

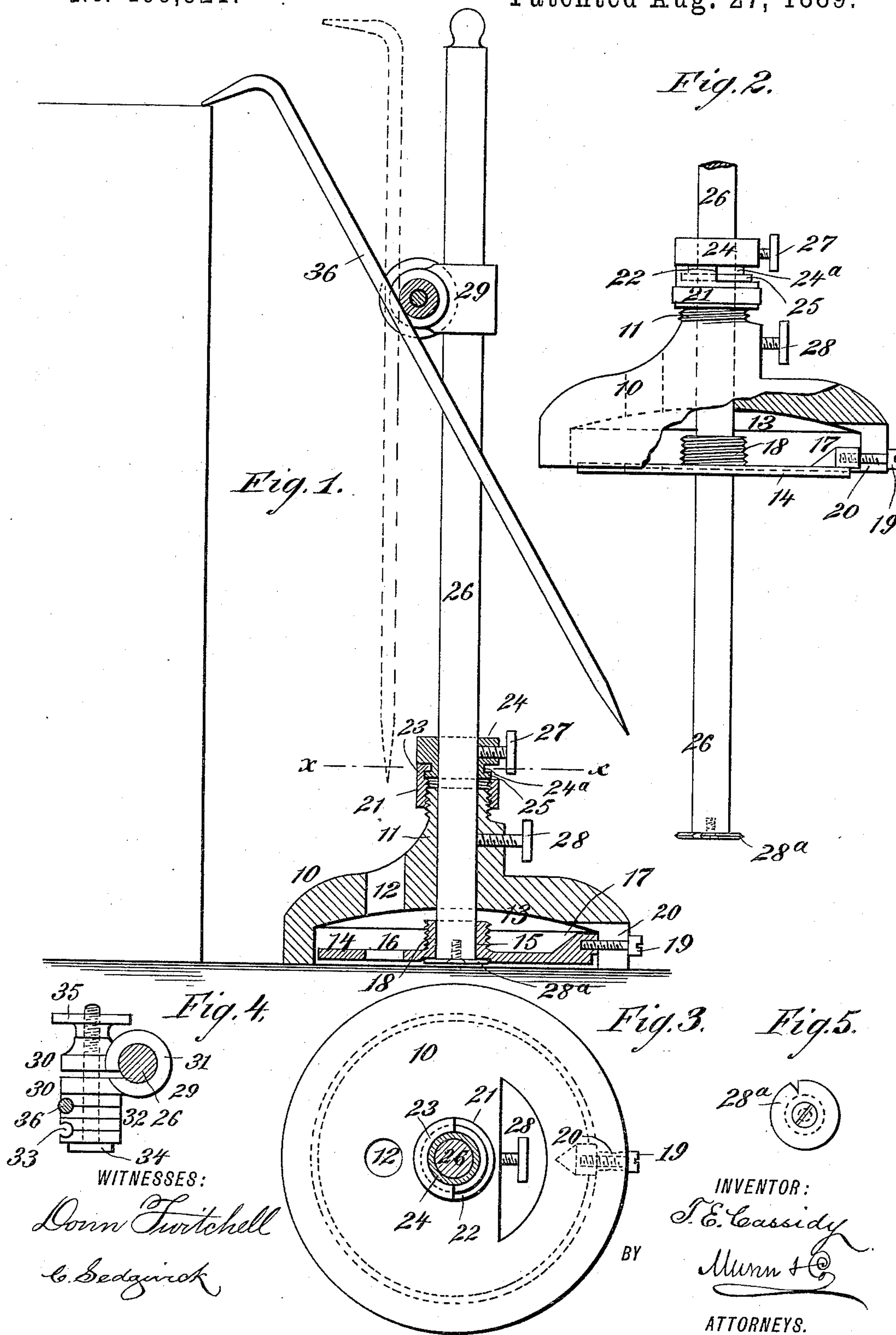
(No Model.)

T. E. CASSIDY.

COMBINED SURFACE, SCRATCH, AND DEPTH GAGE.

No. 409,921.

Patented Aug. 27, 1889.



UNITED STATES PATENT OFFICE.

THOMAS EDWARD CASSIDY, OF HOOSICK FALLS, NEW YORK.

COMBINED SURFACE, SCRATCH, AND DEPTH GAGE.

SPECIFICATION forming part of Letters Patent No. 409,921, dated August 27, 1889.

Application filed October 15, 1888. Serial No. 288,060. (No model.)

To all whom it may concern:

Be it known that I, THOMAS EDWARD CASSIDY, of Hoosick Falls, in the county of Rensselaer and State of New York, have invented
5 a new and Improved Combined Surface, Scratch, and Depth Gage, of which the following is a full, clear, and exact description.

My invention relates to an improvement in combination-tools, and has for its object to
10 provide a gage of simple, durable, and economical construction, capable of convenient and expeditious manipulation, which may be used as a surface, scratch, or depth gage, as desired.

15 The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying
20 drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the device, partly in section, in position for use as a sur-
25 face or depth gage. Fig. 2 illustrates the device when used as a scratch-gage, the base being partly broken away. Fig. 3 is a section on line *xx* of Fig. 1. Fig. 4 is a side elevation of the scribe-clamp, and Fig. 5 is an end view
30 of the rod illustrating the scratch-tip applied thereto.

In carrying out the invention the base 10 is provided with a central upwardly-projecting neck 11, exteriorly threaded at the top, a
35 smooth vertical bore produced centrally in the body and neck, and a second bore 12 in the body at one side of the central bore. In the under face of the base a recess 13 is formed, adapted for the reception of a disk
40 14, provided with apertures 15 and 16, aligning, respectively, the two bores in the base, as best shown in Fig. 1. A peripheral flange 17 is preferably cast integral with the upper face of the disk, and the central aperture 15
45 is surrounded by an exteriorly-threaded collar 18, as best shown in Figs. 1 and 2. The disk is preferably given slight lateral play and held in position by a set-screw 19, passing through a slot 20 in the side of the base.
50 A sleeve 21 is screwed upon the threaded neck of the base, the outer surface whereof is

preferably milled or roughened, the top being provided with a semicircular recess 22, extending from the center outward, and the said sleeve is further provided with an inter- 55
rior semicircular groove 23, produced in the uncut upper portion. (Illustrated in Figs. 1, 2, and 3.) A thimble 24 is made to engage with the sleeve 21, having an annular groove 24^a produced in the side near one face, as best 60
shown in Fig. 1, whereby a tongue 25 is produced. The thimble is introduced into the sleeve 21 at the recessed side and carried forward until the tongue of the former enters the groove of the latter. A cylindrical rod 26 65
is passed upward through the central aperture of the disk 14 and base, and also through the thimble, being held in detachable engagement with the base and thimble by set-screws 27 and 28. The lower end of the rod 26 is pro- 70
vided with a scratch head or plate 28^a, and a scribe-clamp 29 is slid over the upper end, as best shown in Fig. 1.

The scribe-clamp 29 consists of two rings 30, connected by a circular spring-sleeve 31, 75
adapted to embrace the rod, and a series of clamp-rings 32, arranged in pairs and provided with a semicircular recess 33 in opposite faces intersecting the periphery. A headed bolt 34 is passed through the rings, 80
and a thumb-nut 35 is screwed upon one end of the bolt, as best shown in Fig. 4.

The recesses 33 in the clamp-rings are adapted for the reception of scribe-rods 36, and the rings are compressed or expanded to secure 85
the rings to the rod and the scriber-arms to the clamp, or the parts are released by the manipulation of the thumb-nut 35.

In using the device as a surface-gage the broad adjustment is made by raising or low- 90
ering the clamp upon the rod, the scriber having been placed in the proper position, and the fine adjustment is obtained by manipulating the sleeve 21, the set-screw having been removed from contact with the carrying- 95
rod. When used as a depth-gage, the scriber-arm is projected through the side bore in the base and aligning aperture in the base-disk. When used as a scratch-gage, the scriber-clamp is removed from the rod and the said 100
rod is drawn outward from the base, as shown in Fig. 2. When a scratch or depth gage

only is required, the base may be dispensed with, if desired, and the sleeve 21 and the thimble be transferred to the disk 14 and secured thereto by screwing the sleeve 21 upon the collar of the disk.

The clamp and scriber arms, when used alone, may be employed as dividers, as a compass, or as inside or outside calipers, and as trammel-points.

10 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a disk-like head provided with a central aperture and a threaded collar surrounding said aperture, of a sleeve screwed upon said collar, a thimble held in contact with said sleeve, a rod loosely passed through the head, the sleeve, and thimble, and a clamping device attached to the thimble, substantially as shown and described.

2. The combination, with a disk-like head provided with a central aperture, a threaded collar surrounding the aperture, a sleeve screwed upon said collar, and a detachable thimble provided with a set-screw secured to said sleeve, of a rod loosely passed through the head, the sleeve, and thimble, a clamp movable upon the rod, and scriber-arms adjustably held by said clamp, substantially as shown and described.

3. In a combined surface, scratch, and depth gage, the combination, with a recessed base having a central aperture and an aperture at one side of the said central aperture, of a rod adjustably secured in the central aperture of the base, a disk on the lower end of the rod and having an aperture in alignment with the side aperture of the base, and scribe-clamp adjustably secured to the upper end of the said rod, and scribe-rods carried by said clamp, substantially as described.

4. The combination, with a base provided with a vertical side bore, a disk provided with a corresponding bore loosely held in said base, an interiorly-grooved sleeve provided with an upper face recess screwed upon the base, and a thimble provided with an exterior annular lip detachably attached to the sleeve, of a gage-rod loosely passed through the disk, the base, the sleeve, and thimble, a clamp adjustable upon the rod, scriber-arms adjustably and detachably held by said clamp, and means, substantially as described, for locking the base and rod or the thimble and rod, all combined to operate as and for the purpose specified.

THOMAS EDWARD CASSIDY.

Witnesses:

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