April 27, 1965 K. K. INGLE 3,180,027

DRAFTING IMPLEMENT

Filed July 11, 1960 2 Sheets-Sheet 1

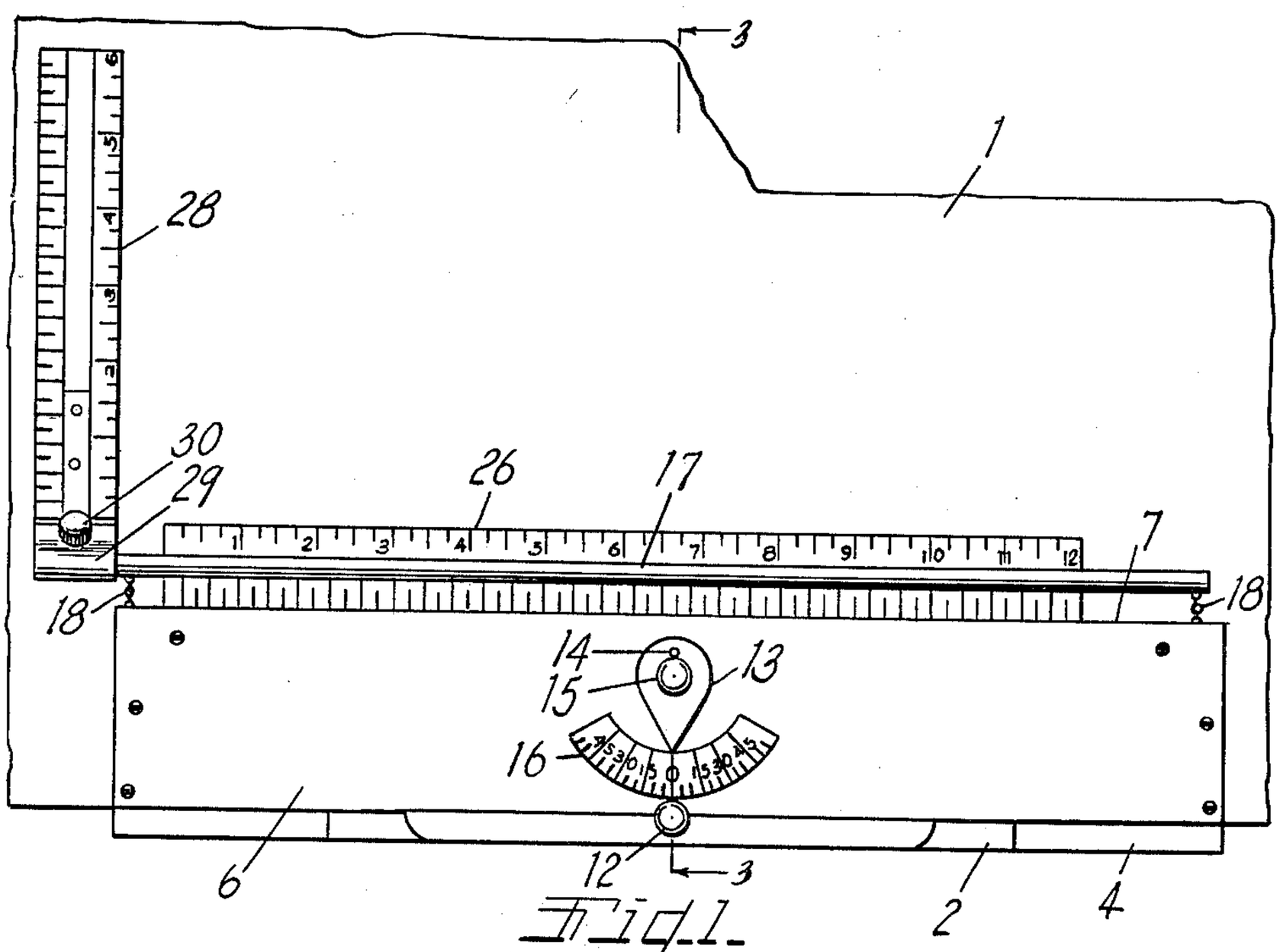

FIG. 1

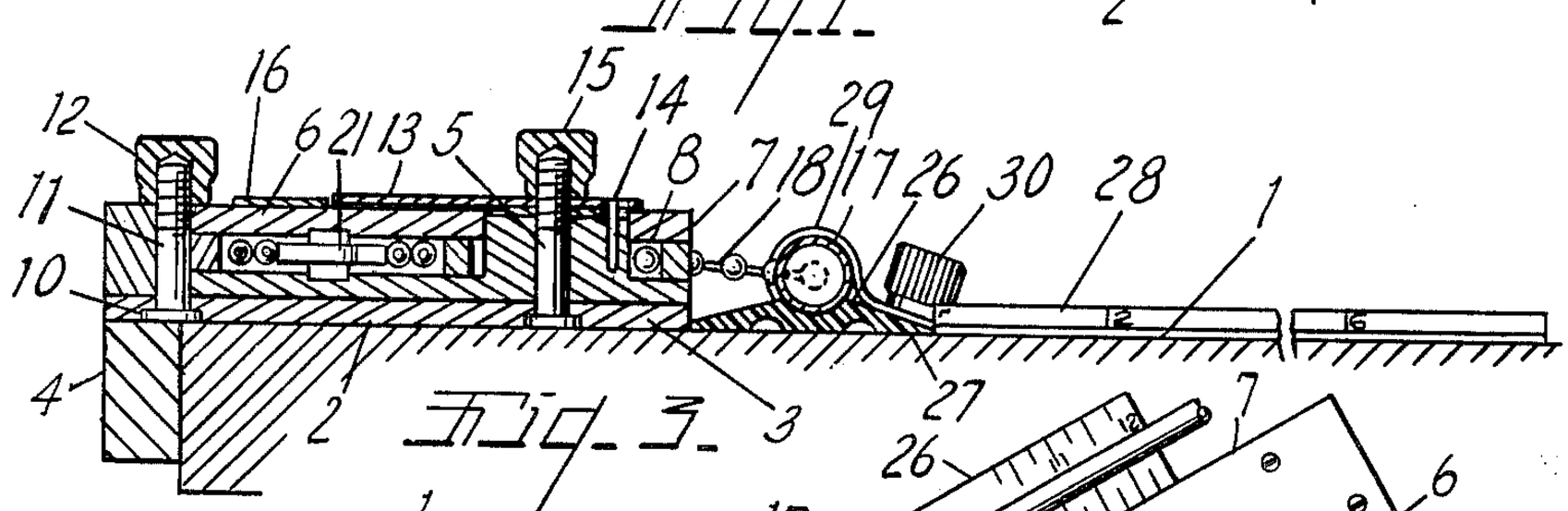

FIG. 3

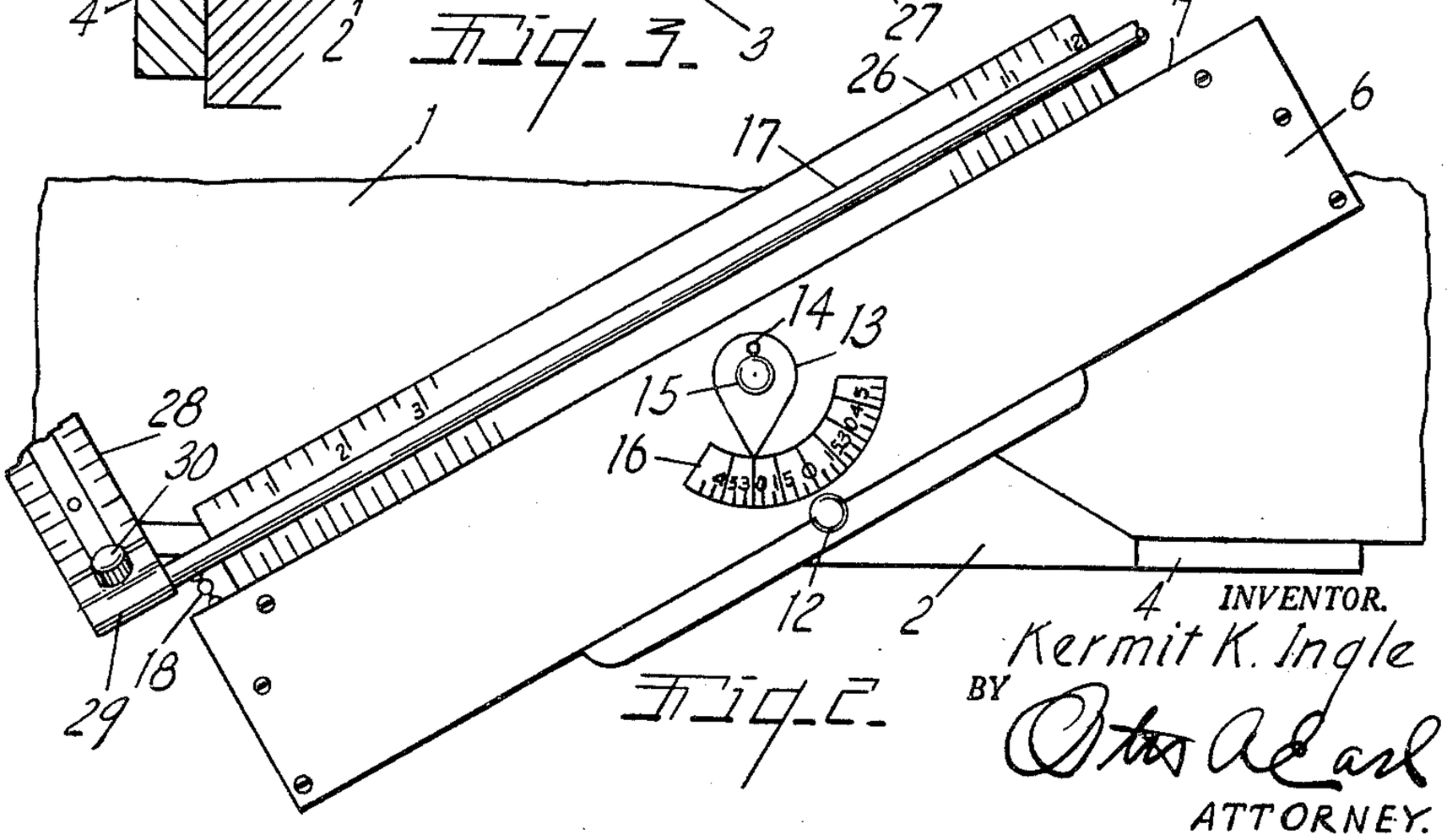

FIG. 2

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2 Sheets-Sheet 2

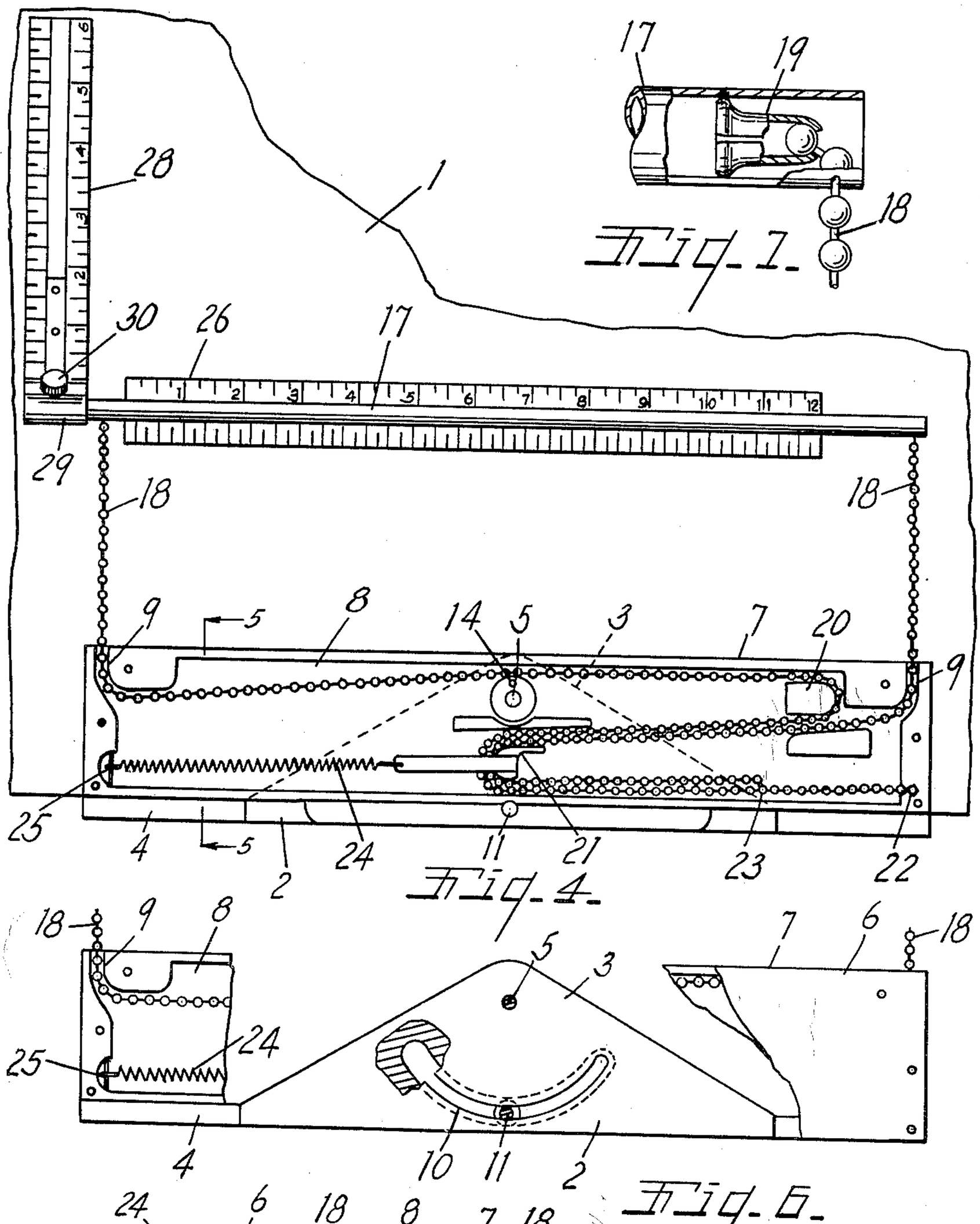

Fig. 1.

Fig. 4.

Fig. 6.

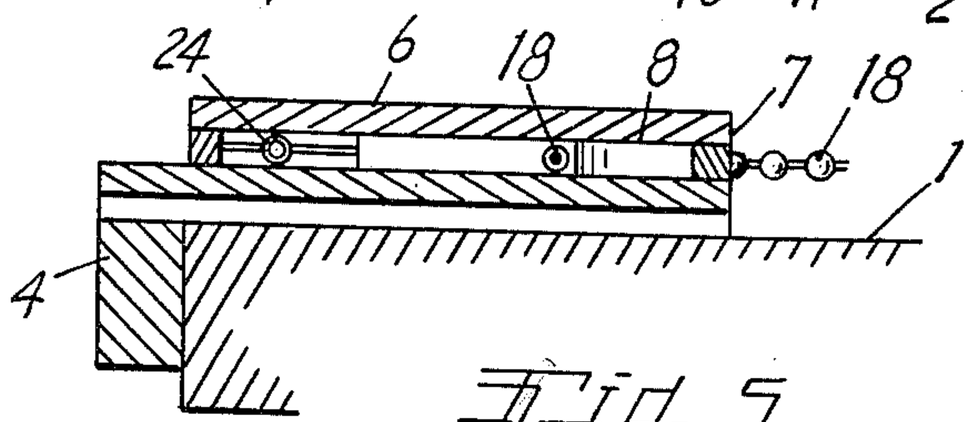

Fig. 5.

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DRAFTING IMPLEMENT

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4 Claims. (Cl. 33—79)

This invention relates to a drafting implement or device. The main objects of this invention are,

First, to provide a drafting implement or device which greatly facilitates the making of drawings.

Second, to provide a drafting implement or device which includes a base member supportedly engageable with an edge portion of a drawing board or the like and with ruler operatively associated therewith and having a wide range of adjustment, and at the same time being relatively compact when fully collapsed.

Third, to provide a drafting implement or device having these advantages, which is very easy to operate.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

FIG. 1 is a fragmentary plan view of a drafting implement or device embodying my invention mounted upon a drawing board, which is shown conventionally.

FIG. 2 is a fragmentary plan view corresponding to that of FIG. 1, illustrating another position of the device and certain structural features.

FIG. 3 is an enlarged fragmentary view on a line corresponding to line 3—3 of FIG. 1.

FIG. 4 is a fragmentary plan view with the top portion of the body member removed and the ruler in one extended position.

FIG. 5 is a fragmentary view in section on a line corresponding to line 5—5 of FIG. 4.

FIG. 6 is a fragmentary plan view partially broken away, illustrating certain of the structural details.

FIG. 7 is an enlarged fragmentary view, partially in section, illustrating certain details of the ruler support member and its connection to the body member.

In the accompanying drawing, 1 represents a drawing board, which is only shown conventionally. It will be understood that it is common practice to provide drawing boards having flat surfaces and straight edges. The drafting implement of the embodiment of my invention illustrated comprises a base member designated generally by the numeral 2 and including a top portion 3 adapted to be supportedly positioned upon a drawing board, and a downwardly projecting portion 4 engageable with the front edge of a drawing board. The base member is provided with a centrally disposed upwardly projecting pivot 5 on which the elongated chambered body member 6 is positioned. This body member has a straight front edge 7 and is of rectangular cross section, and has a chamber 8 therein extending from end to end thereof, see FIG. 4. Openings 9 on the front edge of the body member open into the chamber.

To support the body member in its adjusted position on the pivot 5, the base member is provided with an arcuate slot 10 concentric with or centered in the pivot. A clamping bolt 11 is disposed through this slot and projects above the body member and is provided with a nut or fingerpiece 12 on its projecting upper end, which may be adjusted to clamp the body member in its adjusted position in relation to the base member, as is illustrated in FIGS. 1 and 3. The relationship of the pivot 5 and the clamping bolt 11 to the base member and to the body member is clearly illustrated in FIGS. 1, 2, 3 and 6.

The pointer 13 is mounted upon the pivot post 5,

being provided with an anchoring pin 14 projecting into the body member, as shown in FIG. 3. It will be understood that it is not necessary to tighten or loosen the nut 15 in ordinary manipulation of the instrument. The nut 12, however, is desirably clamped to retain the body member in its adjusted position.

The body member is provided with angle indicia 16 with which the pointer 13 coacts, see FIGS. 1 and 2. The ruler support member 17, in the embodiment illustrated, is formed of tubing, and flexible cables 18 are connected to the ends thereof by the couplings 19. These flexible connections or connectors 19 pass through the openings 9 in the front edge of the body member and are looped around the guides 20 and 21, one being anchored at 22 and the other connected to the anchored member at 23. The guide member 21 is slidable within the body member and is connected to the coiled tensioning spring 24, which is anchored at 25, see FIG. 4. The tension of the spring is relatively slight, but it is sufficient to retract the ruler support member, on the underside of which the ruler 26 is fixedly mounted. The ruler 26 has a flat underside 27 which supportedly rests upon the drawing board, as is clearly shown in FIG. 3. In use the ruler support member with the ruler thereon is pulled out to the desired position and the draftsman holds it in that position, and when released the spring automatically retracts it. It will be understood that this may be extended for drawing lines parallel to the edge of the drawing board, or it may be tilted in either direction on the supporting post 5.

In the embodiment illustrated, the support member 17 projects at one end beyond the flexible connection or connector 19 to receive the second ruler 28, which is provided with a socket 29 at its inner end clampingly secured to the ruler support member by the thumb nut 30.

In the accompanying drawing the applicant has only illustrated two of the possible adjustments, but it is believed that it will be readily understood that even simple embodiments of the applicant's invention as illustrated are capable of a very wide range of adjustment. I have illustrated a simple and practical embodiment of my invention and have not attempted to illustrate or describe various other embodiments or adaptations, as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

Having thus described the invention, what is claimed as new and desired to secure by Letters Patent is:

1. A drafting implement comprising a base member supportedly, slidably and adjustably positionable upon a drawing board or the like and having a support edge-engaging element, an elongated chambered body member, a pivot for said body member mounted on said base member in inwardly spaced relation to said support edge-engaging element thereof, said base member having an arcuate slot therein centered about said pivot, a clamping bolt supportedly mounted on said body member having a head portion engaged in said slot in said base member and having a nut on its outer end adjustable to clampingly hold said body member in its adjusted position on said base member, a ruler support member, a coil spring disposed within said body member chamber and connected at one end to said body member, said body member having spaced openings in its front edge opening to said chamber therein, flexible connectors for connecting said ruler support member to said spring disposed through said openings, guide means within said body member for said flexible connectors, said ruler support member projecting at one end beyond one of said connectors, a first ruler mounted on the underside of said ruler support member and having inner and outer straight edges

and provided with scale indicia, and a second ruler detachably mounted on said projecting end of said ruler support member to project at right angles to said first ruler.

2. A drafting implement comprising a base member supportedly, slidably and adjustably positionable upon a drawing board or the like and having a support edge-engaging element, an elongated chambered body member, a pivot for said body member mounted on said base member in inwardly spaced relation to said support edge-engaging element thereof, said base member having an arcuate slot therein centered in said pivot, a clamping bolt supportedly mounted on said body member having a head portion engaged in said slot in said base member and having a nut on its outer end adjustable to clampingly hold said body member in its adjusted position on said base member, a pointer on said body member pivot disposed above the body member, said body member having angle indicia thereon operatively associated with said pointer, a ruler support member, a coil spring disposed within said body member and connected at one end to said body member, said body member having spaced openings in its front edge opening to said chamber therein, flexible connectors for connecting said ruler support member to said spring disposed through said openings, guide means within said body member for said flexible connectors, said ruler support member projecting at one end beyond one of said connections thereto, a first ruler mounted on said ruler support member, and a second ruler detachably mounted on said projecting end of said support member to project at right angles to said first ruler.

3. A drafting implement comprising a base member supportedly, slidably and adjustably positionable upon a drawing board or the like and having a support edge-engaging element, an elongated chambered body member, a pivot for said body member mounted on said base member in inwardly spaced relation to said side engaging element thereof, said base member having an arcuate slot therein centered in said pivot, a clamping bolt on said body member having a head portion engaged in said slot and having a nut on its outer end adjustable to clampingly hold said body member in its adjusted position on said base member, a pointer on said body member pivot disposed above the body member, said body member having angle indicia thereon operatively associated

with said pointer, a ruler support member, a coil spring disposed within and connected at one end to said body member, said body member having spaced openings in its front edge opening to said chamber thereon, flexible connectors for connecting said ruler support member to said spring disposed through said openings, and a ruler mounted on the underside of said ruler support member and having inner and outer straight edges provided with scale indicia.

4. A drafting implement comprising a base member supportedly, slidably and adjustably positionable upon a drawing board or the like and having a support edge-engaging element, an elongated chambered body member pivotally mounted on said base member and having spaced openings in its inner edge, said base member having an arcuate slot therein centered in said pivot, a clamping bolt on said body member having a head portion engaged in said slot and having a nut on its outer end adjustable to clampingly hold said body member in its adjusted position on said base member, a ruler support member, a spring mounted within said body member, flexible connectors for connecting said ruler support member to said spring disposed through said openings, guide means within said body member for said flexible connectors to said spring, a first ruler mounted on said ruler support member and a second ruler detachably mounted on said support member to project at right angles to said first ruler.

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