No. 827,230. PATENTED JULY 31, 1906.

R. J. GOEPPINGER.

ADJUSTING SET SCREW.

APPLICATION FILED JUNE 22, 1905.

Fig. 1.

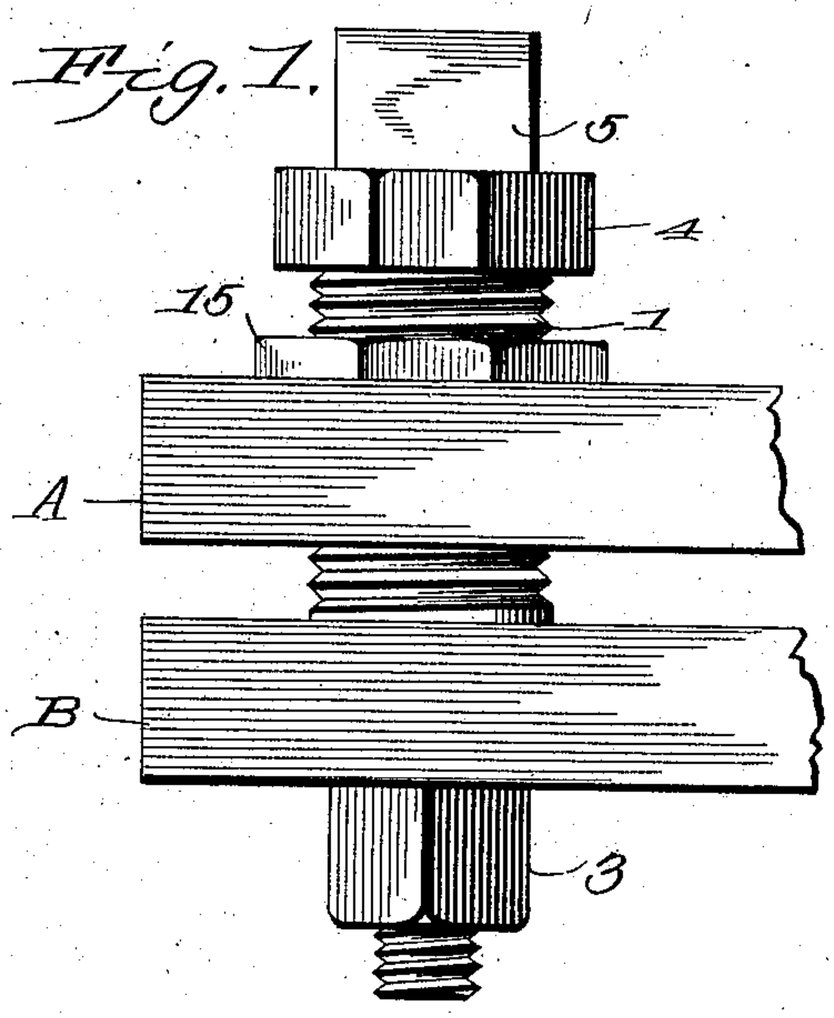


Fig. 2.

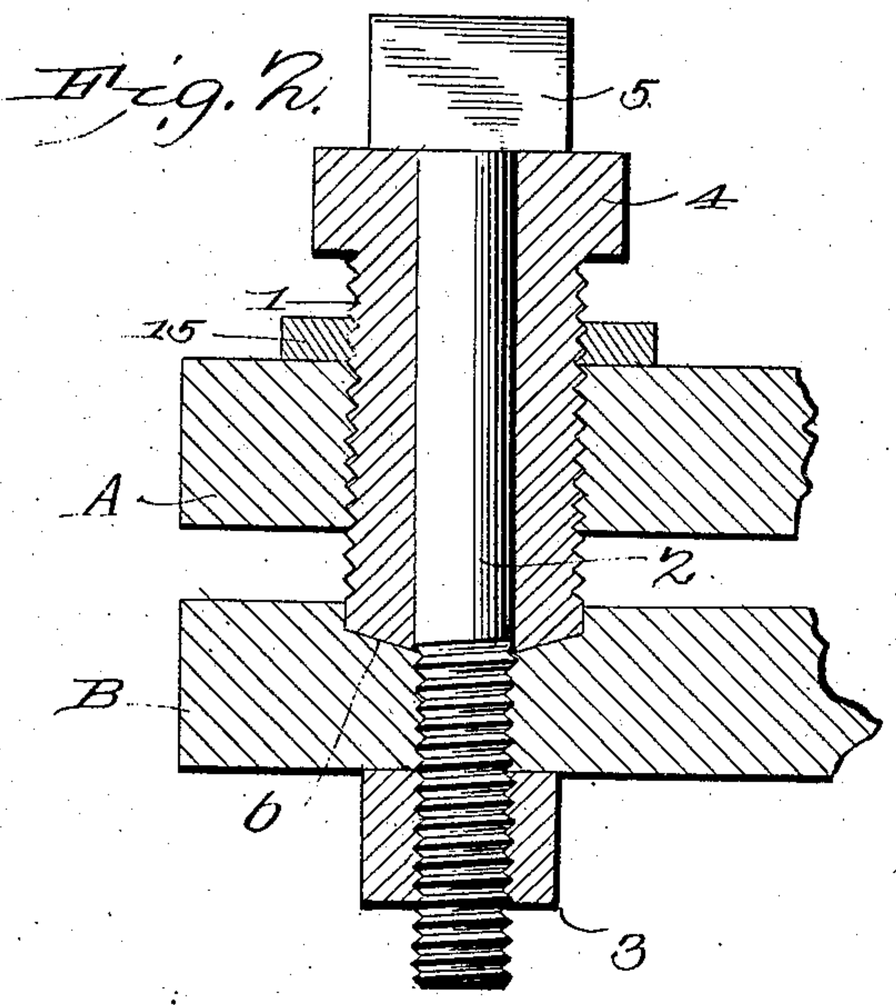


Fig. 3.

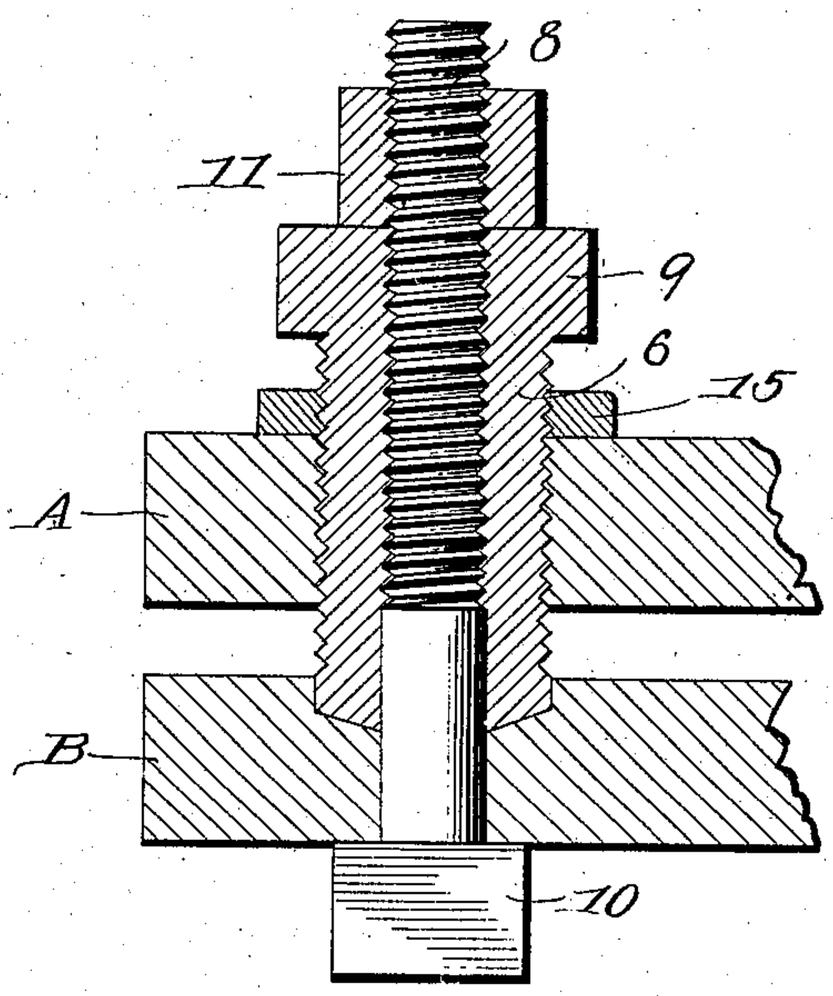
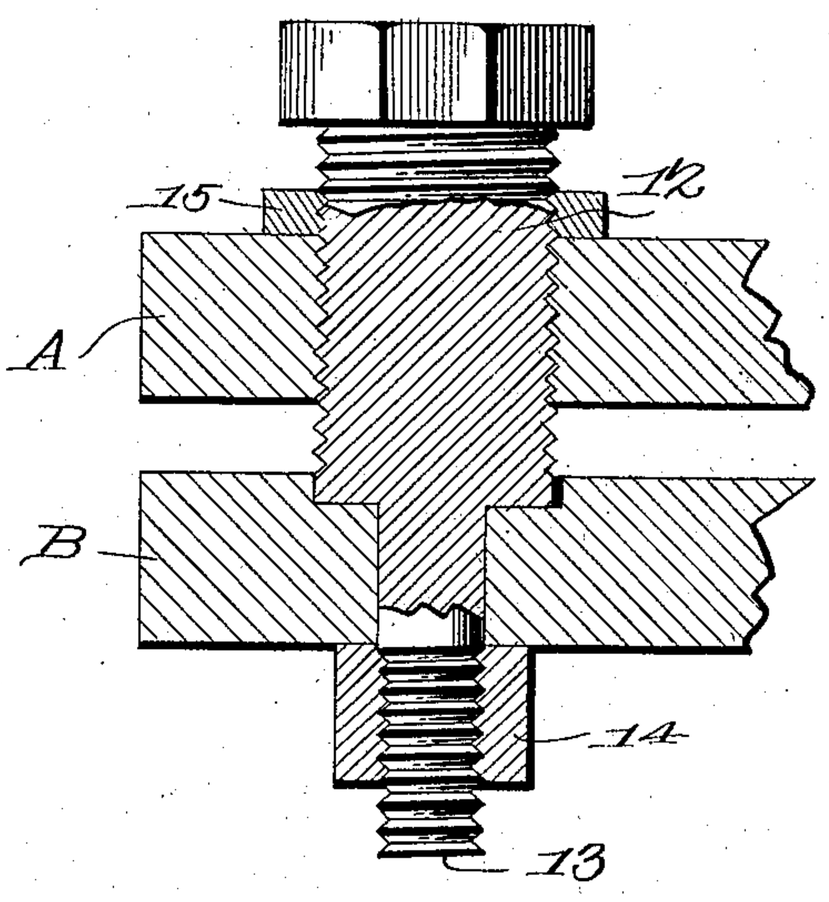


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

RUDOLPH JACOB GOEPPINGER, OF PIGGOTT, ARKANSAS.

ADJUSTING SET-SCREW.

No. 827,230. Specification of Letters Patent. Patented July 31, 1906.

Application filed June 22, 1905. Serial No. 266,492.

To all whom it may concern:

Be it known that I, RUDOLPH JACOB GOEPPINGER, a citizen of the United States, residing at Piggott, in the county of Clay and State of Arkansas, have invented a new and useful Adjusting Set-Screw, of which the following is a specification.

This invention relates to set-screws.

The object of the invention is in a ready and practical manner to facilitate the accurate adjustment of any two objects with relation to each other and to hold them securely in their adjusted positions.

With the above and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a set-screw, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like characters of reference indicate corresponding parts, Figure 1 is a view in elevation of one form of set-screw constructed in accordance with the present invention, showing it combined with two objects to be adjusted relatively to each other. Fig. 2 is a vertical longitudinal sectional view through the set-screw shown in Fig. 1. Figs. 3 and 4 are vertical longitudinal sectional views of two modified forms of set-screws.

In the form of the invention shown in Fig. 1 the device embodies an adjusting-screw 1 and a locking-screw 2. These parts are shown combined with two objects A and B, which may represent two plates, one of which is to be adjusted relatively to the other and be held securely in such adjustment. The adjusting-screw 1 is provided with a longitudinal bore and with external threads that engage a threaded opening in the object A, the lower end of the adjusting-screw being truncated-cone shaped and disposed in a seat *b* in the object B. The bore of the adjusting-screw is engaged by the locking-screw, the portion of the latter that engages the bore being smooth and the portion disposed exteriorly of the adjusting-screw being threaded and projects through a threaded orifice in the object B and has combined with it a clamping-nut 3. The upper end of the screw 1 is provided with a polygonal head 4 and the upper end of the screw 2 with a similar head 5.

To effect adjustment of the part A relatively to the part B in the form of the invention described, the nut 3 is first loosened, then the screw 2 is loosened and the screw 1 is turned until the objects are appropriately adjusted relatively to each other, after which the screw 2 and nut 3 are again tightened, thereby firmly securing the parts in their adjusted positions. While the adjusting-screw is shown as resting in a seat in the object B, it is to be understood that the end of the nut may be flat and bear directly upon the said object.

In the form of the invention shown in Fig. 3 the adjusting-screw 6 is provided with external threads, as shown in Fig. 1; but its bore is threaded throughout a greater portion of its length and is engaged by the threaded portion of the locking-screw 8, the bore at the lower end of the adjusting-screw or that opposite the head 9 being devoid of threads, while that portion of the locking-screw that engages the screw portion of the bore is threaded. The adjusting-screw has a polygonal head 10 and carries a clamping-nut 11. To effect adjustment of the parts A and B with this form of the invention, the nut 11 is loosened and the screw 8 is also loosened, after which the screw 6 is rotated to effect the requisite adjustment, and when this has been secured the screw 8 will be turned to its proper position and the nut 11 will be tightened. In this form of the invention the lower end of the adjusting-screw is also cone-shaped and engages a seat in the object B; but this is not essential, as the seat may be dispensed with and the lower end of the screw may be made flat and bear directly upon the object B.

In the form of the invention shown in Fig. 4 there is a combined adjusting-screw and locking-screw presented in one element, to effect which the lower end of the adjusting-screw 12 is reduced and threaded to form a locking-screw 13, with which is combined a clamping-nut 14. The exterior surface of the adjusting-screw is threaded to engage a threaded orifice in the object A, while the object B is provided with a seat to receive the lower end of the adjusting-screw, which in this instance is shown as flat. To effect adjustments of the objects A and B relatively to each other in this form of the invention, the nut 14 is loosened, the screw 12 is turned in the appropriate direction, and when the desired adjustment has been effected the nut 14 is again tightened.

In each form of the invention there is combined with the adjusting-screw 1 a locking-

nut 15, which by being turned into engagement with the object A positively locks the said screw against possibility of loosening and acts adjunctively with the nuts 3, 11, and 14 in holding all the parts in the position to which they are moved.

It will be seen from the foregoing description that each form of the invention herein described is peculiarly adapted for securing the function designed and will in a certain and positive manner effect accurate adjustment of two objects relatively to each other and hold them in such adjustment.

Having thus described the invention, what is claimed is—

1. The combination with two objects to be adjusted, of a relatively large adjusting-screw carried by one of the objects and abutting the other object, a relatively small locking-screw, and a clamping-nut carried by each of the screws and engaging the objects.

2. The combination with two objects to be adjusted, one of which is provided with a threaded opening and the other with a seat, of a relatively large adjusting-screw engaging the threaded opening and the seat, a relatively small locking-screw, and a clamping-nut carried by each of the screws.

3. A device of the class described comprising an externally-threaded adjusting-screw provided with an internal partially-threaded bore extending entirely through it, a locking-screw projecting through the bore, and a nut carried by the latter screw.

4. A device of the class described comprising an externally-threaded adjusting-screw of the same diameter throughout its length and provided with an internally-threaded bore, a locking-screw projecting through the bore, and a locking-nut carried by each of the two screws.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses

RUDOLPH JACOB GOEPPINGER.

Witnesses:

O. H. PARRISH.

GEO. W. SEETZ