(No Model.)

J. L. MURPHY.

GAGE.

No. 435,348. Patented Aug. 26, 1890.

Fig. 1.

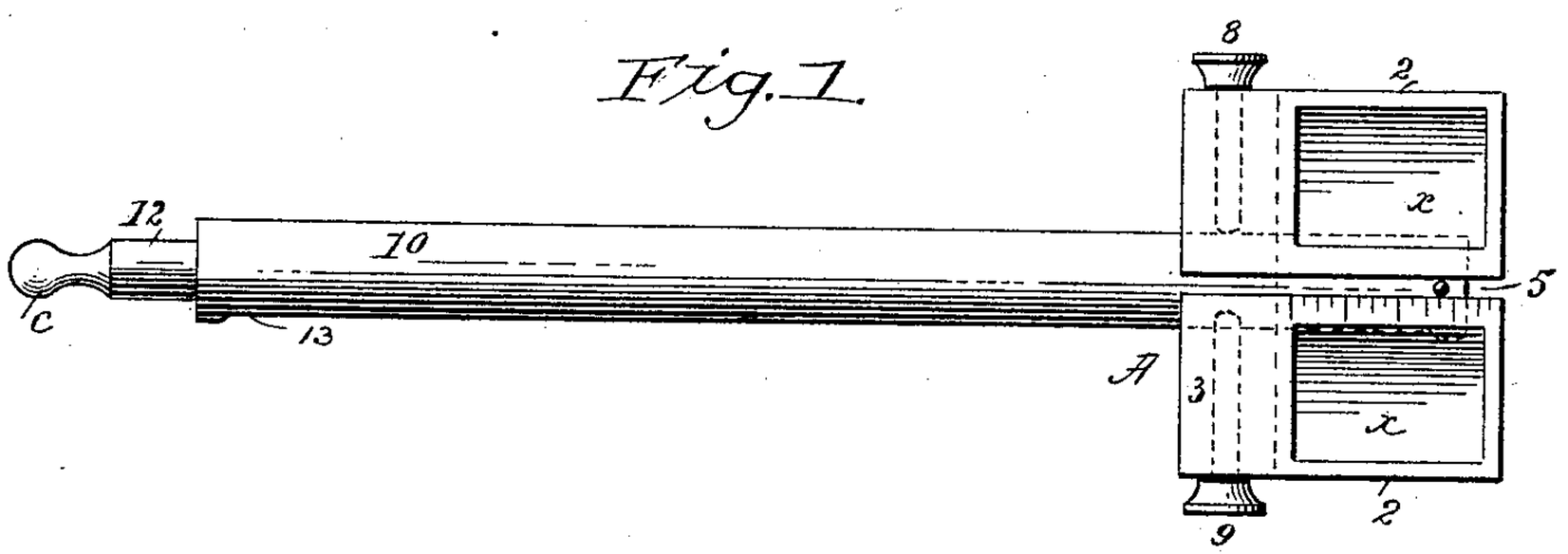


Fig. 2.

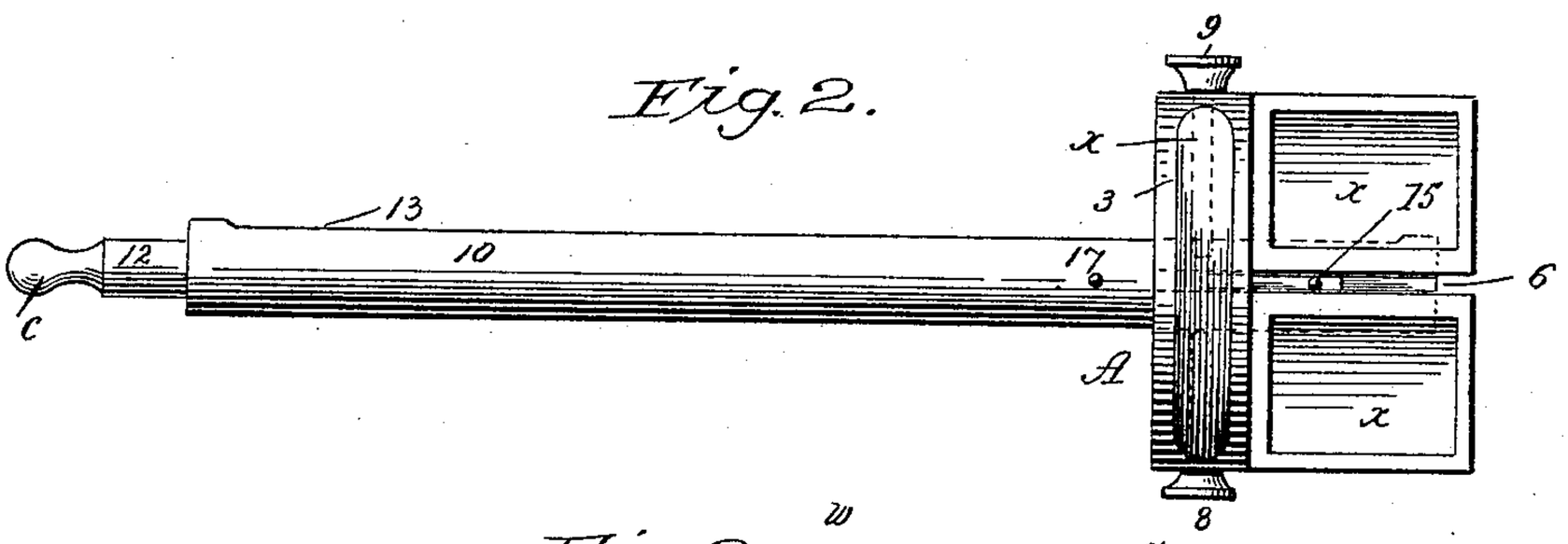


Fig. 3.

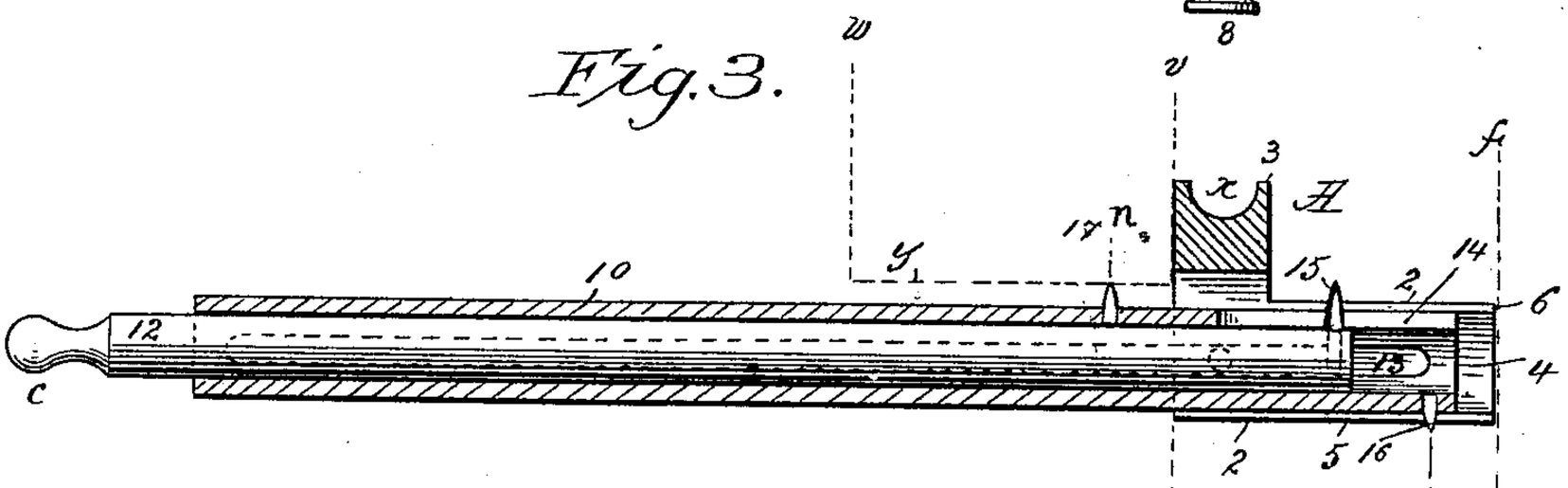


Fig. 4.

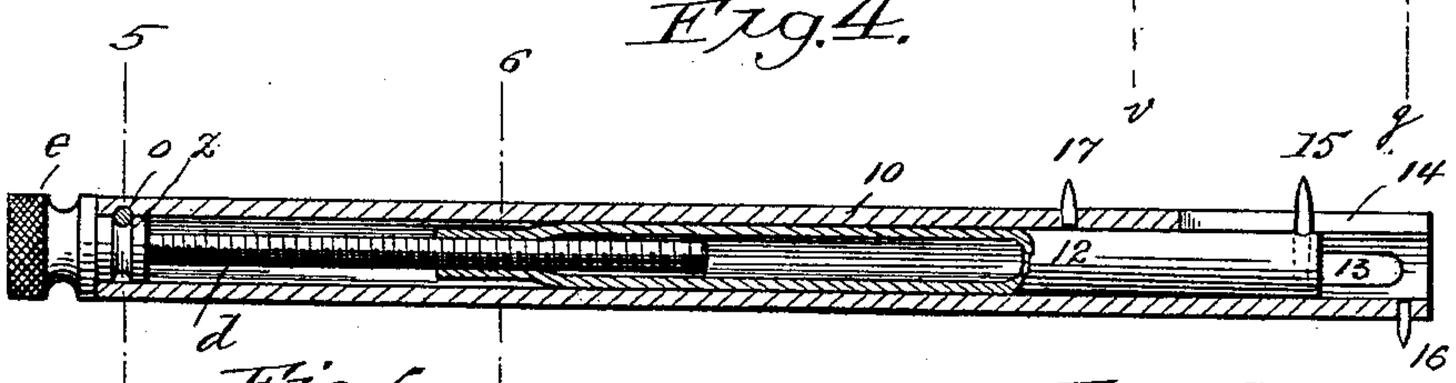


Fig. 5.

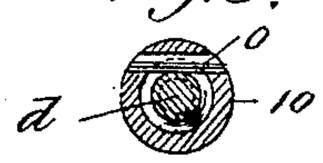


Fig. 6.

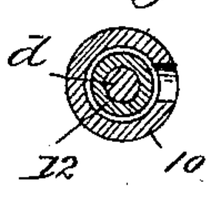
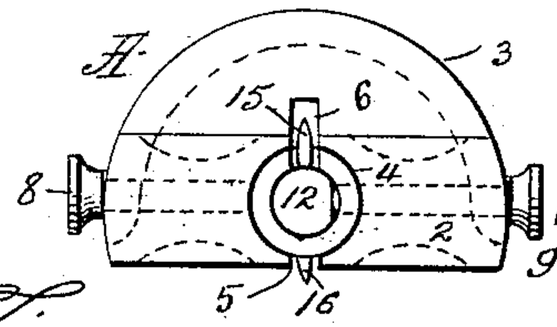


Fig. 7.



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UNITED STATES PATENT OFFICE.

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GAGE.

SPECIFICATION forming part of Letters Patent No. 435,348, dated August 26, 1890.

Application filed March 17, 1890. Serial No. 344,133. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. MURPHY, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Gages, of which the following is a specification.

This invention relates to gages, the object being to provide an improved tool or implement of this class for the use of carpenters, machinists, and other artisans, adapted to a variety of work; and the invention consists in the peculiar construction and combination of the various parts of the implement, all as hereinafter fully described, and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a top, and Fig. 2 a bottom plan view of a gage constructed according to my invention. Fig. 3 is a sectional elevation. Fig. 4 is a partly-sectional elevation of the tubes carrying the marking-pins of the tool, showing a slightly-modified construction thereof, the gage-head being removed. Figs. 5 and 6 are transverse sections on lines 5 and 6, Fig. 4. Fig. 7 is an end elevation.

In the drawings, A is the head of the gage, made of any suitable metal, but preferably of cast-brass, owing to the facility with which said metal may be worked and finished, the casting for said head, when made as aforesaid, being chambered more or less, as at *x x x*, to render it light. The part or body 2 of said head is of rectangular form in plan view, and has a semicircular rib or wall 3 extending across one end thereof, as shown in Figs. 3 and 7. Said head A has a perforation 4 through it of cylindrical form under and in a direction at right angles to said rib, and the opposite or upper and under sides of said cylindrical perforation are longitudinally slotted, as at 5 and 6, and the upper side of said head has graduation-marks thereon at the border of said slot 5, as shown in Fig. 1. Two set-screws (preferably) 8 and 9 are placed in the opposite ends of the head A, and are adapted to be screwed against the outer and inner gage-rods 10 and 12, respectively, of the implement to hold said rods in certain adjusted positions, as below described. The said outer gage-rod 10, which is tubular to permit it to receive therein the second gage-rod 12, has a longitudinal slot 13 through one side thereof, through which one of said set-screws 8 or 9 may pass to engage with the side of the inner rod for the purpose aforesaid, and said outer rod is provided with a second slot 14, extending from one end inward, in which a gage or marking-pin 15 on the inner gage-rod 12 may be moved for adjustment, as below described, and two marking-pins 16 and 17 are fixed in said outer gage-rod on the opposite sides thereof. The said inner gage-rod 12 is flattened on one side, against which one of said set-screws engages, and is somewhat longer than the outer gage-rod 10, and has fixed thereon near one end said marking-pin 15, and on its opposite end is formed a finger-knob *c*, which is grasped when said inner rod is to be moved for adjustment and to turn it in the outer gage-rod. If desired, one of said set-screws may be omitted, leaving one only, which, in being screwed through the slot 13 in the outer gage-rod against the inner rod, will fairly hold the two rods in position.

In Fig. 4 a modified construction of the means is shown for holding the said inner gage-rod in position and for adjusting it in the outer rod, consisting of a screw-rod *d*, having a head *e* on its outer end, which is grasped for turning said rod, and having a neck *z* thereon entering the end of the outer gage-rod 10. The said part *z* has an annular groove therein, as shown, with which a pin *o*, through the rod 10, engages, thereby retaining said screw-rod in proper place in rod 10, but permitting it to be freely rotated. Said screw-rod enters the end of the inner gage-rod 12, which in this figure is shown tubular, and has a screw engagement therewith, so that by turning the rod *d* said rod 12 and its marking-pin are adjusted longitudinally, as may be desired, and when so adjusted said screw-rod holds it in position. The said modified construction provides for the omission of one of the above-mentioned set-screws for securing the inner gage-rod in place, for the screw-rod *d* serves that purpose, as well as to adjust the rod.

In the description of the manner of adjust-

ing and using the within-described gage reference may be had to Fig. 3, wherein is indicated by the dotted lines *w* and *v* the sides of a door or similar object, the line *y* indicating the edge thereof, and the marking-pin 17 in the outer rod 10 is shown adjusted at a certain distance from the adjoining side of the rib 3 and head of the gage, the latter-named parts being brought against the side of said object, thereby bringing the pin 17 to a position to mark a line *n* to indicate a mortise or other line, and the pin 15 on the inner rod 12 is likewise adjusted at a similar distance from the opposite side of the rib 3, so that the gage may be brought against the opposite side of said door or object and be operated to mark a second line inwardly from the line *w* corresponding thereto in position relatively to said line *n*, thereby forming the second mortise-line.

The above description explains one only of the uses of the double-adjustment feature of the instrument. Assuming that gage parts are in the positions indicated in Fig. 3, the marking-pins may both be brought side by side into the slot 5, which has the graduating-marks on one side thereof, as shown in Fig. 1, by turning out the screws 8 and 9 to free the gage-rods, and then sliding both of said rods in head A in the same direction to carry the marking-pins 15 and 16 thereon beyond or clear of the outer edge of said head, then sliding the rod 12 (within rod 10) still farther in the same direction to carry pin 15 thereon out of slot 14 in rod 10, then turning rod 12 a half-turn to bring the pins 15 and 16 in a line with each other, and then turning both of the gage-rods at once to bring said pins opposite the outer end of said slot 5, then sliding said rods to bring said pins into the last-named slot in proximity to said graduation-marks, then setting said two marking-pins to some degree of separation, either arbitrary or indicated by some of said marks, and then securing said rods in such positions by the screws 8 and 9, thereby arranging the tool so as to mark two lines at a certain distance from the side or edge of an object against which the side of said rib is brought.

In Fig. 3 the rod 10 is shown with the end thereof, on which is the pin 16, retired a certain distance within the head A. The dotted line *f f* indicates the side of a rabbeted groove on a door-jamb, for instance, against which the outer edge of said head is held, and the dotted line *g*—the line that may be marked on the other wall of said groove by the pin 16—to indicate a mortise-line when one leaf of a door-butt is to be let into said jamb, the pin 16 being adjustable, as aforesaid, relative to the wall of said groove. (Indicated by line *f f*.)

What I claim as my invention is—

1. A gage consisting of a head, substantially as described, having a rib 3 extending across one end thereof, having a perforation at right angles to said rib and having a slot in the opposite sides of said perforation, combined with two gage-rods, substantially as described, having marking-points thereon, one sliding within the other and together or separately having a rotating and a sliding motion in said perforation in the gage-head, and one or more set-screws in said head for securing said rods, substantially as set forth.

2. A gage consisting of a head, substantially as described, having a rib 3 extending across one end thereof, having a perforation at right angles to said rib and having a slot in the opposite sides of said perforation, combined with an outer tubular gage-rod having slots 13 and 14 therein and one or more marking-points thereon, an inner gage-rod having a sliding motion in said outer rod and a marking-point thereon, said outer and inner rods having together or separately a sliding and a rotating motion in said head-perforation, and one or more set-screws in said head for securing said rods, substantially as set forth.

3. A gage consisting of a head, substantially as described, having a rib 3 extending across one end thereof, having a perforation at right angles to said rib and having a slot in the opposite sides of said perforation, combined with an outer tubular gage-rod having slots 13 and 14 therein and one or more marking-points thereon, said outer rod having a sliding and rotating motion in said head, a set-screw in said head for securing said outer rod, an inner gage-rod having a sliding and rotating motion in said outer rod and a marking-point thereon, and a screw for holding said inner rod in position, substantially as set forth.

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