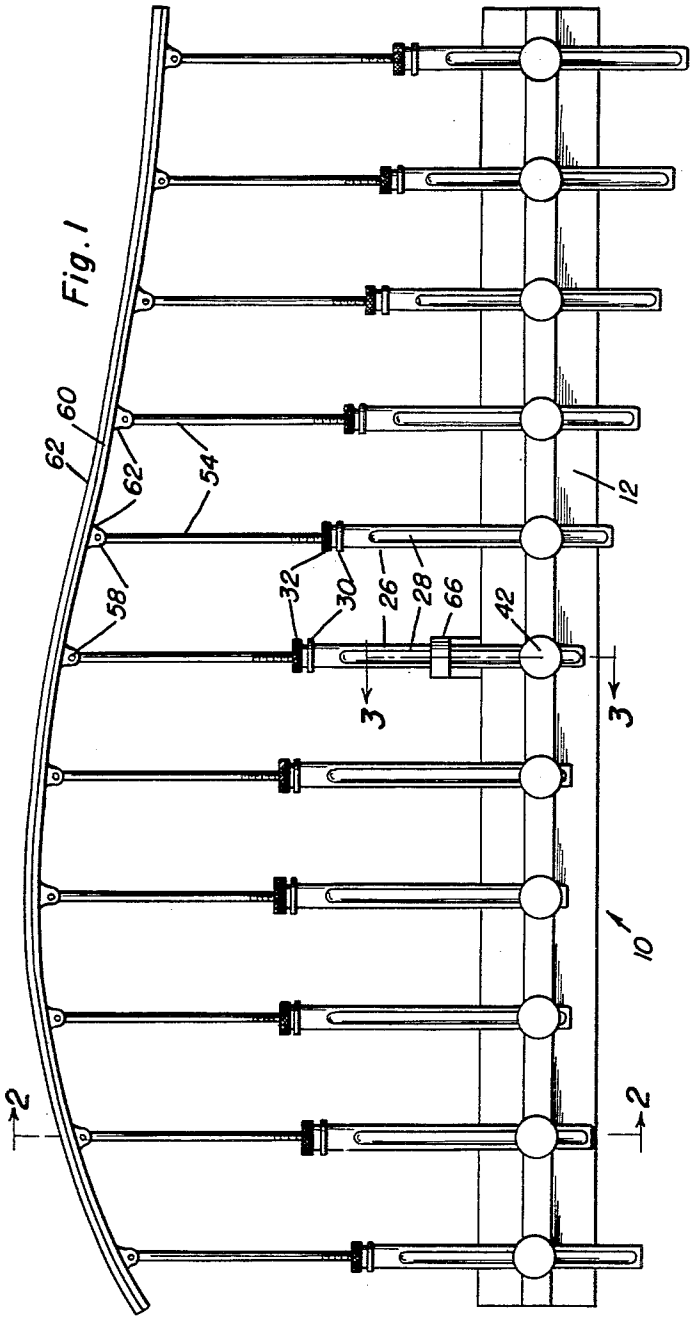
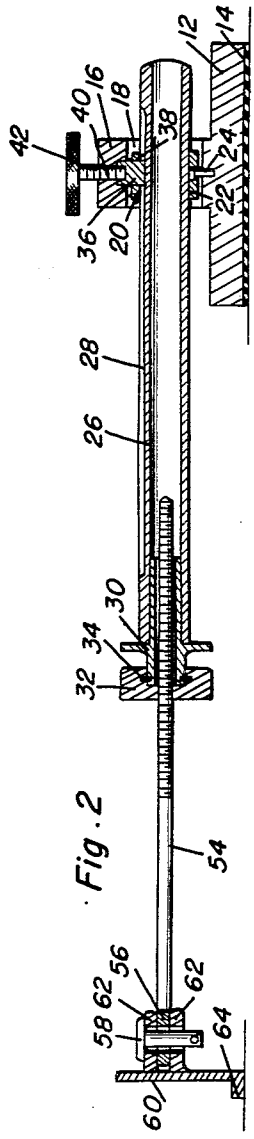
March 29, 1955 R. W. SHANE 2,704,893

ADJUSTABLE TEMPLATE

Filed June 4, 1954 2 Sheets-Sheet 1





Robert W. Shane
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

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ADJUSTABLE TEMPLATE

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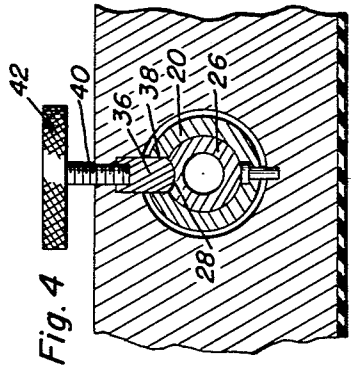

Fig. 4

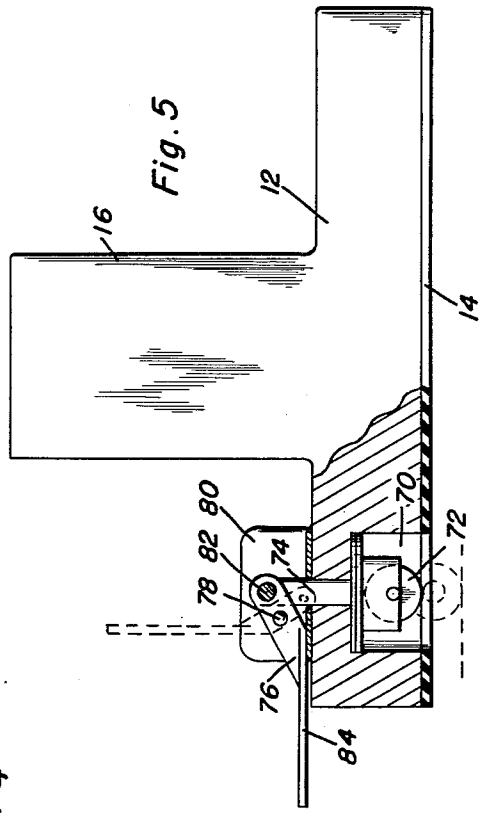

Fig. 5

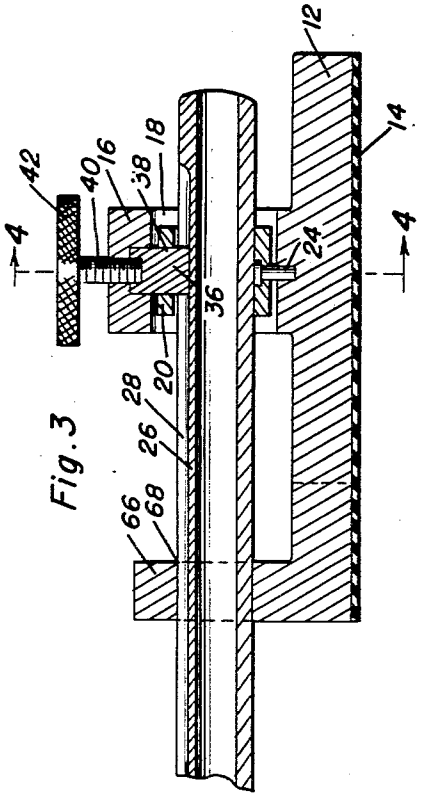

Fig. 3

Robert W. Shane
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

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ADJUSTABLE TEMPLATE

Robert W. Shane, Long Beach, Calif.

Application June 4, 1954, Serial No. 434,362

4 Claims. (Cl. 33—177)

This invention relates to a drafting implement and more particularly to an adjustable template for use in drawing and reproducing curved lines.

The primary object of the present invention resides in the provision of a drafting implement adapted to be used in drawing and reproducing elongated curved or arcuate lines and which is particularly adapted for use in laying out complex lines and curves such as those which are peculiar to aircraft and ship building.

A further object of this invention resides in the provision of a drafting implement for use in drawing arcuate lines that includes a base having a resilient covering forming the surface engaging portion of the base for frictionally holding the drafting implement in position while in use.

A further object of the invention resides in the provision of means for retractably mounting casters on the base of the implement so that it may be easily moved from one location to another as may be desired.

The construction of this invention features a resilient spline to which a plurality of shafts are pivotally attached. Adjustably secured to the shafts are tubular cylindrical members which extend through pivotally mounted bushings in the base. Brake means are provided for clampingly engaging the cylindrical members to hold the members in an adjusted position and thus hold the spline at the proper curvature.

Still further objects and features of this invention reside in the provision of a drafting implement that is strong and durable, simple in construction, use, and manufacture, and which is highly flexible in operation.

These, together with the various ancillary objects and features of the invention which will become apparent as the following description proceeds, are attained by this adjustable template, a preferred embodiment of which has been illustrated in the accompanying drawings, by way of example only, wherein:

Figure 1 is a plan view of the adjustable template comprising the present invention;

Figure 2 is an enlarged sectional view as taken along the plane of line 2—2 in Figure 1;

Figure 3 is an enlarged sectional detail view as taken along the plane of line 3—3 in Figure 1 and illustrating the brake means utilized to adjustably connect the cylindrical members to the base;

Figure 4 is a vertical sectional view as taken along the plane of line 4—4 in Figure 3; and

Figure 5 is a sectional view illustrating a modified form of base construction.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, reference numeral **10** generally designates the drafting implement comprising the present invention. This instrument includes a base **12** of substantially T-shape having an undercovering **14** of resilient material such as rubber to provide a surface for frictionally holding the implement in a desired position.

The base **12** has an upwardly extending portion **16** provided with a series of apertures **18** therethrough. Mounted within the apertures **18** are a series of bushings **20** having a bore **22** therethrough and being swivelly mounted by means of swivel pins **24**.

Received in the bushings **20** are a plurality of tubular cylindrical members **26** which are grooved in the upper surface thereof as at **28** and which have end portions formed by adapters **30** to which internally threaded collars **32** are rotatably attached by means of resilient lock wings **34**. The cylindrical members **26** are adapted to be held in adjusted position by means of brake pads **36** which extend through apertures **38** in the bushings **20**. Engaged with the brake pad **36** is a brake screw **40** having a knurled head **42**, the brake screw **40** being threadedly engaged in the upper portion **16** of the base **12**.

Threadedly secured in the collars **32** are shafts **54** which have eyes **56** at the other ends thereof. Pins **58** pivotally mount the shafts **54** on a flexible spline **60**, the pins **58** extending through upper and lower apertured mounting brackets **62**. The spline **60** is provided with a ruling edge **64**.

The base **12** also carries a substantially L-shaped fulcrum member **66** having a guide opening **68** therethrough which one of the cylindrical members **26** extends, preferably the central cylindrical member **26**. This fulcrum member restrains the central cylindrical member **26** from pivoting and thus assures a rigid implement when it has been fully set.

In Figure 5, it will be noted that the base **12** is provided with recesses **70** therein. Mounted in the recesses **70** are casters **72** attached to plungers **74** to which crank arms **76** pivotally mounted as at **78** to upwardly extending lugs **80** on the base **12** are themselves pivotally attached as at **82**. Hence, movement of the crank arm **76** and its operating lever **84** will enable the caster **72** to be either withdrawn into the recess **70** or lowered therefrom. These casters are provided to enable the device to be more easily moved into position.

The operation of the invention is quite simple. The spline **60** is flexible and is adjusted by movement of the cylindrical members **26** to suitable position to form the desired curve in the spline **60**. Minor adjustments can be achieved by rotation of the collar **32**.

It is to be recognized that the pivotal mounting of the bushing **20** permits the cylindrical members **26** to pivot with respect to the base **12** to compensate for the angular relationships of the various mounting brackets **62**.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. An adjustable template comprising a flexible spline, a plurality of shafts pivotally secured to said spline, a plurality of cylindrical members, said shafts being secured to said cylindrical members, an elongated base, said base having a plurality of apertures therethrough, swivel bushings swivelly mounted in said apertures, said cylindrical members extending through said bushings, said cylindrical members having grooves therein, apertures in said bushings in alignment with said grooves, brake pads extending through the apertures in said bushing engaging said cylindrical member in said groove, and brake screws secured to said pads threadedly secured to said base, said base having a fulcrum member attached thereto having a guide opening therethrough, one of said cylinders extending through said opening and being restrained against pivotal movement.

2. An adjustable template comprising a flexible spline, a plurality of shafts pivotally secured to said spline, a plurality of cylindrical members, said shafts being secured to said cylindrical members, an elongated base, said base having a plurality of apertures therethrough, swivel bushings swivelly mounted in said apertures, said cylindrical members extending through said bushings, said cylindrical members having grooves therein, apertures in said bushings in alignment with said grooves, brake pads extending through the apertures in said bushing engaging said cylindrical member in said groove, and brake screws secured to said pads threadedly secured to said base, said base having a fulcrum member attached thereto having a guide opening therethrough, one of said cylinders extending through said opening and being restrained against pivotal movement, said base being of substan-

tially inverted T-shape having an upwardly extending portion having said first recited apertures therethrough, said base having resilient material underlying the bottom thereof.

3. An adjustable template comprising a flexible spline, a plurality of shafts pivotally secured to said spline, a plurality of cylindrical members, said shafts being secured to said cylindrical members, an elongated base, said base having a plurality of apertures therethrough, swivel bushings swivelly mounted in said apertures, said cylindrical members extending through said bushings, said cylindrical members having grooves therein, apertures in said bushings in alignment with said grooves, brake pads extending through the apertures in said bushing engaging said cylindrical member in said groove, and brake screws secured to said pads threadedly secured to said base, said base having a fulcrum member attached thereto having a guide opening therethrough, one of said cylinders extending through said opening and being restrained against pivotal movement, said base being of substantially inverted T-shape having an upwardly extending portion having said first recited apertures therethrough, said base having resilient material underlying the bottom thereof.

4. An adjustable template comprising a flexible spline, a plurality of shafts pivotally secured to said spline, a plurality of cylindrical members, said shafts being secured to said cylindrical members, an elongated base,

said base having a plurality of apertures therethrough, swivel bushings swivelly mounted in said apertures, said cylindrical members extending through said bushings, said cylindrical members having grooves therein, apertures in said bushings in alignment with said grooves, brake pads extending through the apertures in said bushing engaging said cylindrical member in said groove, and brake screws secured to said pads threadedly secured to said base, said base having a fulcrum member attached thereto having a guide opening therethrough, one of said cylinders extending through said opening and being restrained against pivotal movement, said base being of substantially inverted T-shape having an upwardly extending portion having said first recited apertures therethrough, said base having resilient material underlying the bottom thereof, said shafts being adjustably threadedly connected to said cylindrical members.

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