J. B. BOURGET.

SLIDING GAGE OF PRECISION.

APPLICATION FILED MAY 13, 1919.

1,334,984. Patented Mar. 30, 1920.

Fig. 1

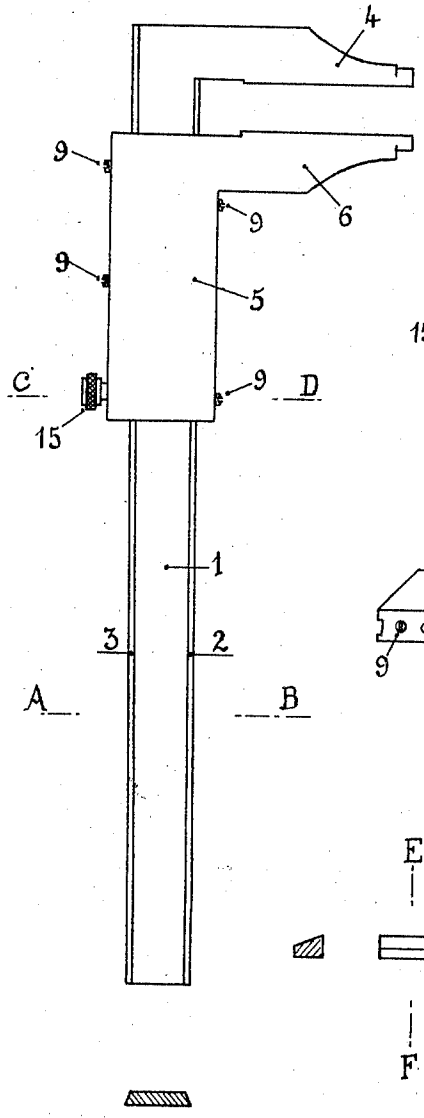


Fig 2

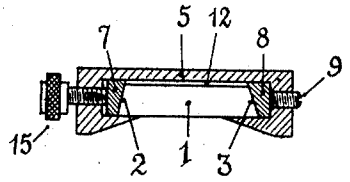


Fig. 3

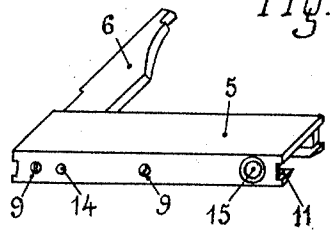
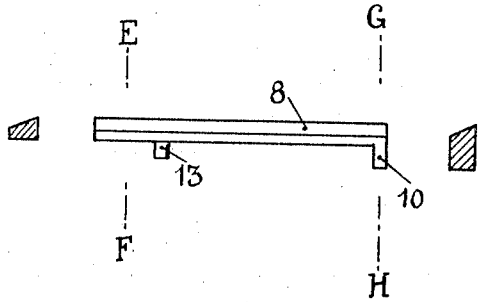


Fig. 4



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SLIDING GAGE OF PRECISION.

1,334,984. Specification of Letters Patent. Patented Mar. 30, 1920.

Application filed May 13, 1919. Serial No. 296,837.

To all whom it may concern:

Be it known that I, JEAN BAPTISTE BOURGET, a citizen of the French Republic, residing at Paris, France, have invented certain new and useful Improvements in Sliding Gages of Precision, of which the following is a specification.

In order that sliding gages of precision shall retain their accuracy even after long use, it is absolutely necessary that the following two conditions shall be observed:—

1. There must not be the slightest slackness between the graduated beam and the vernier slide.

2. The sliding motion of the slide along the graduated beam must always be very smooth and take place without excessive friction or jamming.

Sliding gages have already been constructed wherein the slackness of the slide in the direction of the width of the beam can be taken up in part as it occurs by means of a single small flat strip interposed between the edge of the graduated beam (of rectangular cross section) and the corresponding surface of the slide, farthest from the side where the pressure of the finger of the user is applied in adjusting the slide. This small strip may be clamped more or less tightly against the edge of the beam by means of set screws. That arrangement however allows of taking up only the lateral slackness of the slide, and does not allow at all of taking up the slackness in the direction of the depth of the beam, while moreover the said pressure of the finger which acts always at one and the same point at the end of the slide, produces at last an irregular wear of the slide whereby the axis of the said slide gets out of line with the axis of the beam. The result is that the readings of the vernier are inaccurate; and the opening between the jaws becomes flaring; and the sliding motion of the slide becomes hard.

Those drawbacks cannot be obviated by the use of a regulating means comprising only a single flat strip located on the side farthest from that on which the pressure of the hand of the user is applied.

The present invention has for its object to provide an improved sliding gage which has none of the drawbacks mentioned above.

The regulation for taking up the wear of the slide on the side where the pressure of the finger of the user is applied, is effected by providing a strip on this side also. The correction for taking up the wear of the slide in the direction of the depth of the beam is made by forming the two edges of the beam with two opposite bevels, and by making the two strips with corresponding bevels.

A constructional example of an improved sliding gage according to this invention is illustrated by way of example in the accompanying drawings in which:—

Figure 1 is a plan and a cross section on the line A—B of the complete sliding gage, viewed from underneath, that is to say, from the face opposite the one that is marked with the graduations of the vernier.

Fig. 2 is a section on the line C—D of Fig. 1.

Fig. 3 is a perspective view of the slide, the adjustable strips having been removed.

Fig. 4 is an external view and sections on the lines E—F and G—H of one of the adjustable strips.

As shown the improved sliding gage is constructed as follows:—

The graduated beam 1 has a trapezoidal form in cross section, the edges of which are constituted by the two beveled surfaces 2 and 3.

The beam has a fixed jaw 4.

The slide 5 is adapted to slide along the beam 1; it has a jaw 6 (hereinafter called the sliding jaw). The slide 5 is provided on its upper face (not visible in the figure) with the usual vernier scale. The internal section of the slide is of rectangular shape. 7 and 8 are strips interposed between the shorter sides of the slide and the bevel surfaces 2 and 3 of the beam. These strips have a straight outer edge and an inner edge that is beveled to correspond to the bevel of the beam. The pressure of these strips against the beam 1 is regulated by means of screws 9; contact taking place only on the lateral faces 2 and 3 of the beam and on its inner face (Fig. 2), whereas owing to the bevels of the beam 1, a free space 12 is left between the upper face of the beam and the corresponding face of the slide.

The strips 7 and 8 terminate at one end (Fig. 4) in a nose 10 that engages in a suitable notch 11 in the slide. At their other ends the strips are provided with a stud 13 that engages in a corresponding hole 14 in the slide.

(This stud may be replaced by a nose similar to the nose 10 at the opposite end). This arrangement is designed to prevent any longitudinal movement of the strips. 15 is a set screw for fixing the slide on the beam.

By suitably operating the four screws 9, any slackness that may have been produced, can be taken up, and the axis of the slide and the axis of the beam can be maintained in line with each other, the sliding movement of the slide along the beam being always smooth with gentle friction and without risk of jamming.

The improved sliding gage has likewise the advantage of very great constructional simplicity, because there is no need to seek to obtain a lateral adjustment of the slide as exact as in other sliding gages because this adjustment is produced by the regulation of two strips. The consequence is a considerable saving in labor in manufacture.

What I claim is:—

1. A device of the character described comprising a graduated scale having beveled edges, a slide sliding on the scale, and two regulatable strips interposed from one side to the other between the slide and the beveled edges of the scale and themselves having interior beveled edges corresponding to the bevels of the scale so that the pressure of the strips on the scale will have the result of providing a free space between the scale and the corresponding face of the slide.

2. In a sliding gage, the combination of a graduated beam having beveled edges, a slide having a rectangular groove slidable along said beam, two adjustable strips located one on each side between said slide and said beveled edges of said beam, having each an unbeveled straight outer edge and an inner edge beveled to correspond to the bevel of said beam, whereby the pressure of the said strips upon said beam has the effect of producing a free space between said beam and the corresponding face of said slide, screws for adjusting the location of said strips relatively to said beam, and a set screw for fixing said slide on said beam.

3. In a sliding gage, the combination of a graduated beam having beveled edges, a slide having a rectangular groove slidable along said beam, two adjustable strips located one on each side between said slide and said beveled edges of said beam, having each an unbeveled straight outer edge and an inner edge beveled to correspond to the bevel of said beam, whereby the pressure of the said strips upon said beam has the effect of producing a free space between said beam and the corresponding face of said slide, said strips being each formed at one end with a nose and at the opposite end with a stud engaging in mortises in said slide; screws for adjusting the location of said strips relatively to said beam, and a set screw for fixing said slide on said beam.

In testimony whereof I have signed my name to this specification.

JEAN BAPTISTE BOURGET.