

March 6, 1951

T. T. HILL

2,544,532

PORTABLE AND ADJUSTABLE BENCH CLAMP

Filed Feb. 3, 1949

2 Sheets-Sheet 1

Fig. 1.

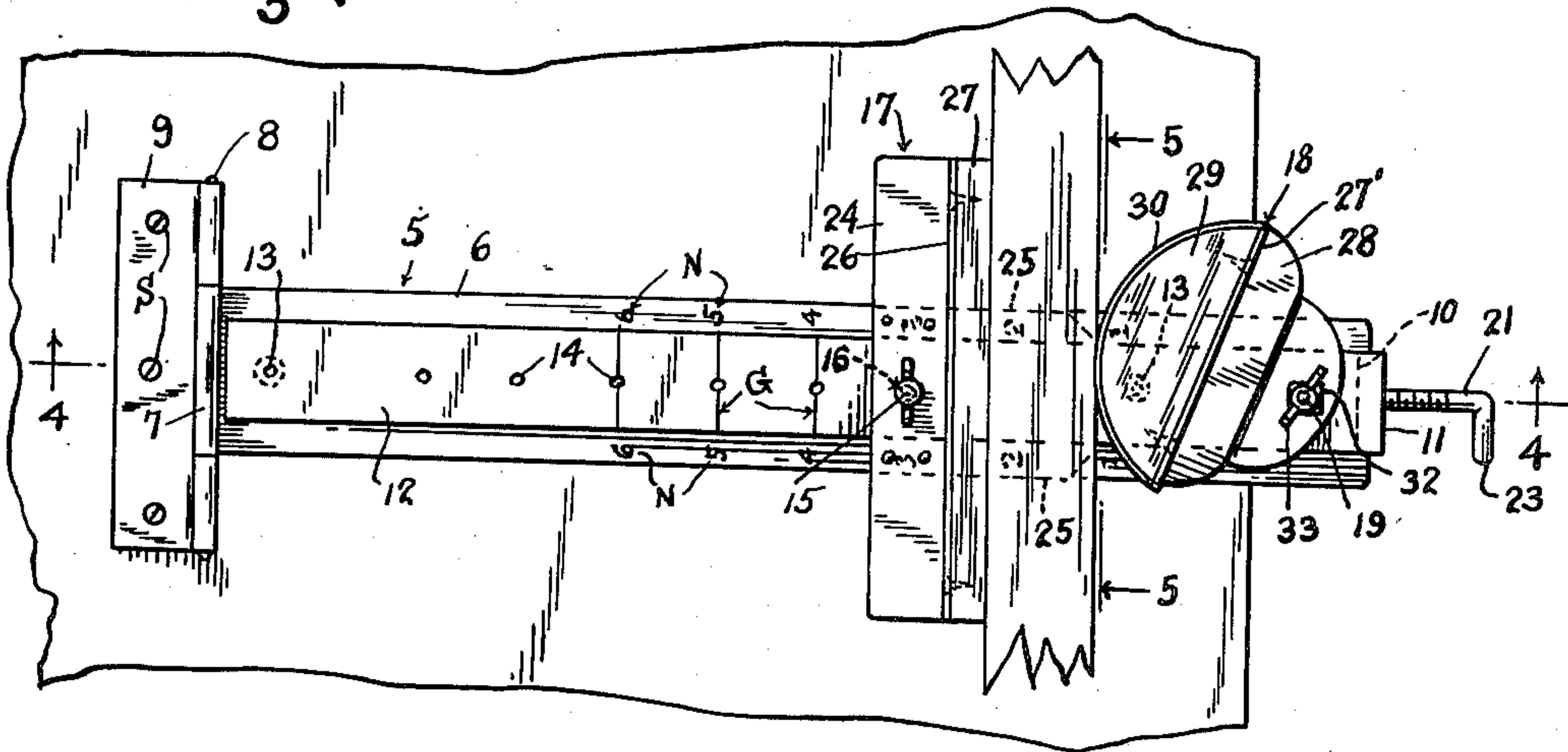


Fig. 2.

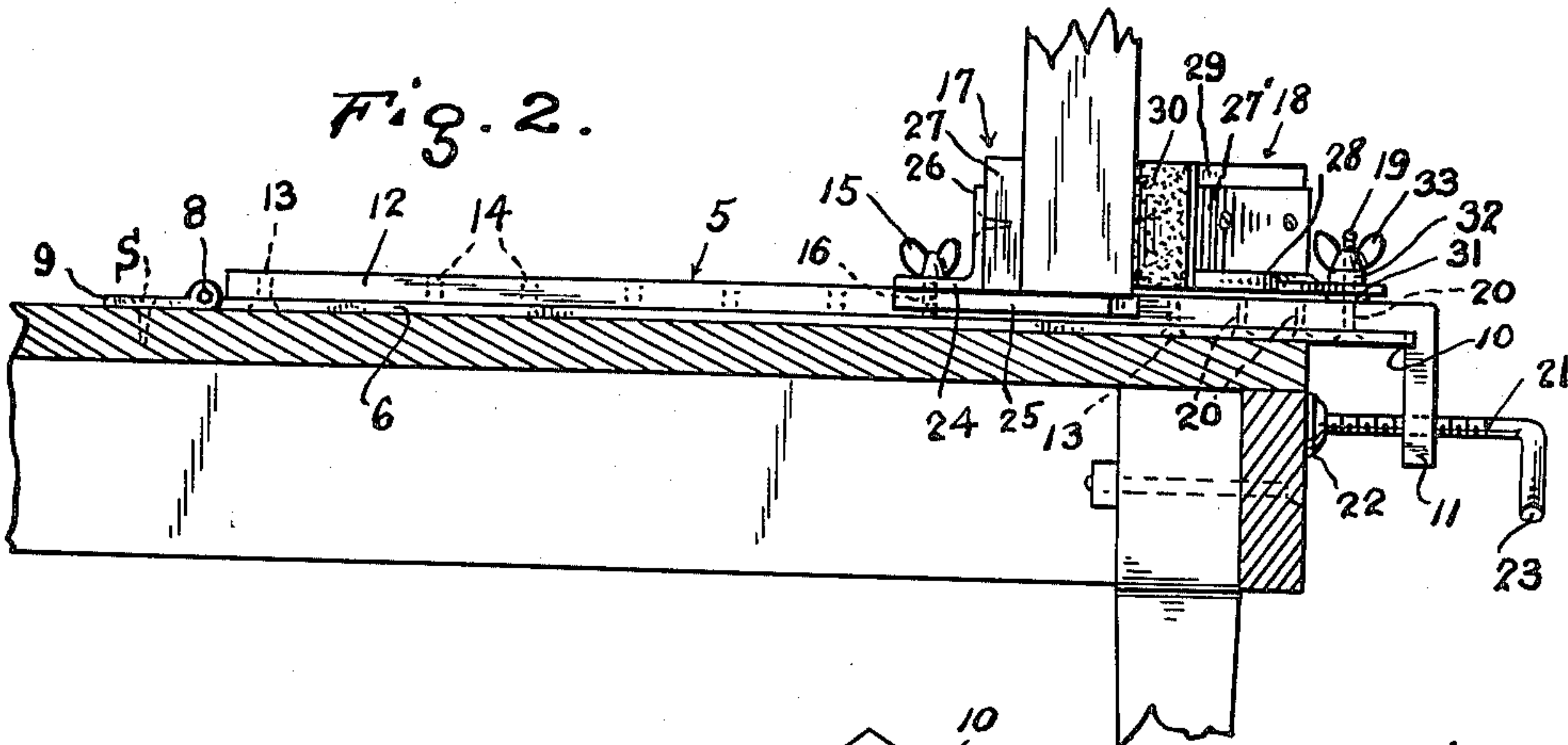


Fig. 6.

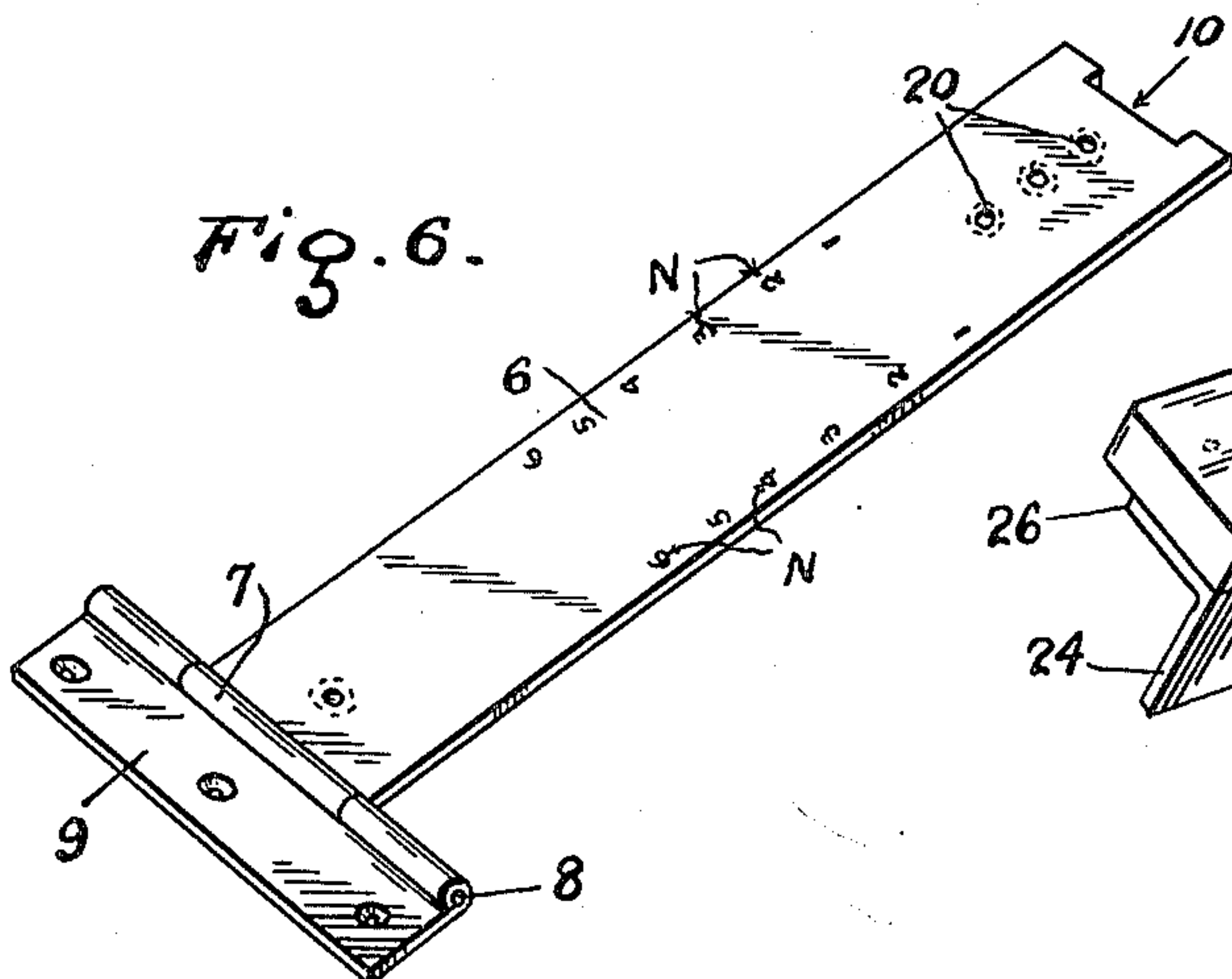
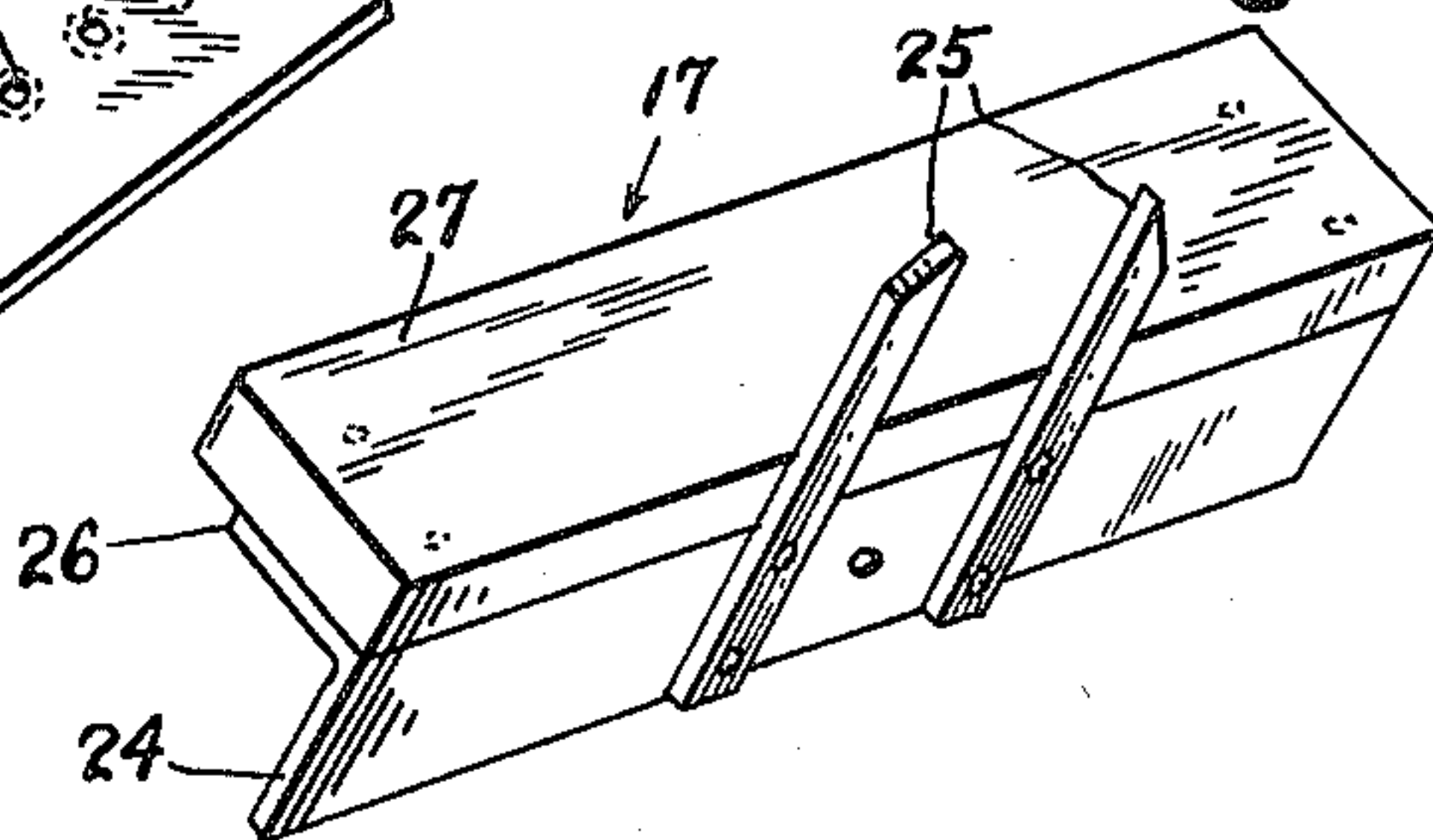


Fig. 7.



INVENTOR.
Thomas T. Hill
BY
L. B. James
Attorney.

March 6, 1951

T. T. HILL

2,544,532

PORTABLE AND ADJUSTABLE BENCH CLAMP

Filed Feb. 3, 1949

2 Sheets-Sheet 2

Fig. 3.

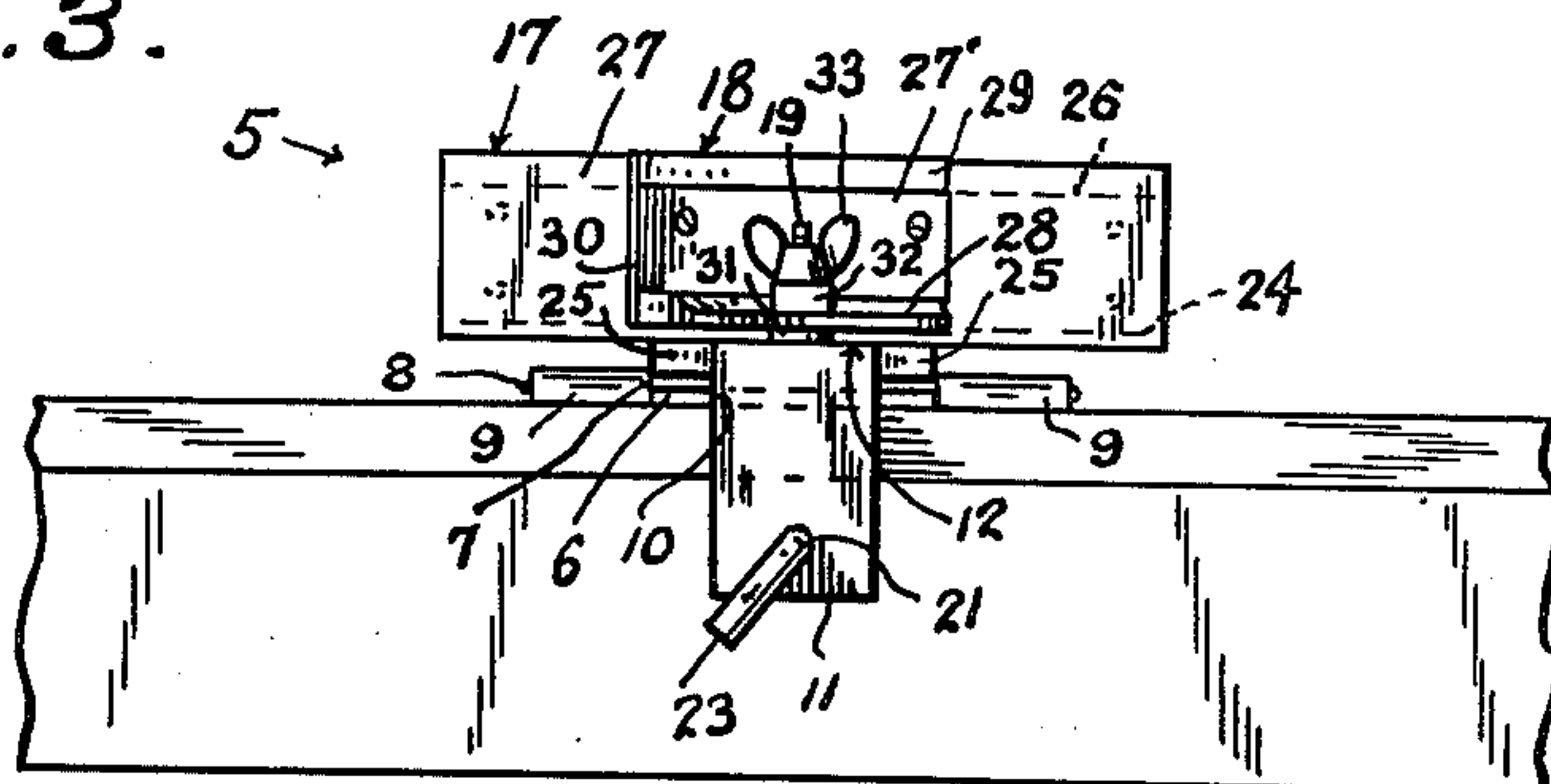


Fig. 4.

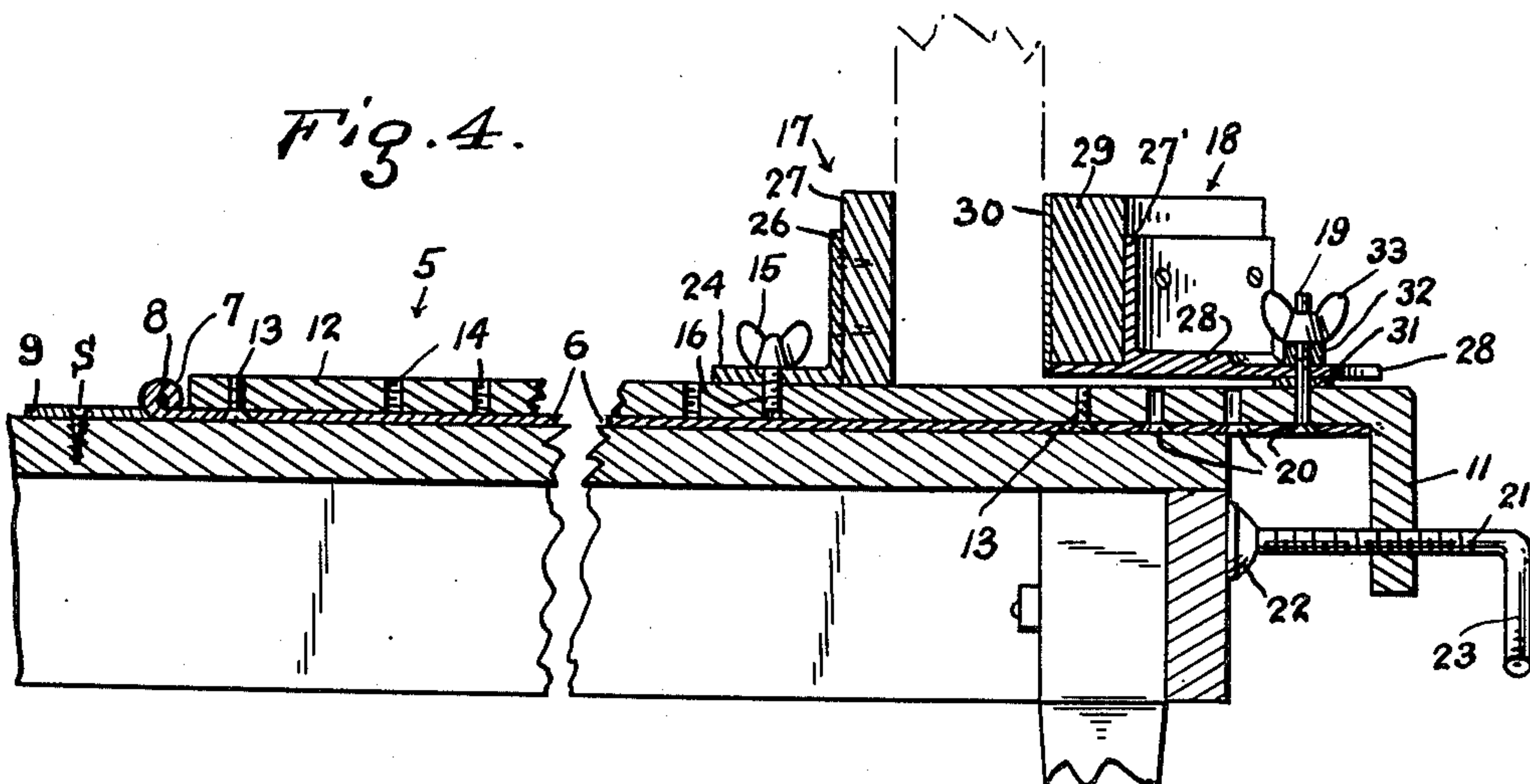


Fig. 5.

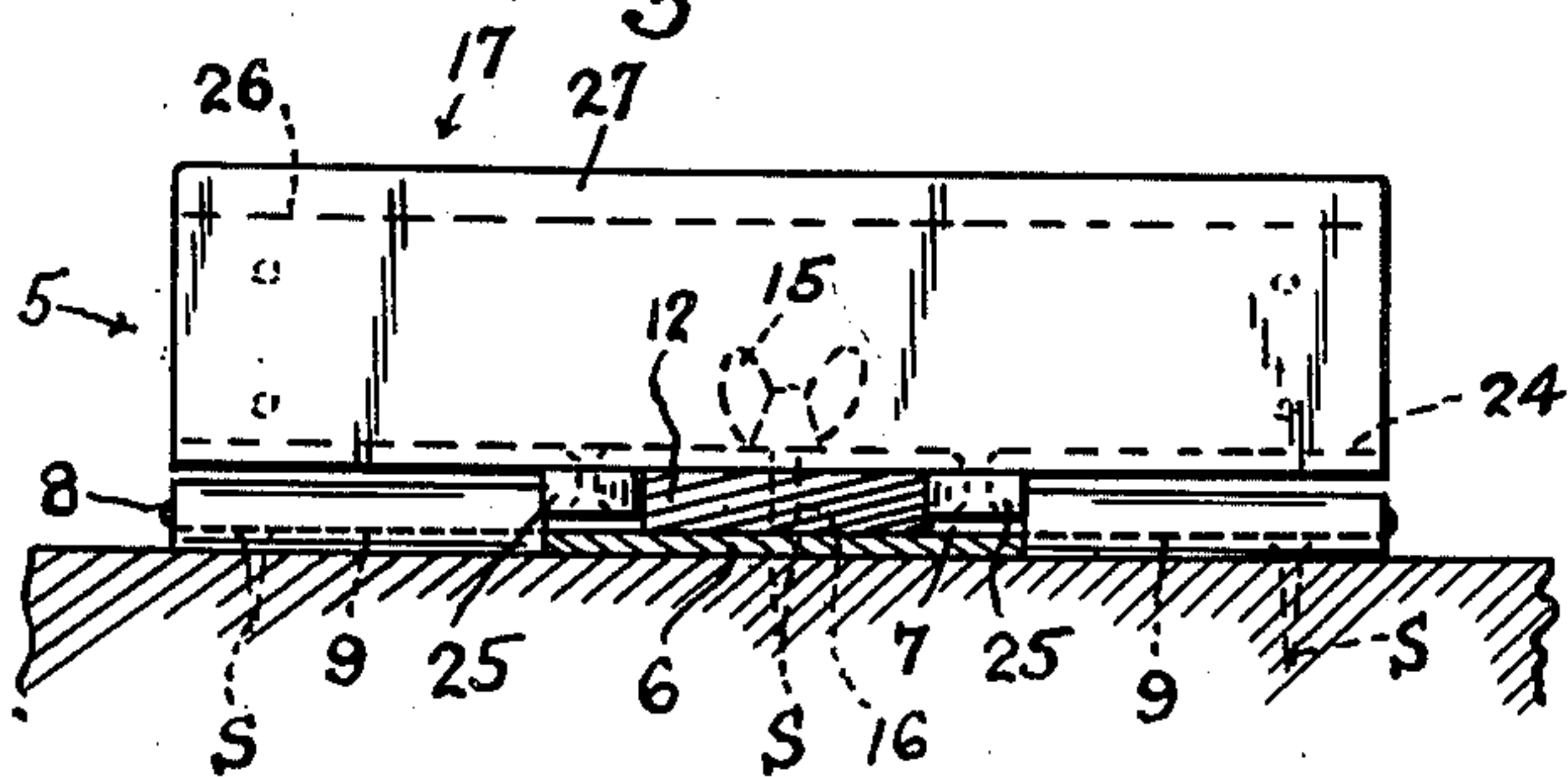
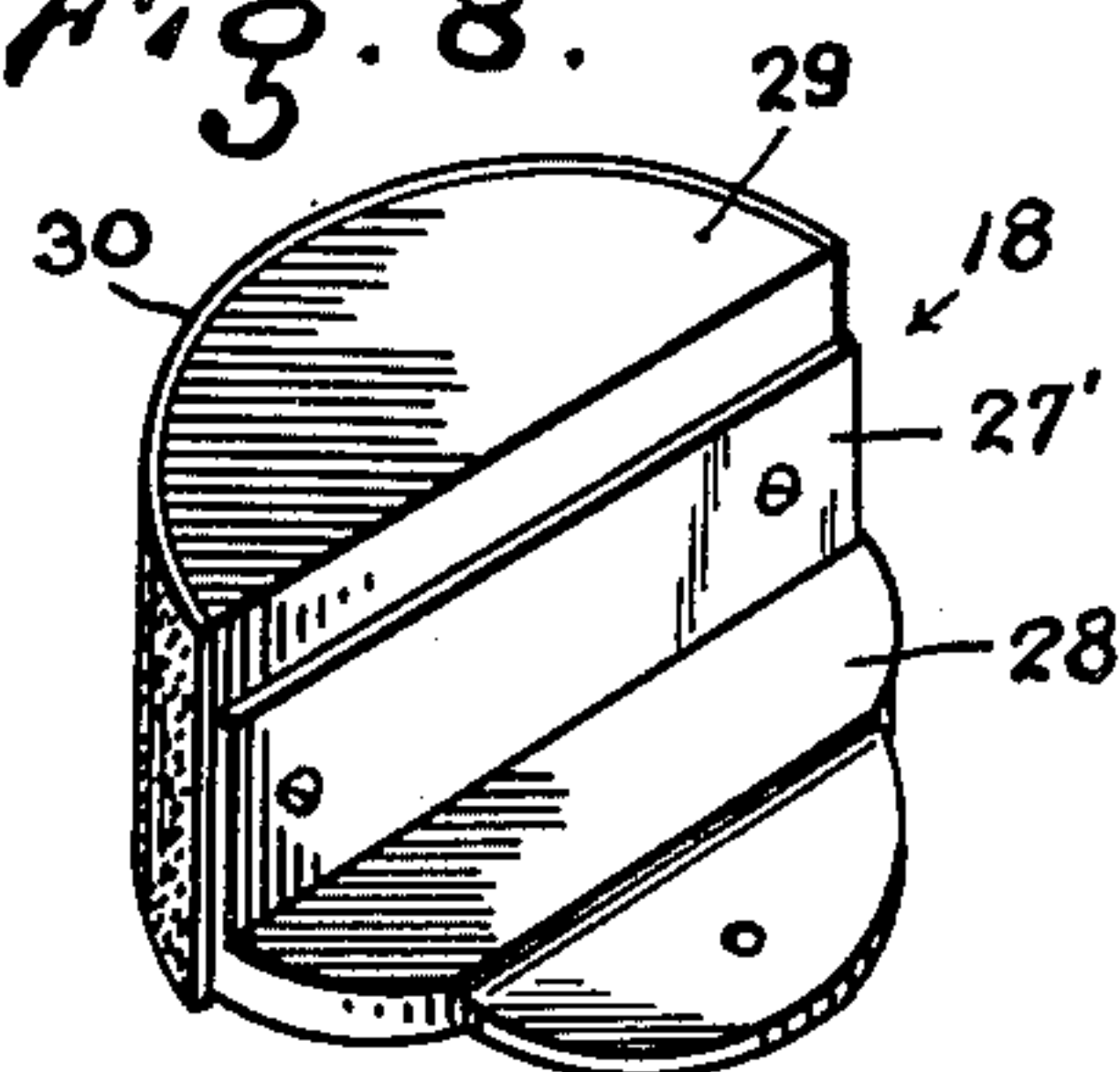


Fig. 8.



INVENTOR.
Thomas T. Hill
BY
L. B. James
Attorney

UNITED STATES PATENT OFFICE

2,544,532

PORTABLE AND ADJUSTABLE BENCH CLAMP

Thomas T. Hill, Beloit, Wis.

Application February 3, 1949, Serial No. 74,335

1 Claim. (Cl. 144—307)

1

This invention relates to the official class of wood working and more particularly a bench clamp.

One of the objects of this invention resides in a bench clamp adapted to secure boards, strips of lumber and other similar material to be worked, rigidly on a bench or other support.

Another object of this invention resides in a bench clamp adapted to be readily attached to a bench or other support so as to rigidly retain boards, strips of lumber and other similar material thereon.

A further object of this invention resides in the provision of a bench clamp of such proportions as can be carried in the pocket of a mechanic.

A still further object of this invention resides in the provision of a bench clamp adapted to be readily swung out of working position to clear the working space of its support.

Aside from the aforesaid objects, this invention resides in the provision of a bench clamp adapted to lock the material to be worked on without marring the same.

In addition to the foregoing objects, this invention resides in the provision of a bench clamp adapted to be adjusted to receive various sizes of material and also increase or diminish its clamping pressure against the same.

Among the many objects of this invention is the particular construction and combination of elements set forth and equivalents thereof.

One of the salient features of this invention resides in the combination of the fixed clamping and pivoted jaws.

With these and other objects in view, this invention resides in certain novel features of construction and arrangement of elements to be more fully set forth in the specification, illustrated in the accompanying drawings and pointed out in the appended claim and, although this disclosure depicts my present conception of the invention, the right is reserved to resort to such departures therefrom as come within the scope of the claim.

In the accompanying drawings forming a part of this application:

Fig. 1 is a plan view of the bench clamp.

Fig. 2 is a side view thereof.

Fig. 3 is an end view of the bench clamp.

Fig. 4 is a sectional view taken approximately on line 4—4 of Fig. 1.

Fig. 5 is a sectional view taken approximately on line 5—5 of Fig. 1.

Fig. 6 is a perspective view of the base plate.

2

Fig. 7 is a similar view of the stationary jaw.

Fig. 8 is a perspective view of the pivoted jaw.

In the present illustration of this invention the numeral 5 designates, in general, a bench clamp adapted to retain boards, strips of lumber or similar material on a support while working on the same and consists of an elongated base-plate 6 having one end rolled, as indicated by the numeral 7 to receive a pivotal pin 8 of an apertured hinge-leaf 9 and its opposite or outer end cut out, as indicated by the numeral 10 to receive a downwardly extending arm 11 formed on an elongated bar 12 which is secured to said base-plate by screws 13 or the like. Said bar 12 is of lesser width than the base-plate and is provided with a plurality of longitudinally arranged threaded holes 14 adapted to receive a thumb-screw 15 or the like which extends through a hole 16 in a jaw 17 which is adjustable longitudinally on the bar 12 relative to a pivoted clamping jaw 18 thereon to receive material to be worked on therebetween. Said clamping jaw 17 although being adjustable as heretofore mentioned is hereinafter described as a stationary jaw to distinguish it from the pivoted jaw 18 which is also adjustable on the bar by relocating its pivot bolt 19 in other longitudinally arranged smooth holes 20 extending through the bar and base-plate at their outer ends.

The hinge-leaf 9 is secured to a bench or support by screws S or the like with the arm 11 extending beyond the outer side or edge thereof and arm 11 is provided with a threaded clamping bolt 21 having a bench engaging head 22 swivelled on its inner end and a suitable handle 23 on its outer end to secure the base-plate and elements carried thereon rigidly to the bench while the mechanic is working on material held between the clamping jaws and to disengage the bench so said elements (the base-plate and parts carried thereby) may be swung on the hinge to clear the working surface of the bench clamp support.

The stationary jaw is formed from a piece of angle iron 24 disposed on the aforesaid bar at right angles thereto and is provided with stabilizing guide arms 25 secured to its lower surfaces with their opposed inner sides slidably engaging opposite sides of the bar. Secured to the upright flange 26 of the angle iron member 24 of the stationary jaw is an elongated strip of wood 27 adapted to bear against material to be secured by the jaws of the bench clamp. Although a strip of wood is herein recited as being secured to the angle iron member of the stationary clamp jaw,

3

it is to be understood any suitable material may be substituted therefor as will function in a similar manner.

The aforesaid pivoted clamping jaw 18 consists of a suitable base member 28 having an upstanding flange 27' to which is removably secured a substantially semi-circular block 29 having its outer arcuate surface scribed about a point inwardly of the bolt 19 and covered with a sheet of friction material 30 so as to permit it to obtain a secure grip on that side or edge of the material being worked on opposite to the side thereof resting against the stationary clamping jaw. The bolt 19 of the pivoted clamping jaw 18 is removably extended through the aforesaid holes 20 in the base-plate and bar and also through a bearing washer 31 between the bar and base of the pivoted jaw and its provided with a lock-nut 32 and thumb-nut 33 on its upper end to retain the jaw in pivotal position on the bar and also lock it in fixed engagement with the material held between the jaws. Although the block of the pivotal clamping jaw is herein shown as being provided with a piece of friction material, it is within the purview of this invention to serrate the material engaging surface thereof or otherwise form it so as to present either a smooth or rough surface for such purpose. Further, the base of said jaw may be provided with a plurality of holes 20 arranged therein so as to permit the jaw to be swung at various angles to the material in order to vary its initial point of contact with material to be clamped between the jaws.

The bar is provided with graduations G on its upper surface which are readable in conjunction with numerals N on the upper surface of the base-plate and on opposite sides of the bar, the same permitting accurate adjustment of the stationary clamping jaw on the bar.

With this invention fully set forth, it is manifest that a bench clamp has been described which can be conveniently carried in the pocket of a mechanic and readily secured to a bench or other support for retaining material to be worked thereon and quickly swung out of working position to clear the working area of its support.

Having thus described my invention, what I claim and desire to protect by Letters Patent is:

A bench clamp comprising, a base-plate, a

4

hinge leaf pivotally secured to the inner end of the base-plate, a bar having threaded holes in its inner end registered with unthreaded holes in the base-plates, a stationary clamping jaw mounted on the bar, a thumb-screw passing through a hole in the clamping jaw and threadedly engaging an elected threaded hole in the bar, guide arms secured to the stationary clamping jaw with their opposed inner sides slidably bearing against opposite sides of the bar, an elongated wooden strip secured to the stationary clamping jaw, a pivoted jaw having a substantially semi-circular outer face mounted on the outer portion of the aforesaid bar, a threaded bolt extending through aligned smooth holes in the base-plate, bar and a smooth hole in the pivoted jaw disposed at a point outwardly of the center of the semi-circular outer face of the pivoted jaw, a lock nut on the bolt bearing against the pivoted jaw, a wing nut threaded on the outer end of the bolt and normally bearing against the lock nut; a washer on the bolt disposed between the pivoted jaw and bar, a downwardly extending arm formed on the outer end of the bar and seated in a notch in the outer end of the base-plate, a piece of friction material secured to the semi-circular face of the pivoted jaw, a bolt threadedly engaged in a threaded hole in the lower portion of the arm of the bar, a swivel head on the inner end of said threaded bolt, a handle on the outer end of said bolt, graduations on the bar, and numerals on the base-plate at opposite sides of the bar registering with the aforesaid graduations.

THOMAS T. HILL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
603,970	Rogers	May 10, 1898
928,460	Kincaid	July 20, 1909
945,914	Colwell	Jan. 11, 1910
1,152,365	Aschinger	Aug. 31, 1915

FOREIGN PATENTS

Number	Country	Date
255,553	Germany	of 1913