(No Model.)

F. C. WHITTELSEY.

SURFACE GAGE.

No. 348,442. Patented Aug. 31, 1886.

Fig. 1

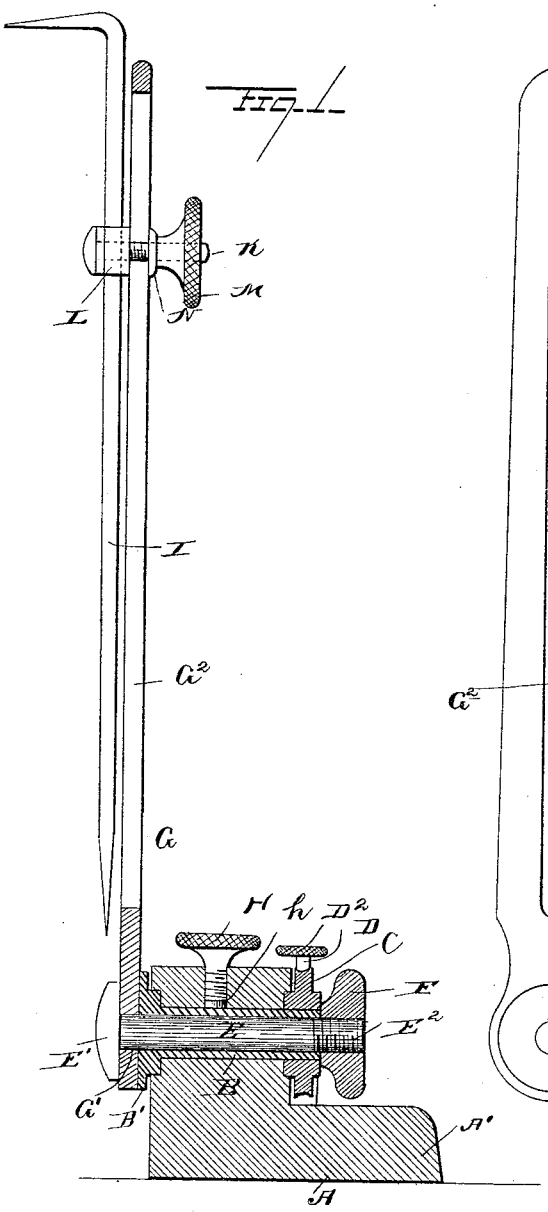


Fig. 2

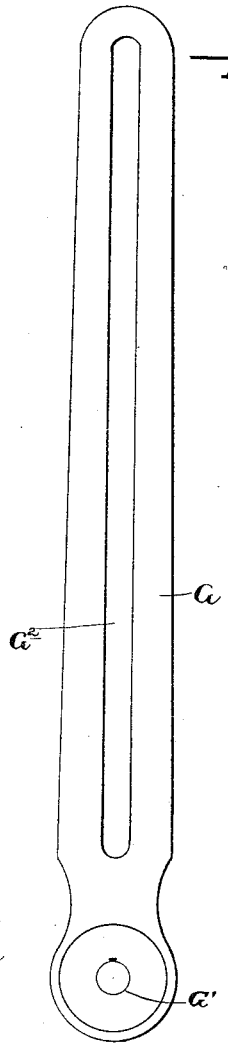
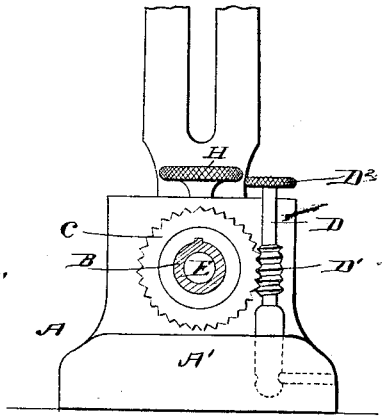


Fig. 3



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UNITED STATES PATENT OFFICE.

FRANK CHAUNCEY WHITTELSEY, OF PROVIDENCE, RHODE ISLAND.

SURFACE-GAGE.

SPECIFICATION forming part of Letters Patent No. 348,442, dated August 31, 1886.

Application filed January 16, 1886. Serial No. 188,794. (No model.)

To all whom it may concern:

Be it known that I, FRANK CHAUNCEY WHITTELSEY, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Surface-Gages, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to an improvement in surface-gages; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

The object of my invention is to provide a surface-gage for machinists and other artisans by means of which accurate work on the plane surfaces of machinery may be greatly facilitated.

In the drawings, Figure 1 is an elevation, partly in section, of a surface-gage embodying my improvements. Fig. 2 is a detailed elevation of the vertically-swinging arm. Fig. 3 is an end elevation of the surface-block and the mechanism for moving the swinging arm.

A represents the surface-block, which is provided near its upper side with a horizontal opening, in which is located a turning hollow cylindrical sleeve, B, which is provided at its outer or front end with a head, B′, that bears against the front side of the block A.

To the inner end of the sleeve B is keyed a worm gear-wheel, C, which bears against the rear side of the block and prevents the sleeve from moving longitudinally.

D represents a vertical shaft which has its lower end swiveled in the rear extended portion, A′, of the surface-block. The said shaft has a worm or screw, D′, which meshes with the worm-wheel C, and to the upper end of the shaft is attached a thumb-button, D^2, having a milled edge.

From the foregoing it will be readily understood that by turning the shaft D by means of its thumb-button the sleeve B may be turned in the surface-block.

In the sleeve is located a clamping-bolt, E, having a head, E′, at its outer end, and provided on the inner end of its shank with screw-threads E^2, on which is secured an interiorly-threaded clamping-nut, F.

G represents a swinging arm, having an opening, G′, at its lower end to receive the bolt E. The said arm is keyed onto the outer end of the bolt, and is provided with a longitudinal slot, G^2, which extends nearly the entire length of the arm.

H represents a set-screw, which works in a threaded vertical opening in the upper side of the surface-block. A block, *h*, is located in the lower end of this opening and bears on the sleeve B, and the lower end of the set-screw bears upon the said block. The function of the set-screw is to clamp the sleeve to the surface-block, so as to hold the swinging arm at any desired angle, and the function of the block *h* is to prevent the end of the set-screw from marring the sleeve.

I represents the pointer, which is a round rod made of steel, sharpened at its extremities, and having one end bent at right angles. A set-screw, K, extends through the slot in the swinging arm, and through the said screw and through a block or washer, L, that is on the outer end thereof, the pointer extends. A clamping-nut, M, and a washer, N, are secured on the inner end of the screw on the inner side of the swinging arm, and the function of the said screw and clamping-nut is to permit the pointer to be adjusted on the screw, and the latter with the pointer to be adjusted in the slot and secured at any desired adjustment.

The operation of my invention is as follows: In gaging a piece of work the pointer is first adjusted to approximately the right position by loosening the clamping-nut F and the clamp or set-screw K. The slot in the swinging arm allows the pointer to be moved up or down. Accurate adjustment of the arm and pointer is effected by loosening the set-screw H and partly rotating the sleeve and the arm by turning the worm-shaft D. In this manner the pointer may be quickly and accurately set. The work is placed on a planer in such a manner as to cause the latter to plane to a straight line marked on the work. This line must be at the same distance from the bed of the planer at all points. The work is first set in approximately the correct position, and the gage is then placed on the bed of the planer. The pointer is adjusted so that one end will be accurately brought to one end of the line on

the work. The gage is then applied to the other end of the line, and if both ends are at the same height from the bed the work is at the necessary adjustment.

I am aware that surface-gages have been heretofore provided with vertically-adjustable scribing-points, and this, broadly, I disclaim.

Having thus described my invention, I claim—

1. The combination of the surface-block, the swinging arm pivoted thereto, means for clamping the said arm at any desired angle, and the pointer secured to the swinging arm and vertically adjustable thereon, substantially as described.

2. The combination of the surface-block, the swinging arm, the clamp adjustable on the swinging arm, and the pointer independently adjustable in the clamp, substantially as described.

3. The combination of the surface-block, the swinging arm attached thereto and having the slot G^2, means to secure the swinging arm at any desired angle, and the clamp-screw in the slot G^2 and adjustable therein, and the pointer secured to and independently adjustable in the clamp-screw, substantially as described.

4. The combination of the surface-block, the turning sleeve secured therein, the worm-gear for turning the sleeve, and the arm attached to the sleeve and having the adjustable pointer, substantially as described.

5. The combination of the surface-block, the sleeve secured therein, the worm-gear for rotating the sleeve, the bolt extending through the sleeve and having the clamp-nut, the swinging arm attached to the said bolt and carrying the adjustable pointer, and the set-screw H, to clamp the sleeve at any desired position, substantially as described.

Middletown, Connecticut, October 16, 1885.

FRANK CHAUNCEY WHITTELSEY.

Witnesses:
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