

J. DZIERWA.
DRAWING INSTRUMENT.
APPLICATION FILED JUNE 5, 1911.

1,021,583.

Patented Mar. 26, 1912.

3 SHEETS-SHEET 1.

FIG. 1

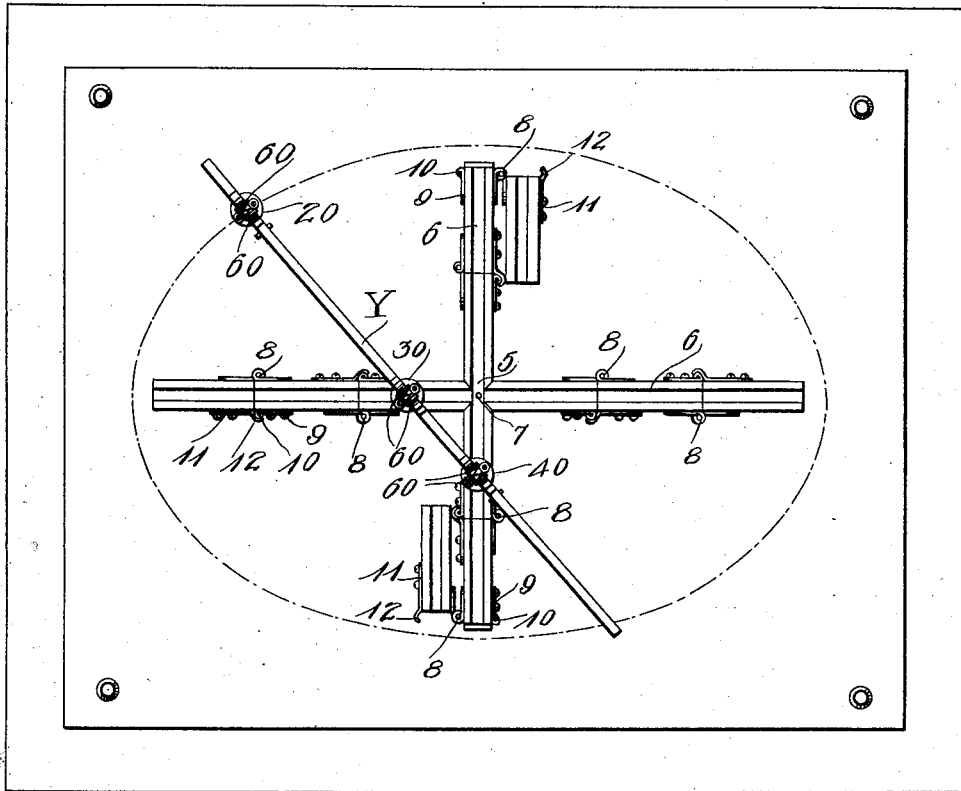
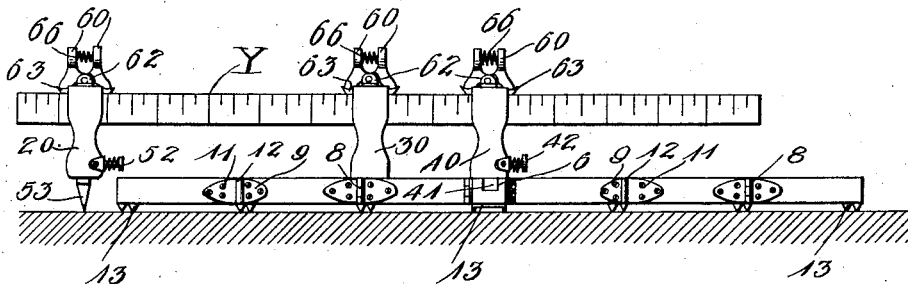


FIG. 2



Witnesses

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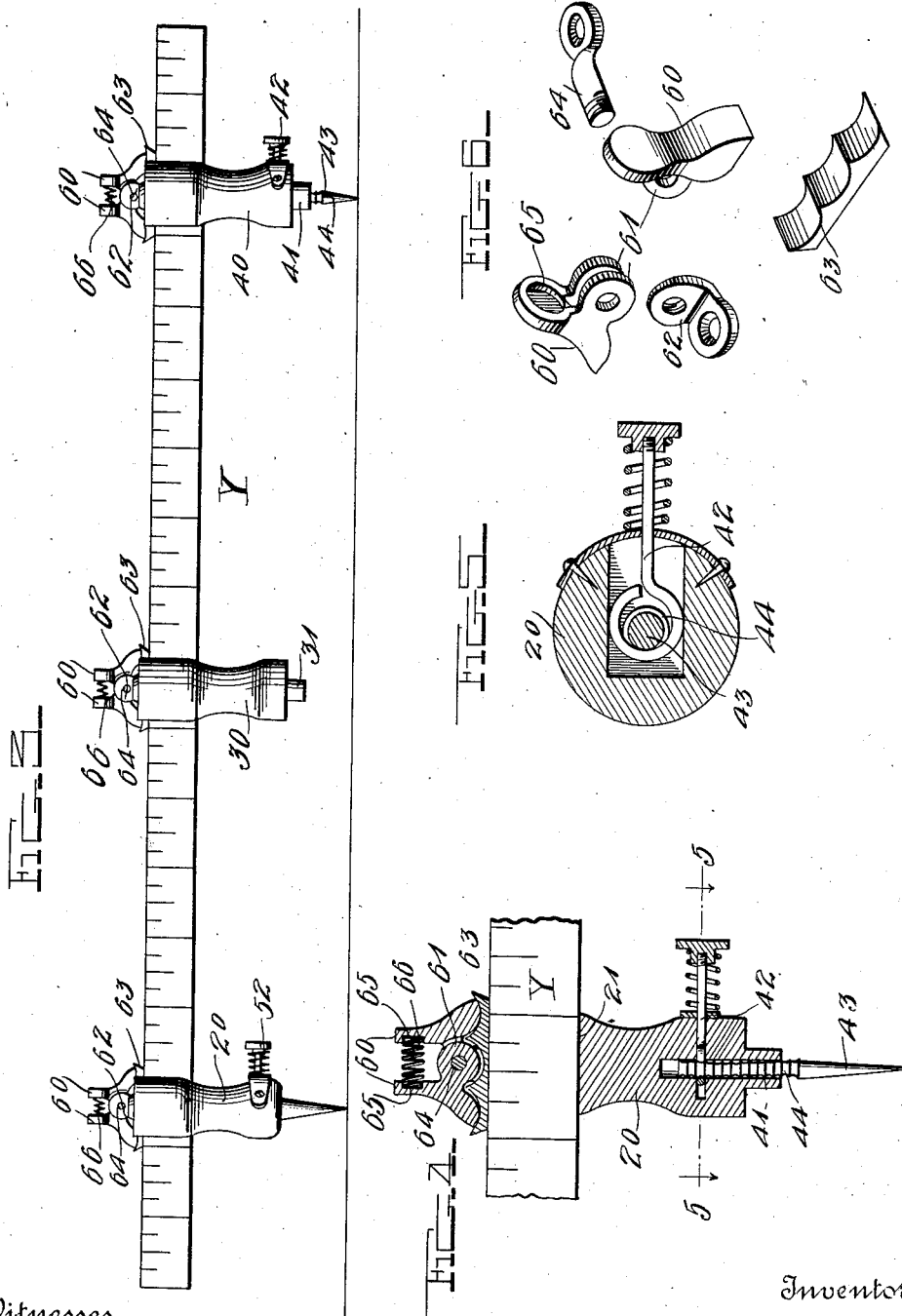
Attorneys

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Witnesses
J. R. Pierce
O. B. Hopkins

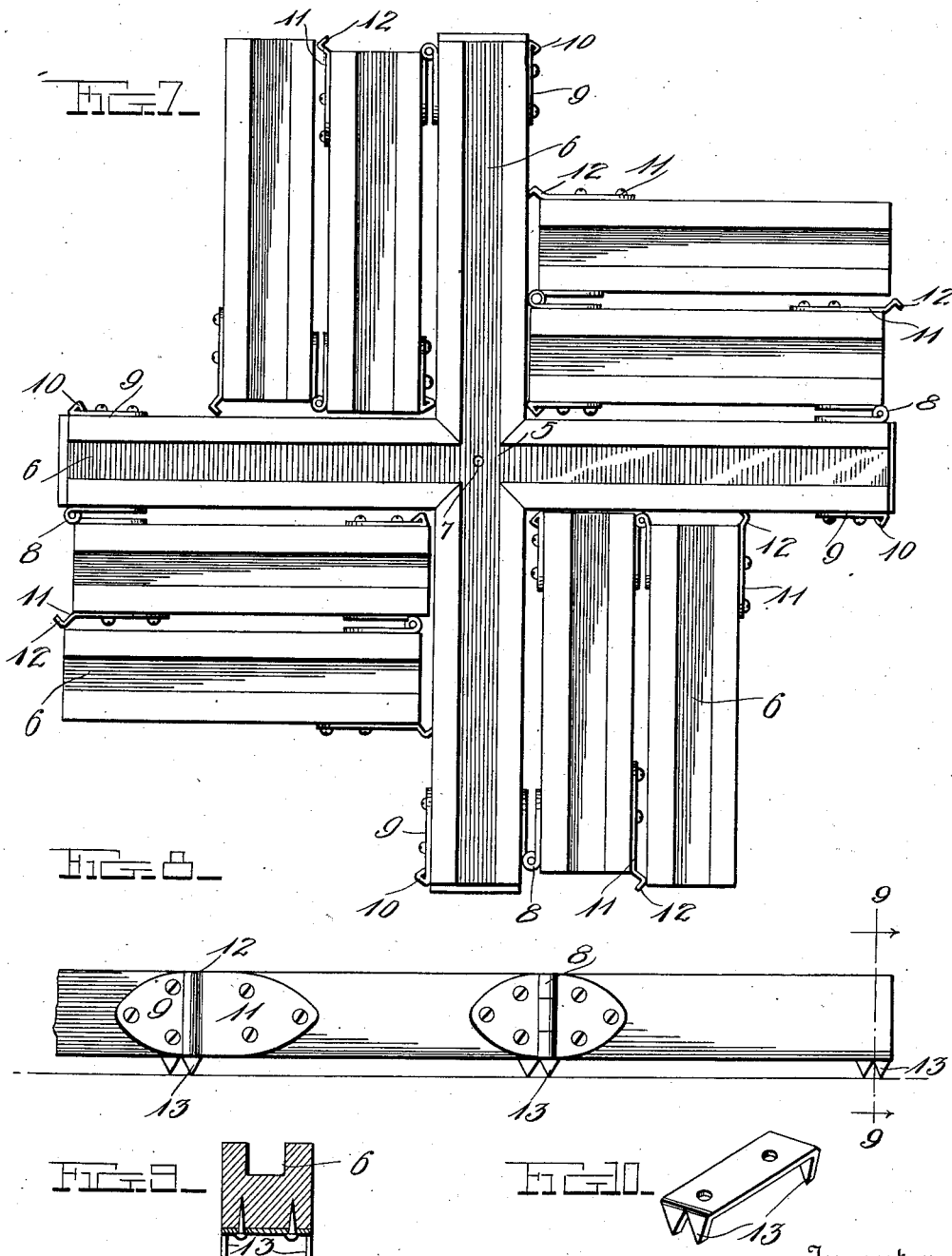
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3 SHEETS—SHEET 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN DZIERWA, OF ST. LOUIS, MISSOURI.

DRAWING INSTRUMENT.

1,021,583.

Specification of Letters Patent.

Patented Mar. 26, 1912.

Application filed June 5, 1911. Serial No. 631,213.

To all whom it may concern:

Be it known that I, JOHN DZIERWA, a citizen of the United States, residing in the city of St. Louis and State of Missouri, have
5 invented certain new and useful Improvements in Drawing Instruments; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which
10 it appertains to make and use the same.

This invention relates to drawing instruments, more particularly of that character which are intended for drawing ellipses, ovals, circles, and the like; and the object of
15 the same is to produce an instrument that can be so used and wherein all parts, excepting an ordinary yardstick or the like, may be folded into small compass. This object is accomplished by the construction herein-
20 after more fully described and claimed and as shown in the drawings wherein:

Figure 1 is a top plan view showing the manner in which the device is employed; Fig. 2 is a side view of the invention; Fig.
25 3 is a similar view of the beam detached; Fig. 4 is a vertical sectional view of one of the posts, showing more particularly the pin fastening means thereof; Fig. 5 is a horizontal sectional view on line 5—5 of
30 Fig. 4; Fig. 6 is a view of the several parts of the mechanism for adjustably securing the posts to the beam; Fig. 7 is a top plan view of the cross member in a folded position; Fig. 8 is an enlarged side view of a
35 portion thereof; Fig. 9 is a vertical sectional view on line 9—9 of Fig. 8; Fig. 10 is a detail perspective view of one of the supporting and retaining feet.

In the drawings the numeral 5 designates
40 the center of a cross, made preferably of wood, and having four arms longitudinally channeled or grooved as at 6 in their upper edges and provided with a hole 7 at the center where these grooves cross; and in
45 order that this cross may be folded into rather small compass, each arm is made in several sections (three are illustrated in the drawings) which are connected by hinges
50 8 alternately disposed with catches which latter comprise each a member 9 secured to one side of the arm opposite the hinge 8 and having an outstanding rib 10 and a member
11 secured to the same side of the adjacent arm and having a hook 12 at its free end
55 adapted to engage said rib when the two sections of the arm stand in alinement as

seen in the drawings. In order to prevent this cross from slipping over the paper or board upon which the drawing is to be made, it is provided with feet 13 on its under
60 side as best seen in Fig. 8, and these feet are by preference repeated at the outer end of each section of each arm. These and the hinges and catches are by preference of metal, whereas the arms of the cross and its
65 rigid center may all be of wood; and of course the exact shape, the proportions, and the sizes of parts are immaterial. The other element of this instrument is made up of a ruler which may well be a yardstick as let-
70 tered Y herein, and three elements or members which I will now specifically describe. Each has an upright body 20 provided across its upper end with a transverse slot
75 21 of a size to receive the ruler or yardstick Y; and the solid member or guide member 30 has the remainder of its body made solid and a pin 31 projecting from its lower end and of a size to slide freely within the
80 groove 6. One member has a spring actuated catch 42 for holding a steel point 43 whose body is grooved as at 44 so that the catch may engage it at different heights and permit the point proper to project to different
85 degrees. The lower end of this member is by preference formed with a pin 41, similar to the pin 31 except that it is tubular to permit the steel point to pass through it; and when this point is removed the two pins
90 31 and 41 serve as guides in a manner which will be described below. The third member has a spring catch 52 much like that numbered 42 except that it is shaped to engage the body of a pencil 53 which also may be
95 set under this catch so as to project to greater or less extent as desired; and this member omits the pin at the lower end of the other members. The spring clasps used
100 at the upper ends of all these three members are alike, and a description of one will suffice for all. Each comprises two L-shaped levers 60 having side ears 61 pivoted as at
62 to the upper end of the fork of the member at each side of its slot 21, the lower ends
105 of said levers bearing upon a shoe 63 which slides along the upper edge of the yardstick Y, and their upper ends forming thumb-pieces which may be compressed between the thumb and finger of the operator's hand. The inner faces of said thumb-pieces are
110 socketed as 65 to receive the extremities of an expansive coiled spring 66 which nor-

mally throws them apart and depresses the shoe so as to frictionally bind upon the upper edge of the yardstick and therefore hold this member in adjusted position.

- 5 When it is desired to move it along the same, the thumb pieces are pressed together against the tension of this spring and the whole member can then be moved and set as desired, after which the pressure is relieved
10 and the expansion of the spring holds the member so adjusted.

In the use of this device for drawing plain pencil circles, the steel point is inserted in the member 40 and the pencil in the member 20, and the said pencil is swung around the center in a manner which will be clear, the tips of both the point and the pencil projecting below the pin 31 at the lower end of the member 30. Or the point
20 may be inserted in the hole 7 at the center of the cross, and the pencil will travel around upon the paper or board between its arms and must be lifted over them as they are encountered. To draw or scratch lines
25 upon wood or metal, a metal point or pin is substituted for the pencil and the operation is the same. When this instrument is used to draw ovals, the point is removed from the member 40 and the two pins 41
30 and 31 are seated in the grooves 6 with the pencil depending from the third member, and then the entire yardstick Y is swung around by the operator's hand which grasps the pencil and the member which carries it,
35 one pin moving along the groove in two alined arms and across the center, then the other pin moving inward in a direction at right angles thereto and across the center, then the first pin returning across the center,
40 and so on in a manner which will be clear. Whether drawing circles or ovals, all the members are set on the yardstick by the means above described, according to the size of the oval or circle that is to be struck.
45 When this device is not in use the members are removed from the yardstick and the arms of the cross are folded up into small compass as shown.

What is claimed as new is:

- 50 1. In a drawing instrument of the class described, the combination with a stick, members adjustably mounted thereon and two of them having pins at their lower ends, and a marking device carried by the third;
55 of a cross comprising a rigid center, foldable arms comprising sections hinged to the outer ends of the arms of said center, the hinges between the sections of the foldable arms being alternately on opposite sides of

said arms, and catches disposed opposite the hinges, the upper edges of said arms and sections being grooved for the reception of said pins.

2. In a drawing instrument of the class described, the combination with a stick, members adjustably mounted thereon, and two of them having pins at their lower ends, and a marking device carried by the third; of a cross comprising a rigid center, foldable arms comprising sections at the outer
70 extremities of the arms of said center, a hinge at one side of each joint between said arms, and a catch at the other side of such joint comprising one member having an out-turned rib and another member having
75 an inturned hook adapted to engage the rib when the parts are in alinement, all arms having grooves in their upper edges adapted for the reception of said pins.

3. In a drawing instrument of the class described, the combination with a stick, members adjustably mounted thereon and two of them having pins at their lower ends, and a marking device carried by the third; of a cross comprising a rigid center, foldable arms comprising sections at the outer
85 extremities of the arms of said center, a hinge at one side of each joint between said arms, a catch at the other side of each such joint comprising one member having an out-turned rib and another member having
90 an inturned hook adapted to engage the rib when the parts are in alinement, all arms having grooves in their upper edges adapted for the reception of said pins, and feet depending from the lower edges of the center
95 and of each of said sections.

4. In a drawing instrument of the type described, the combination with a stick, and members thereon each having a transverse
100 slot through its upper end adapted to receive said stick; of brackets at opposite sides of the slot in each member, two L-shaped levers having knuckles at their angles lapping each other and standing between said brackets, a pivot pin through the brackets and knuckles, an expansive spring
105 between the upper ends of said levers, and a shoe beneath their lower ends adapted to bear upon said stick.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN DZIERWA.

Witnesses:

JOHN A. ANDERSON,
LOUIS E. ROBERTS.