

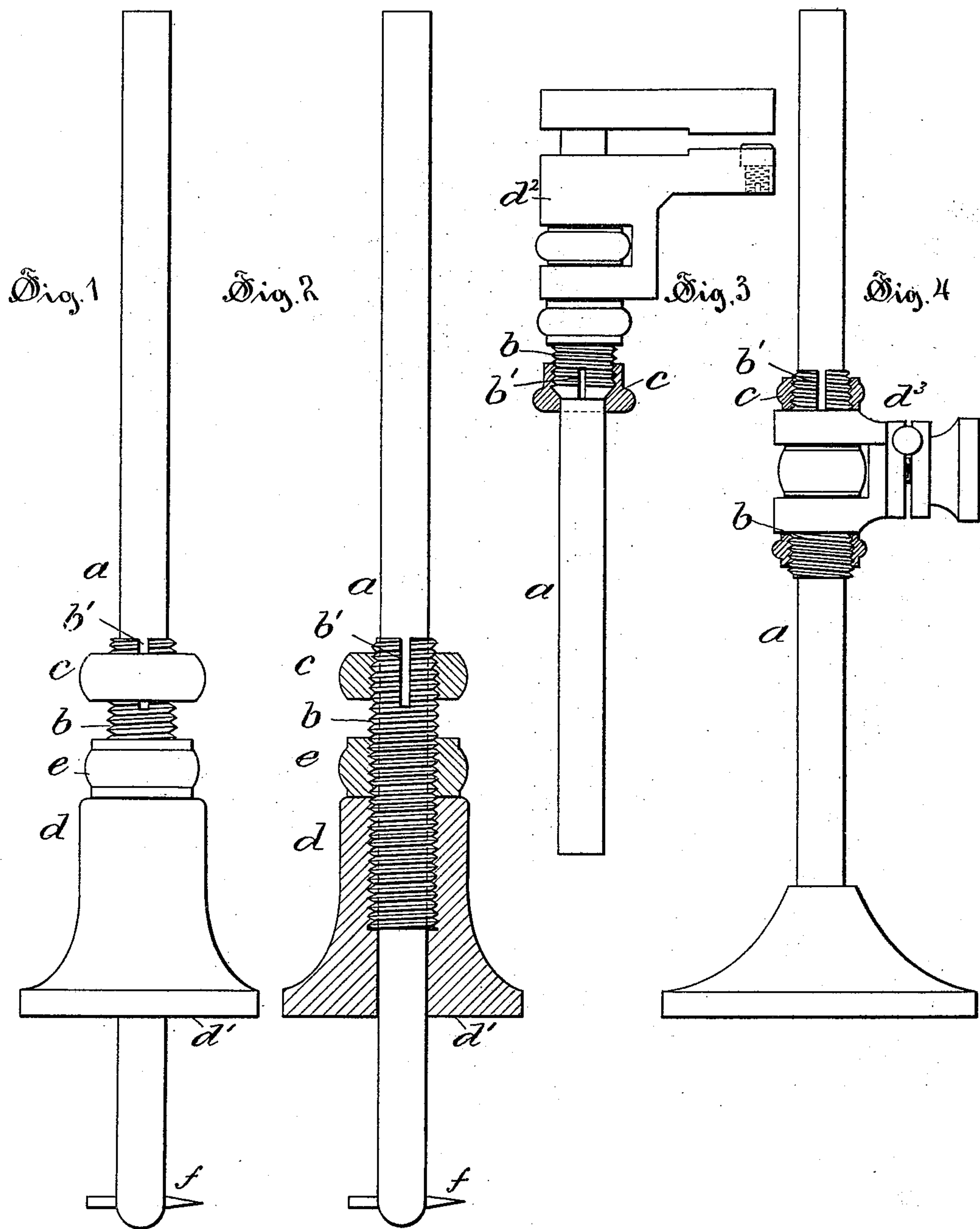
(No Model.)

G. H. TANSLEY.

ADJUSTABLE HEAD FOR SCRATCH, SURFACE, OR OTHER GAGES.

No. 438,738.

Patented Oct. 21, 1890.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

GEORGE H. TANSLEY, OF HARTFORD, CONNECTICUT.

## ADJUSTABLE HEAD FOR SCRATCH, SURFACE, OR OTHER GAGES.

SPECIFICATION forming part of Letters Patent No. 438,738, dated October 21, 1890.

Application filed March 31, 1888. Serial No. 269,106. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE H. TANSLEY, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Adjustable Heads for Scratch, Surface, or other Gages, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide a movable head that shall be readily movable along a bar or standard, and yet capable of fine adjustment or of being held securely at any point along the limit of its play, the said head with its attachment being specially adapted for use on various classes of gages in common use by mechanics.

To this end my improvement consists in the combination of a standard or bar with a sleeve having a sliding play on the bar and threaded on the outside with a head, check-nut, and clamp-nut borne on the threaded sleeve; and it further consists in details of the bar, the threaded sleeve, and the clamping devices, as more particularly hereinafter described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a side view of the scratch-gage. Fig. 2 is a view of the same with parts of the head cut away in central section to show the construction. Fig. 3 is a detail view of a micrometer-gage embodying my improvement. Fig. 4 is a detail view of a surface-gage, also embodying my improvement.

In the accompanying drawings, the letter *a* denotes a rod or standard that may be of any desirable material, preferably of metal, and of any convenient outline in cross-section, although preferably round.

The letter *b* denotes the threaded sleeve that fits closely upon the bar *a* and is adapted to slide freely lengthwise thereof. This sleeve has an exterior thread, and at one end has a slot *b'*, the clamp-nut *c* being fitted upon the thread at this end, that is preferably tapered, so that by means of the nut the sleeve may be clamped upon the bar *a* and held against any sliding movement thereon. On this threaded sleeve is also borne a head *d* of any convenient form, depending upon the style of gage on which it is to be used.

In the scratch-gage shown in Figs. 1 and 2 the head has a central opening and fits quite closely about the rod *a* for a part of its length, and is counterbored and threaded to enable it to fit upon the sleeve for the rest of its length. Back of the head is located a check-nut *e*, the function of this check-nut being to hold the head against rotation after it has been set at the desired distance from the scratch *f*. For the closer adjustment of the bearing-surface *d'* of the head with relation to the scratch *f*, the clamp-nut is loosened and the sleeve slid along until the head is approximately located. The clamp-nut *c* is then used to prevent further movement of the sleeve along the rod, and the head *d* is rotated until the exact adjustment is obtained, and it is then held in such adjustment by means of the check-nut *e*. The bar *a* may be graduated in the usual manner, and such graduations serve as a means of setting the head at any desired distance from the scratch *f*.

In the form of gage shown in Fig. 3 the head *d*<sup>2</sup> is the movable head of a micrometer-gage, the sleeve *b* having a sliding movement upon the bar, carrying with it the head, except when held in place by means of a clamp-nut, as in the form already described.

In the form of my invention shown in Fig. 4 my improvement is adapted for use in a surface-gage, the head *d*<sup>3</sup> being supported on the sleeve *b*, which is of substantially the same construction and arrangement as to its feed-nut, clamp, and check-nut as in the devices already described. The usual features of a device for measurement of length may be added to the several forms of my improved device herein shown, so that measurements may be made and exact adjustments secured.

Instead of the form of clamping-nut fitted upon the tapered end of the sleeve, as shown in Figs. 1, 2, and 4 of the drawings, I prefer to use a nut like that shown in Fig. 3, the nut having at the end of the thread on its inner side a sloping shoulder that by contact with the beveled end of the sleeve tends to clamp the sleeve upon the bar. The sleeve, in the use of such a nut, is not tapered on the outside where the thread is cut. In the form of gage shown in the same figure (3) one of the



jaws is provided with an adjustable screw-plug, the head of the plug forming the contact surface of the jaw.

I claim as my invention—

- 5 In a gage, in combination with a bar or standard  $\alpha$ , a threaded sleeve movable lengthwise of said bar and compressible at one end upon the bar, an adjustable head borne on the threaded sleeve, a clamp-nut also borne on the

sleeve and adapted to compress the same upon the bar, and a check-nut adjacent to the movable head and located on the threaded sleeve, all substantially as described.

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