

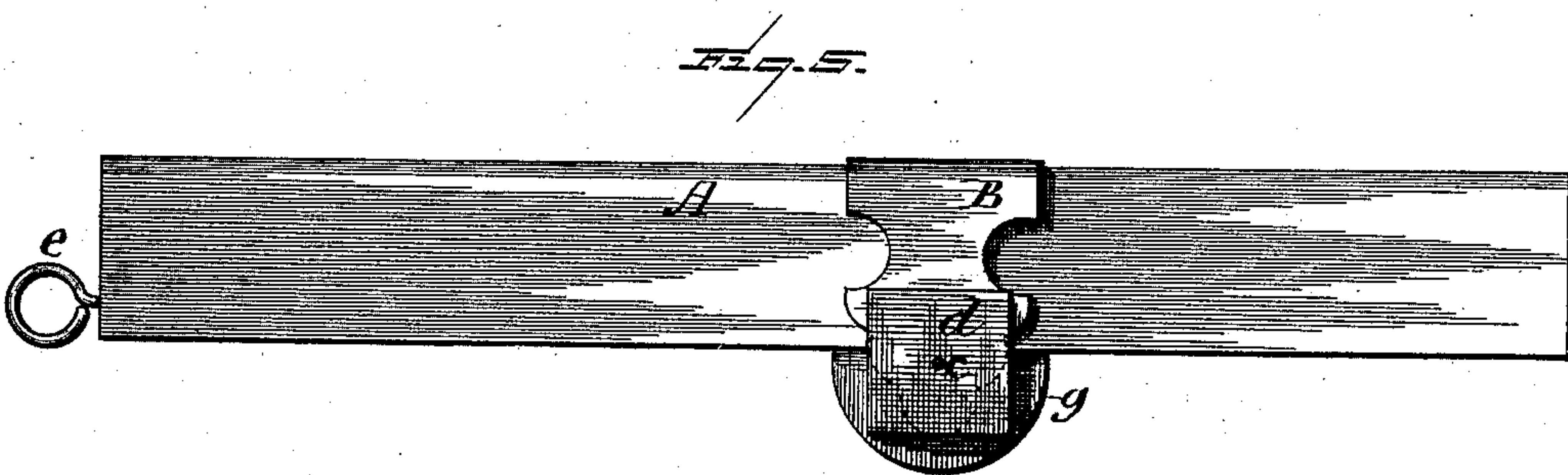
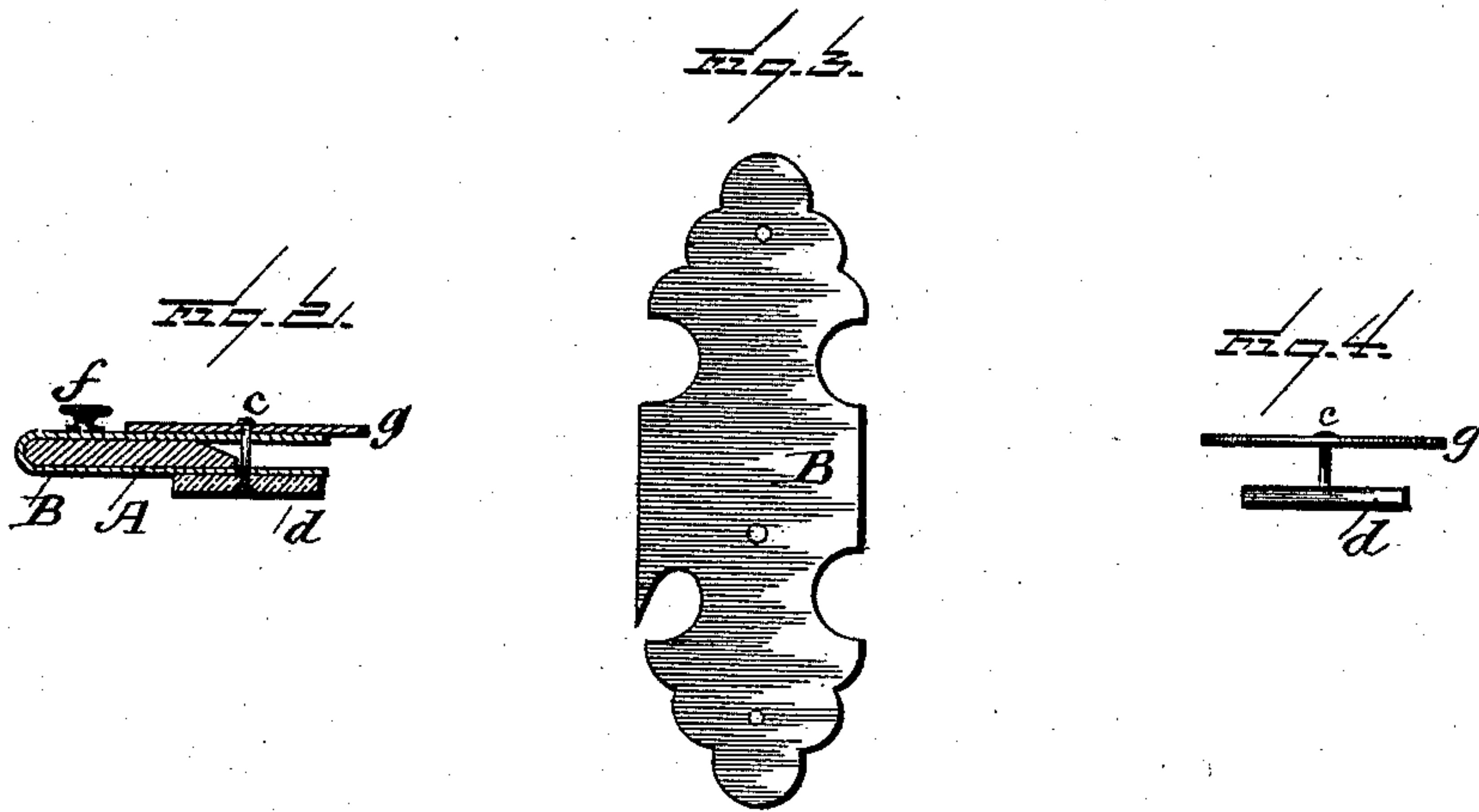
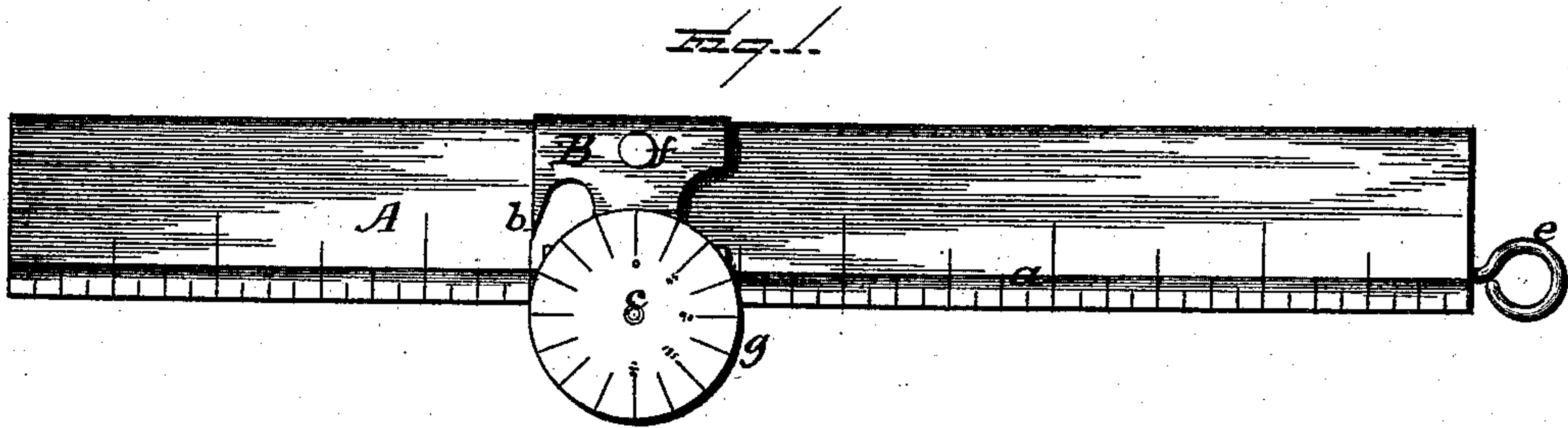
(No Model.)

J. G. SMITH.

PROTRACTOR AND CIRCLE SCRIBING ATTACHMENT FOR RULERS.

No. 373,100.

Patented Nov. 15, 1887.



Witnesses:

E. Murdeman
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UNITED STATES PATENT OFFICE.

JAMES G. SMITH, OF JAMESTOWN, NEW YORK.

PROTRACTOR AND CIRCLE-SCRIBING ATTACHMENT FOR RULERS.

SPECIFICATION forming part of Letters Patent No. 373,100, dated November 15, 1887.

Application filed March 30, 1887. Serial No. 232,984. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. SMITH, a citizen of the United States, residing at Jamestown, in the county of Chautauqua, State of New York, have invented certain new and useful Improvements in Ruler Attachments for Drawing Purposes, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This ruler is adapted mainly to the wants of accountants and scholars. It presents a correct measure of length and a sufficiently correct measure of angles. It can be used for ruling lines with a common pen, is simple and inexpensive, the ruler being generally made of wood, and the parts are not liable to become out of order.

20 In the accompanying drawings, Figure 1 is a top view of a ruler and its attachments constructed in accordance with my invention. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a top view of the sheet-metal clamp opened out. Fig. 4 is a side view of the protractor index, and yielding pad, with rivet uniting them. Fig. 5 is a view from the under side of the ruler and its attachments, showing the rubber or other yielding pad of the device.

30 In said drawings, A represents a ruler, preferably made of wood, and having the ordinary subdivisions and a beveled edge, *a*, so that it can be used for ruling lines with a common pen without danger of blurring. To facilitate its use to draw angles, circles, &c., a short sheet-metal strap, B, is bent half-way of its length and folded so as to clasp said ruler, and the branches of said clasp are retained substantially by means of a rivet, *c*, passing through them close to the edge of the ruler; and upon 40 the lower end of said rivet is placed a washer or pad, *d*, of a soft and yielding substance, substantially as india-rubber, to sufficiently adhere to paper or other substance upon which the ruler may be applied, and, if pressed upon, 45 permit the ruler to be revolved and a circle

be described without danger of shifting its center.

To retain a pencil connected with the ruler, a ring or screw-eye, *e*, is attached to one end of the ruler, and when it is to be used to describe 50 a circle the point of a pencil is inserted in said eye and used to revolve the ruler. To indicate the size of the circle to be described, the edge of the strap B is cut away to form a pointer, *b*, at the same distance from an axis- 55 line passing through the rivet *c* as the outer end of the eye *e* stands from the end of the ruler. To prevent the ruler from accidentally slipping through its clasp, the latter has a clamping-screw, *f*, the inner end of which bears 60 against the face of the ruler.

To permit any given angles to be described with the ruler, there is placed upon the clasp B a protractor, *g*, having its face subdivided into degrees and its center mounted upon the 65 outer end of the rivet *c*, so that by retaining the clasp immovable with one hand its opposite end can be revolved and a true circle described.

As the ruler is of uniform thickness throughout its length, the clasp can be made to occupy any desired point upon it, and it can be entirely removed therefrom and the scale-ruler A be used simply as a ruler.

75 Having now fully described my invention, I claim—

In combination with a scale-divided ruler having a beveled edge, the attachment consisting of a sheet-metal clasp, B, having a pointer, *b*, a yielding pad on the under side 80 thereof and a protractor on its upper side, and a ring or screw-eye in the end of said ruler, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES G. SMITH.

Witnesses:

FRANK W. STEVENS,
FRED. R. PETERSON.