend from the free end of the shank to a point short of the head 7. It is preferred that the threads 8 terminate approximately one inch from the head 7 so as to provide a smooth portion 9 which may be either of a cylindrical or polygonal shape. The male threads 8 are of the V-shaped type and are made either double, triple, or quadruple for a purpose which will be hereinafter more fully described. The head 7 may be of any desired shape used in bolts of this character and by way of example the same is shown to be of flat elongated shape, for fitting in the T-slot 5. The terminals of the head are inclined as at 13 so as to bind against the side walls of the T-slot 5 and thus prevent the turning of the shank beyond a predetermined point. In the use of this type of head, the head is turned parallel with the T-slot and inserted in the same and then given a quarter turn until the inclined sides 13 thereof come into engagement with the side walls of the T-slot.

The outer section D of the bolt A includes a hollow cylindrical body portion 10 and a solid shank 11 formed on one end thereof. The solid shank 11 is of substantially the same diameter as the shank 6 of the section C and this shank 11 is provided with standard threads for the reception of the work

engaging nut E. The hollow body portion 10 of the outer section D is provided with internal female threads 12 which are made either double, triple, or quadruple to correspond to the threads 8 on the shank 6 of the section C. By providing double or quadruple threads for connecting the sections C and D together, it can be seen that the sections may be adjusted in relation to each other in an expedient manner, and this means for connecting the sections forms the means for initially adjusting the work holding nut E in relation to the work.

The work holding nut E may be of the usual or any preferred construction and the bore thereof is provided with standard threads so as to permit the same to be threaded on the shank 11.

In use of the improved bolt, the head 7 thereof is placed in the T-slot 5 in the bed or table B of the lathe, planer or the like and then slid into engagement with the work. The section D is then rotated until the nut E comes into engagement with the work, after which the nut E is threaded on the shank 11 so as to tightly hold the work against displacement. By this construction, it can be seen that by adjusting the sections C and D in relation to each other, the nut E may be initially positioned in relation to the work in a convenient and quick manner and then the nut E may be turned in the usual manner for firmly gripping the work. This construction also provides means for eliminating the plurality of different length bolts as now used on planers, lathes and the like, as the active length of the improved bolt can be readily varied to suit the character of the work being acted upon.

Changes in details may be made without departing from the spirit or scope of this invention; but,

I claim:

1. A bolt comprising a pair of sections, one of the sections including a shank and a head, the other section including a hollow cylindrical body, and a shank provided with standard threads of substantially the same diameter as the shank of the first section, the shank of the first section and the hollow body being provided respectively with double male and female threads, and a nut carried by the threaded shank of the second mentioned section.

2. A bolt comprising a pair of sections, one of the sections including a shank and a T-head, the shank being provided with threads extending from its free end to a point short of the head having a relatively large pitch, the other section including a hollow body and a shank provided with standard threads, the bore of the hollow body being provided with threads for receiving the shank of the first section, the threaded connection permitting the quick adjustment of the sections in relation to each other, and a nut mounted upon the standard threaded shank of the second mentioned section.

3. A bolt for holding work upon a machine bed comprising a pair of sections connected together by screw threads, the threads having a relatively coarse pitch to permit the quick adjustment of the sections in relation to each other, means carried by one end of one of the sections for engaging the machine bed, and a work engaging member adjustably carried by the other section.

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