

(No Model.)

C. E. BILLINGS.
SURFACE GAGE.

No. 261,901.

Patented Aug. 1, 1882.

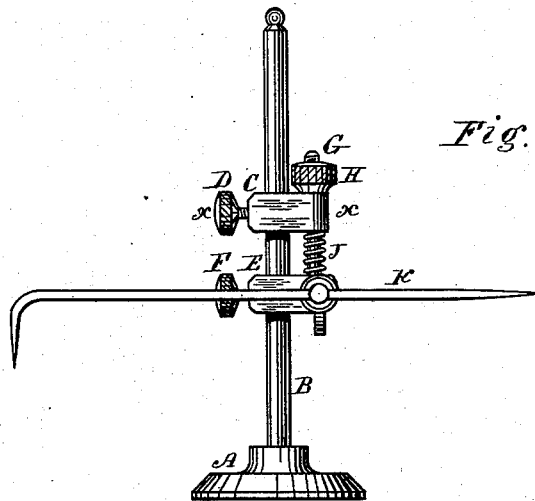


Fig. 1.

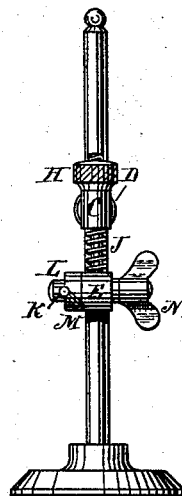


Fig. 2.



Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES E. BILLINGS, OF HARTFORD, CONNECTICUT.

SURFACE-GAGE.

SPECIFICATION forming part of Letters Patent No. 261,901, dated August 1, 1882.

Application filed April 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. BILLINGS, of Hartford, in the county of Hartford and State of Connecticut, have invented certain
5 new and useful Improvements in Surface-Gages; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art
10 can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My improvement relates to what are known
15 as "surface-gages." These implements have a flat-bottomed stand, which can be moved over a plane surface, and are provided with a pointer, which can be set so that as the base is
20 moved over the plane surface the point will always be equally distant from the plane, and thereby test any plane piece of work.

The object of my invention is to provide an adjustment for the raising and lowering of the point, so that it can be accurately set at any
25 given height or distance from the plane.

In the accompanying drawings, illustrating my invention, Figure 1 is a side view of a surface-gage embodying my improvement. Fig. 2 is a front view of the same. Fig. 3 is a cross-
30 section taken horizontally on the line *xx* of Fig. 1.

A is the base of the gage, which rests on a plane surface.

B is a vertical stem at right angles to the
35 base A.

C is a slide, which fits on the stem B, and can move up and down and be clamped by the set-screw D. E is a similar slide, which can be clamped by the set-screw F. The set-screws
40 D and F are furnished with conical points, which move in a groove, B', in the stem B in

such a manner that the slides C and E cannot turn around the stem, but move up and down parallel to each other.

G is a screw fixed to the slide E and passing
45 through the slide C, above which it is furnished with a nut, H. By tightening the nut or turning it down on the thread the slides are brought nearer together.

J is a spiral spring, which surrounds the
50 screw G and presses the slides apart, so that if the nut is loosened or turned upward the slides move farther apart.

K is the pointer for gaging the work. It is held by a bolt, L, through which it passes, and
55 is clamped against the collar M by means of the thumb-nut N in the customary manner.

The operation of my invention is as follows: The pointer K is set in its approximate position and clamped in the customary manner.
60 The point is then set on the work and the screw D clamped, so as to hold the slide C firmly on the stem B. A fine adjustment is then given to the position of the point by means of the nut H, by turning which a slow
65 movement is given to the slide E. When the point is exactly in position the slide E can be held by clamping with the screw F.

What I claim as my invention is—

1. In a surface-gage, the combination of the
70 slide C, having a clamp, D, the slide E, the screw and nut G H, and the spring J, substantially as described.

2. In a surface-gage, the slide E, carrying the pointer K, and furnished with a clamping
75 device, the slide C, provided with a clamping device, and a connecting screw adjustment, substantially as described.

CHARLES E. BILLINGS.

Witnesses:

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THEO. G. ELLIS.