

(No Model.)

J. A. TRAUT.

APPARATUS FOR ADJUSTING SPIRIT LEVELS.

No. 565,096.

Patented Aug. 4, 1896.

Fig. 2.

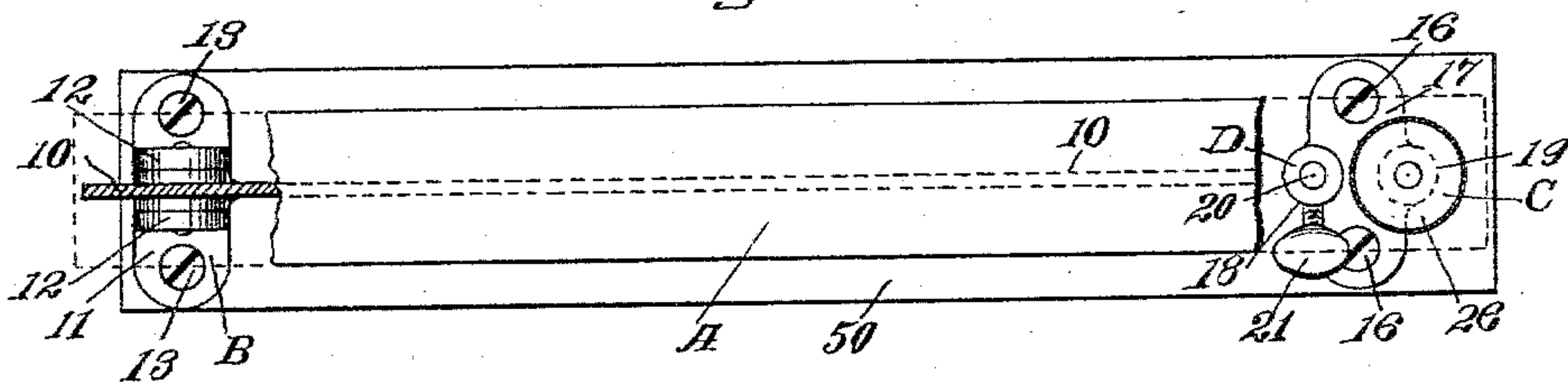


Fig. 1.

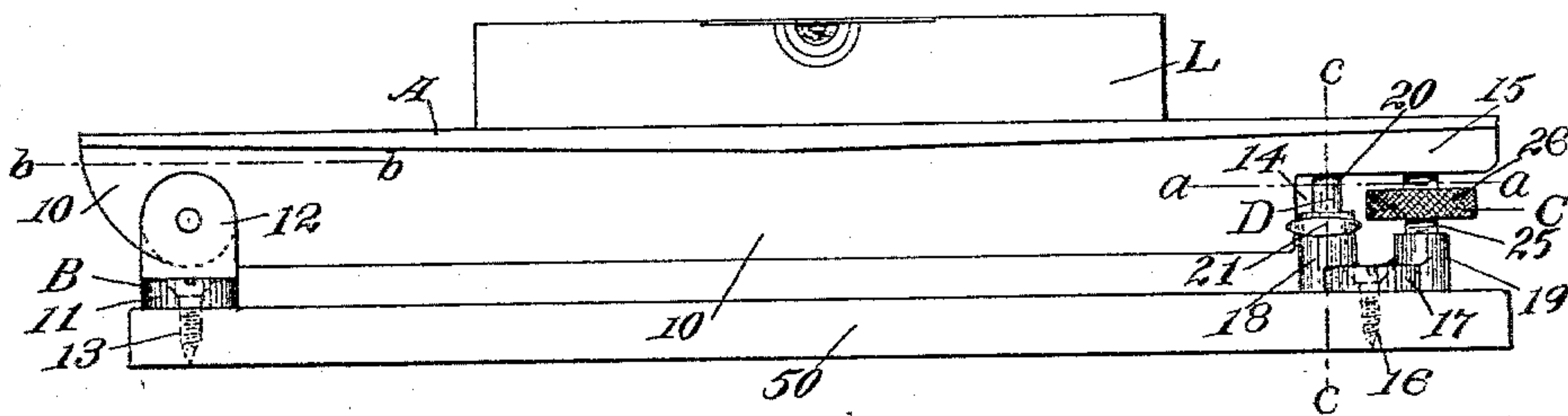


Fig. 3.

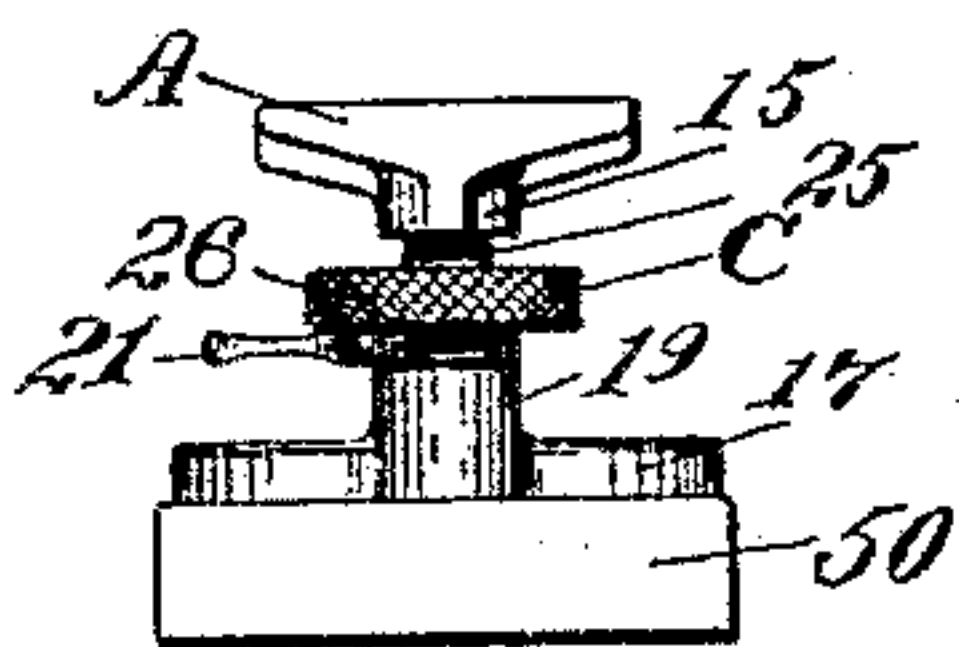
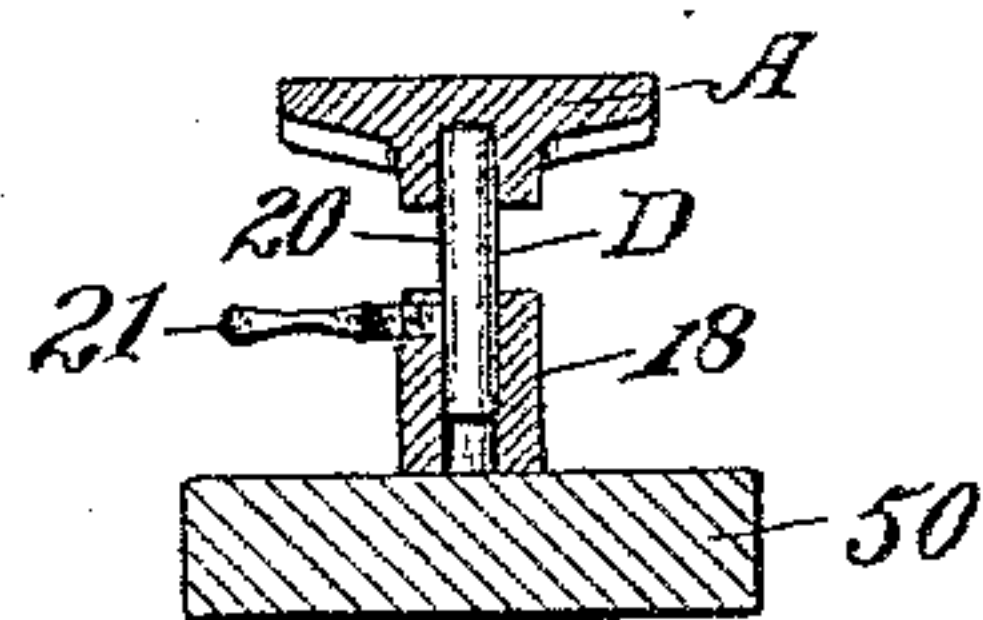


Fig. 4.



Witnesses:  
R. W. Littman,  
Fred. J. Dole.

Inventor  
Justus A. Traut,  
By his Attorney

J. A. Richards



# UNITED STATES PATENT OFFICE.

JUSTUS A. TRAUT, OF NEW BRITAIN, CONNECTICUT.

## APPARATUS FOR ADJUSTING SPIRIT-LEVELS.

SPECIFICATION forming part of Letters Patent No. 565,096, dated August 4, 1896.

Application filed September 3, 1895. Serial No. 561,258. (No model.)

*To all whom it may concern:*

Be it known that I, JUSTUS A. TRAUT, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Apparatus for Adjusting Spirit-Levels, of which the following is a specification.

This invention relates to an apparatus or device for testing and adjusting spirit-levels, and the object of the invention is to provide an apparatus or device for this purpose which will be simple in construction and which can be easily and quickly manipulated to accomplish the desired object.

A further object of the invention is to provide a device which is portable and light in weight, embodying a table for supporting the spirit-level, means for supporting the table at or near one end thereof, means for adjusting one end of the table relatively to the other end thereof, together with means for guiding the adjustable end of the table and clamping the same in adjusted position.

In the drawings accompanying and forming part of this application, Figure 1 is a side elevation of an apparatus or device for adjusting or testing spirit-levels, and shows a spirit-level in position on the table thereof to be tested. Fig. 2 is a top view thereof having a portion of each end of the table broken away, and shows a top view of the guiding and adjusting means; taken in line *a a*, and a top view of the table-pivoting means, taken in line *b b*, Fig. 1. Fig. 3 is a right-hand end view of the apparatus; and Fig. 4 is a detail sectional view, taken in line *c c*, Fig. 1, of the guiding and clamping mechanism.

Similar characters represent like parts in all the figures of the drawings.

Spirit-levels as usually constructed are provided with adjustable bubble-glasses, which, in the hands of the mechanic, frequently get out of true and necessitate the building up of a support or other true plane surface for the purpose of supporting and testing the level, in order to readjust the bubble-glass to true the bubble. This requires considerable time and labor, and in order to obviate these difficulties I have invented an apparatus whereby the ordinary mechanic can, with

very little trouble and time, test his level, and, if the bubble is found to be untrue, adjust the bubble-glass into proper position to true the bubble; and in the preferred form thereof herein shown and described the apparatus for adjusting and testing spirit-levels consists of a suitable base supporting table, (designated in a general way by A,) means for supporting the table at or near one end thereof, (designated in a general way by B,) means for adjusting the opposite end of the table, (designated in a general way by C,) and means for guiding and clamping the table in its adjusted position, (designated in a general way by D.) A suitable base of any desired construction for carrying the table is provided, and is shown having a flat under side, whereby it is adapted to rest on the ground or other immovable or movable support. Secured for adjustment on this base is a table or level-support A, likewise of any suitable construction, the upper supporting-surface, however, having a true plane surface on which various sizes and constructions of levels, such as the level L, can be set for testing and adjustment. This table is preferably provided on its under side with a downwardly-extending flange 10, preferably integrally secured midway thereof and extending longitudinally of the table. The means for pivotally supporting the table, in the form thereof herein shown, consists of a standard in the nature of a bracket 11, removably secured to the base 50 adjacent to one end thereof, or at any other suitable place thereon, by means of screws 13 or other suitable fastening means. This bracket has parallel walls or ears 12. Between these ears 12 the table is pivotally secured for vertical, oscillatory movement by means of its flange 10 and a suitable pin. Adjacent to the opposite end of the table or at any other suitable place the flange 10 is cut away to form a recess 14, and the under side of the table is provided with a threaded socket 15, for the purpose hereinafter specified.

Secured to the base 50, adjacent to the recess 14 and beneath the table, by any suitable means, preferably by means of screws 16, is a second bracket 17, having a guide-sleeve 18, which forms a part of the guiding and clamping device, and a threaded socket 19, forming



a part of the adjusting device. The guiding device consists of a spindle or guide-rod 20, secured to the under side of the table in any suitable way, and is adapted to work in the guide-sleeve 18 of the bracket 17 to guide the table in its vertical, oscillatory movement. A suitable clamping device is provided for clamping the spindle in said guide-sleeve to maintain the table in its adjusted position. In the form thereof herein shown this clamping device consists of a suitable thumb-screw 21, working in a screw-threaded aperture of the guide-sleeve, and adapted to clamp the spindle 20 to hold the same in any desired position.

As a means for adjusting the table in a vertical, oscillatory path about its pivot an adjusting device C is provided, which, in the form thereof herein shown, consists of a right and left hand screw-threaded spindle 25, working closely in threaded sockets 15 and 19 of the table and bracket, respectively. The spindle has secured thereto in any suitable way, and preferably midway thereof, suitable means for adjusting the same relatively to the threaded sockets, and, in the form thereof herein shown, it consists of a thumb wheel or nut 26, having a milled periphery, whereby it can be manipulated quickly and easily.

In the use of this apparatus, when it is desired to test and adjust a spirit-level, the same is laid upon the table and the position of the bubble in the glass noted. The spirit-level is then reversed endwise and set so that the position of the bubble may again be observed and the distance between the two positions of the bubble ascertained. This distance having been ascertained, the table is then adjusted an amount corresponding to one-half of the observed distance between the two noted positions of the bubble, which will thereupon bring the same centrally of its glass, whereby the spirit-glass can be adjusted to true the same in accordance with the proper central position of the bubble.

By this improved device the necessity of building up a support or rest for truing the bubble each time the level becomes untrue, which is quite frequent, as is now ordinarily done, is obviated, and a device which can be quickly and easily manipulated and simple in its adjustment and operation provided.

The apparatus is not only adapted for use by the mechanic, but can also be used by the manufacturer of the level to test the completed article.

Having thus described my invention, what I claim is—

1. A portable apparatus for testing and adjusting levels, comprising a base; a relatively wide, flat, elongated table or support hinged adjacent to one end thereof to said base for vertical oscillatory movement, and having an upper, true plane surface adapted to support various sizes and constructions of levels to be tested; an adjusting device for said table, comprising a right and left hand screw-threaded spindle working in the under side of said table and the upper side of said base; a guiding device for said table comprising a guide-spindle secured to and movable with said table, and working in a way carried by the base; and means for clamping said guide-spindle, whereby the table can be clamped in any desired position and prevented from lateral movement.

2. In a portable apparatus for testing and adjusting levels, the combination of a base; a bracket secured thereto having parallel, projecting ears; a relatively wide, flat, elongated table having an upper, true plane surface adapted to support various sizes and constructions of levels, and having a flange on its under side pivotally secured between said parallel projecting ears; said table also having on its under side an interiorly-threaded socket; a bracket secured to said base and having a guide-sleeve and a threaded socket; an adjusting device for said table, comprising a right and left hand threaded spindle working in the threaded sockets of the table and bracket, and having an adjusting means secured thereto; a guide device comprising a spindle secured to the under side of said table, adjacent to and in parallelism with, said adjusting device, and movable with said table, and working in the sleeve of the bracket; and a clamping device working in said sleeve for clamping said spindle, whereby the table can be held in any desired position.

JUSTUS A. TRAUT.

Witnesses:

R. A. MOORE, Jr.,  
W. A. PIMM.