(No Model.)

R. G. HAUSDÖRFER.

TRAMMEL HEAD.

No. 447,642. Patented Mar. 3, 1891.

Fig. 1.

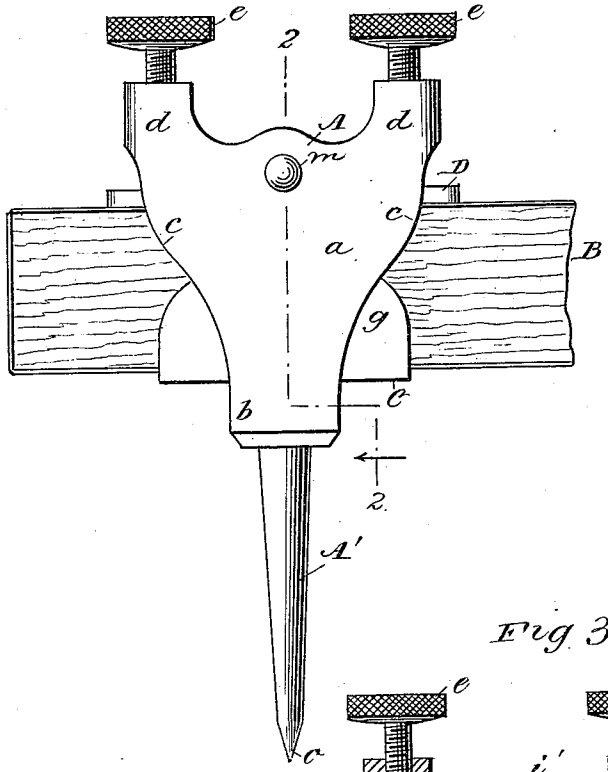


Fig. 2.

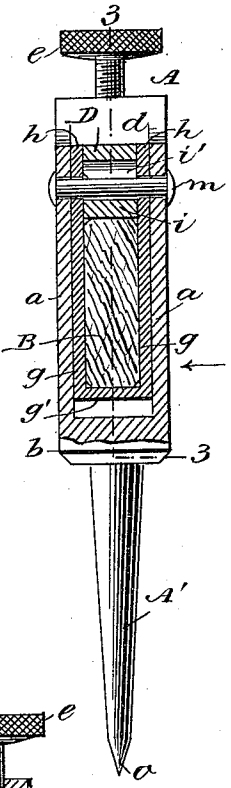


Fig. 3.

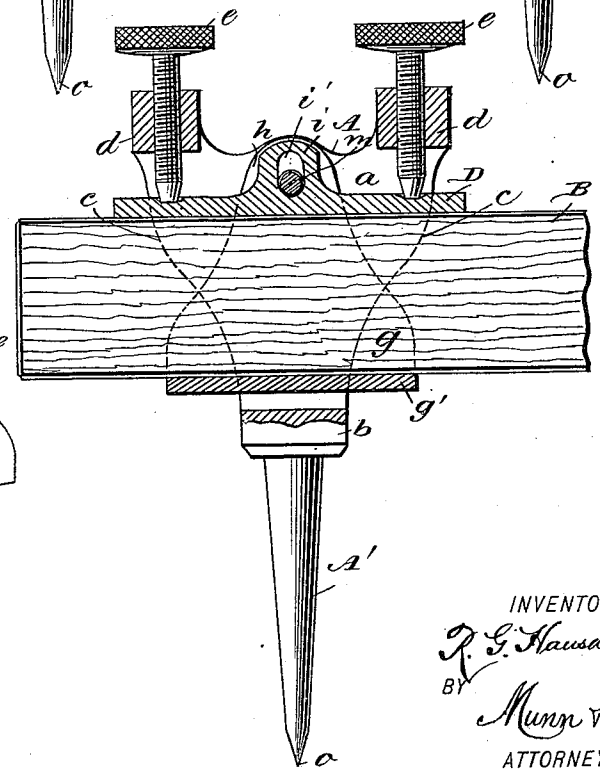
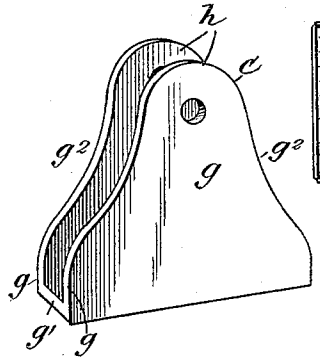


Fig. 4.



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REINHOLD G. HAUSDÖRFER, OF ZANESVILLE, OHIO.

TRAMMEL-HEAD.

SPECIFICATION forming part of Letters Patent No. 447,642, dated March 3, 1891.

Application filed September 18, 1890. Serial No. 365,344. (No model.)

To all whom it may concern:

Be it known that I, REINHOLD G. HAUSDÖRFER, of Zanesville, in the county of Muskingum and State of Ohio, have invented a new and useful Improvement in Trammel-Heads, of which the following is a full, clear, and exact description.

This invention relates to an improvement in trammel-heads that hold the points for a beam-compass used to project large curves and circles, and has for its objects to provide a device of the genus specified which will be neat in appearance, easy to construct, and that will afford means to secure the points of the beam-compass in a reliable manner upon the elongated bar or beam of the instrument and adjust them with great accuracy.

To these end my invention consists in the construction of parts and their combination, as is hereinafter described and claimed.

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

Figure 1 is a side elevation of the device on the end portion of a compass-beam broken. Fig. 2 is a transverse section of the trammel-head and its point, taken on the broken line 2 2 in Fig. 1, the beam being also shown. Fig. 3 is a longitudinal section of the trammel-head on the line 3 3 of Fig. 2, and Fig. 4 is a detached view of one of the parts of the head.

The head-frame A is made of any suitable metal, and consists of two parallel walls *a a*, which are retained properly spaced apart by the hub *b* at the lower end of the walls, and which have their opposite edges outwardly curved an equal degree to the points *c*, where outward swells are produced on the edges, whereby a graceful design is secured for the side walls *a a* and a suitably-increased width afforded to them near their upper edges, that are integrally joined by the formation of the similar bosses *d* between the side walls near their side edges. The bosses *d* are vertically and axially perforated and internally threaded for the introduction of the similar thumb-screws *e*, which are of sufficient length to permit them to have a proper range of vertical adjustment.

The compass-beam B is preferably made of hard wood (but any material may be used that is suitable) and is rectangular in cross-section, as usual, having a length proportionate to the diameter of circles to be inscribed. The sides and edges from their parallelism, respectively considered, permitting one or a pair of trammel-heads of improved form to be moved to any desired position on the beam.

The head-frame A is given such a proportionate width between its parallel walls *a* that a shoe C (shown in perspective in Fig. 4) may be slid between said walls *a a* and neatly fill the intervening space.

As will be seen, the shoe C has two walls *g*, that are held spaced apart by the integral base-wall *g'*, the vertical channel afforded between these parallel walls *g* being so proportioned that the beam B will neatly fit and slide therein. Sufficient length is given to the base-wall *g'* of the shoe C to provide an elongated bearing-face between the base of the shoe and adjacent edge of the beam B. The edges g^2 of the side walls *g* are curved upwardly and inwardly from the ends of the base-wall *g'* and terminate in ears *h* at their upper portions, which project above the beam B when the parts are assembled, said ears being rounded on their edges to conform in shape to the upwardly-curved upper edges of the frame sides *a*.

An elongated clamping-plate D is provided, which is made of such a width as will permit it to slide between the walls of the shoe C, its length being preferably made greater than that of the base-wall *g'* of the shoe. At the longitudinal center of the clamping-plate D an ear *i* is produced on the upper side of said plate, having a transverse aperture *i'* formed in it, which is in the form of a short vertically-extending slot.

There are aligning perforations made in the ears *h* of the shoe C and also in the side walls *a* of the trammel-block frame A at such corresponding points as will allow the curved upper edges of these ears and the side walls *a* to conform when a rivet or fulcrum-pin *m* is inserted through the registering perforations.

When the parts are assembled, the clamping-plate D is placed in position between the walls *g* of the shoe C and the fulcrum-pin *m* inserted through its vertically-elongated slot

i' as it passes through the other perforations of the frame A and shoe C, the pin *m* being then secured in place by riveting its ends, or other means.

Any ordinary trammel-head or a fixed trammel-point may be used in conjunction with the improved trammel-head, which has a steel tapered point A' secured in the hub *b*, axially coincident with it, the plane of the axes of the point A' and thumb-screws *e* being parallel.

By an adjustment of the thumb-screws *e* the clamping-plate D may be loosened, so that the improved trammel-head may be slid to any desired point on the beam B and be secured thereon.

In use the trammel-heads are adjusted to the length of the radius required, or as near as is convenient, by sliding one head and affixing the thumb-screws of both heads. Should a slight correction be necessary to lengthen or shorten the distance between the trammel-points at their fine terminal ends, this can be effected by the manipulation of the thumb-screws *e*, as by slackening one screw and tightening the other screw of the pair on a frame A said frame will be rocked slightly and the trammel-point moved correspondingly, so that a fine adjustment of the points is thus afforded, which, when attained, may be made secure by a tightening of the screws *e*, so as to firmly clamp the beam B.

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

1. The combination, with a head-frame and a trammel-point thereon, of a shoe pivoted within the frame, a clamping-plate, and two thumb-screws which engage this plate, substantially as set forth.

2. The combination, with a head-frame and a trammel-point thereon, of a shoe within the frame, a clamping-plate, two thumb-screws mounted in the frame and engaging the plate, and a fulcrum-pin uniting the frame and shoe and on which the plate is loosely mounted, substantially as specified.

3. The combination, with a beam, of a head-frame, a trammel-point, a shoe pivoted to swing in the frame, a clamping-plate adapted to rock and move vertically in the shoe, and two set-screws which are adjustable in the frame and bear on the clamping-plate near its ends, substantially as set forth.

4. The combination, with a compass-beam which is rectangular in cross-section, of a head-frame having spaced parallel walls which are joined below by a hub, a tapered point in the hub, a shoe which embraces the beam and slides between the walls of the head-frame, the frame and shoe being perforated transversely near their upper edges and longitudinal centers, two vertical thumb-screws inserted in threaded perforations of integral bosses on the head-frame which are at an equal distance from the perforations, a clamping-plate located in the shoe and transversely slotted through a longitudinally central ear, and a fulcrum-pin which retains the frame, shoe, and clamping-plate in loose adjustment, substantially as set forth.

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