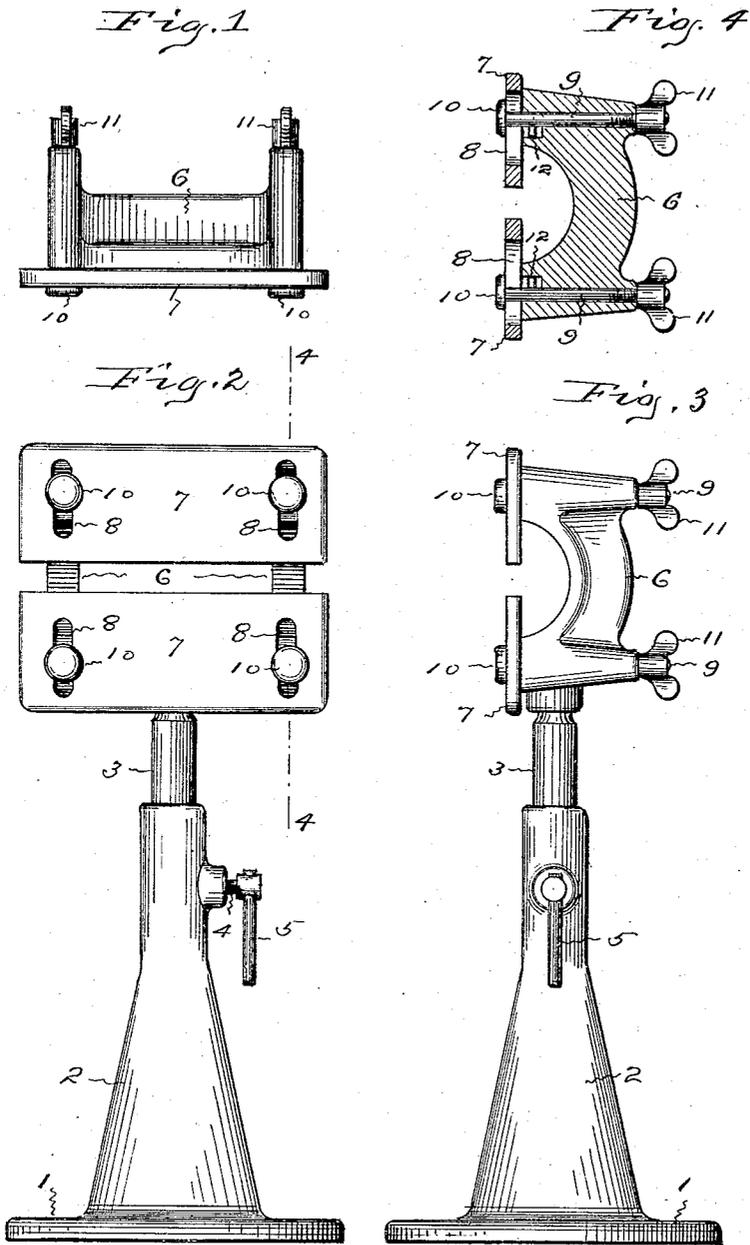


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TAPER GAGE.
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TAPER GAGE.

1,178,090.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH MERRITT, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Taper Gages, of which the following is a specification.

This invention relates to those bench instruments provided for the use of tool makers, which have straight edges arranged so that they can be set at different distances apart and at various angles, according to the size and shape of a master or standard gage, and utilized for showing the variation from, or the correspondence with a standard gage, of gages manufactured or being manufactured.

The object of the invention is the production of a bench gage which is cheap to manufacture; simple to set to the standard gage; secure in its adjustment so it will not be susceptible of accidental disarrangement; easy to use and accurate in result.

To attain this object a substantial base is provided so as to afford a firm foundation when the instrument is placed upon a work bench; the head or frame which carries the gage plates is mounted upon a post that is adjustable up and down in the base so that the straight edges of the gage plates may be raised or lowered and located at a level in convenient range between the eye of the user and a window or other light; and the gage plates are clamped near each end to the head by long bolts which have enlarged heads on their front ends and which pass through slots in the plates and perforations in the head, and on their rear ends are provided with thumb nuts that may be easily manipulated for tightly clamping the plates after they have been adjusted so as to retain them in exactly the same relation.

Figure 1 of the accompanying drawings shows a top view of the instrument. Fig. 2 shows a front elevation. Fig. 3 shows a side view. Fig. 4 shows a vertical section on the plane indicated by the dotted line 4-4 on Fig. 2.

The base has a bed-plate 1 which is circular in outline and a standard 2 which extends upwardly therefrom, these members desirably being made or cast iron. The post 3 is fitted in the upper end of the standard so that it may be moved up and

down, and a clamp screw 4 having a handle 5 is arranged in the upper end of the standard so that it may be used to clamp the post in any desired position. The upper end of the post is tapered, and set upon this tapering end is the yoke-shaped frame or head 6. This head may be made of cast iron if desired. On the front of the head are two plates 7. Each plate near each end has a slot 8, and through these slots and perforations from front to rear in the head, pass screw bolts 9. At the front these screw bolts have enlarged heads 10 and at the rear they have thumb nuts 11. To prevent the binding screws from turning and throwing the gage plates out after being set, pins 12 are set into them and key slots are cut in the head for these pins. When the thumb nuts are turned so as to loosen the bolts the plates are free to be moved toward or from each other and to be set with their inner edges parallel or at any desired angle with relation to each other.

In using this instrument the gage plates are first loosened and a standard gage or master gage having the correct taper is placed between the plates, and after the plates have been fitted to the master gage the thumb nuts are turned so that the bolts will clamp the plates in the positions in which they are located. These thumb nuts being on the back of the head are out of the way where they are not likely to be hit and turned so as to loosen the plates and allow them to get out of adjustment, and not only can these thumb nuts be easily turned for loosening the bolts and for tightly drawing back the bolts, but the construction is very strong enabling sufficient power to be easily applied to insure that the plates be clamped so firmly in the desired location that they will not accidentally get out of adjustment. The instrument can be located on a bench in front of a window and the head with the plates raised or lowered into convenient range with window or any other light and the eye of the user, who, after the plates have been set on the standard, inserts between the inner edges of the plates the gage to be tested. If the taper of a gage is not what it should be, or the gage should be worn or out of true light can be seen between it and the edge of the gage plates, and the gage ground until its taper does

correspond with the plates and no light is seen when the tapered piece is thrust between the plates.

The invention claimed is:

5 A bench taper gage having a base, a post adjustable up and down in the base, a screw for clamping the post at the desired height, a frame head mounted upon the post, slotted gage plates on the front of

said head, bolts extending through the slots 10 in the plates and perforations in the head, said bolts having enlarged heads in front of the plates, means for preventing the bolts from rotating, and thumb nuts on the bolts back of the frame head for securing the 15 plates in position.

JOSEPH MERRITT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."