

Oct. 6, 1942.

F. G. EUBANKS

2,298,000

COMPASS

Filed Feb. 23, 1942

2 Sheets-Sheet 1

Fig. 1

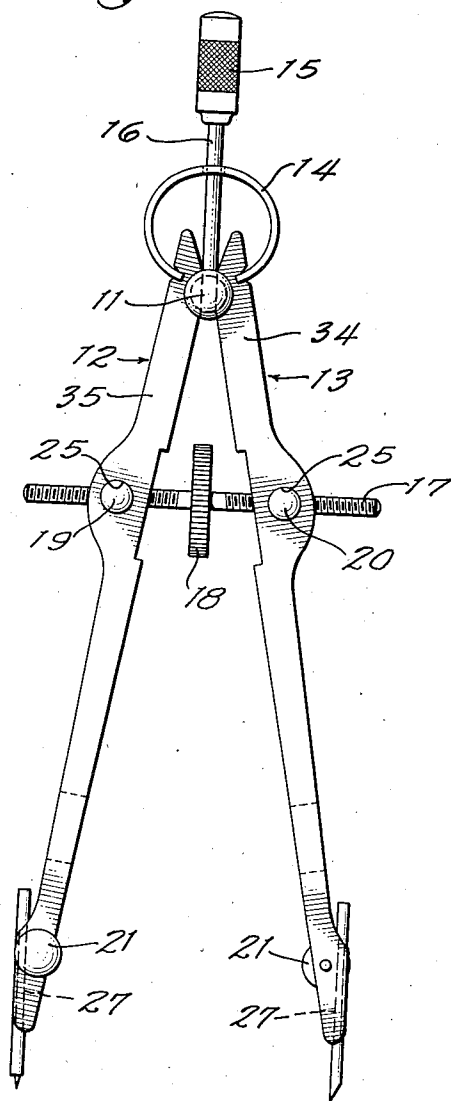
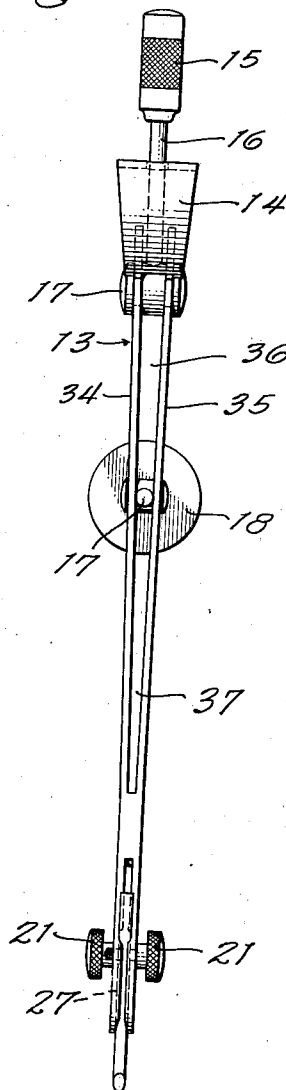


Fig. 2



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2 Sheets-Sheet 2

Fig. 3

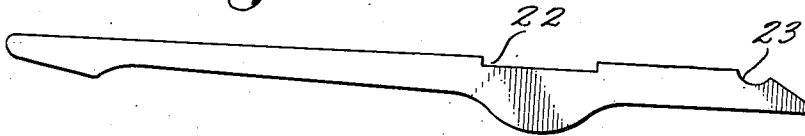


Fig. 4

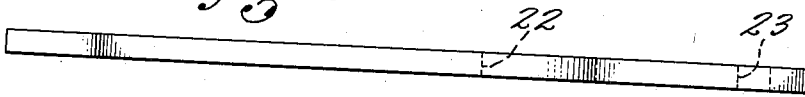


Fig. 5

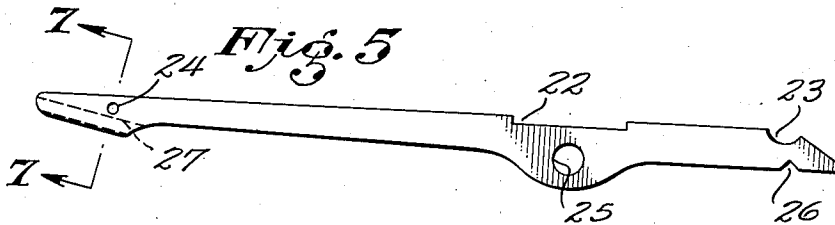


Fig. 6

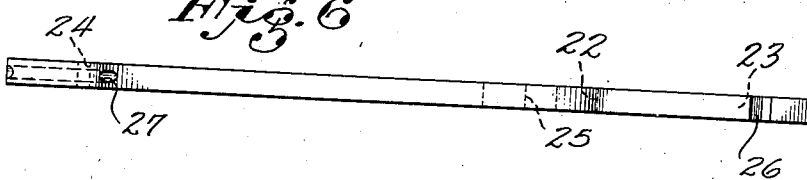


Fig. 8

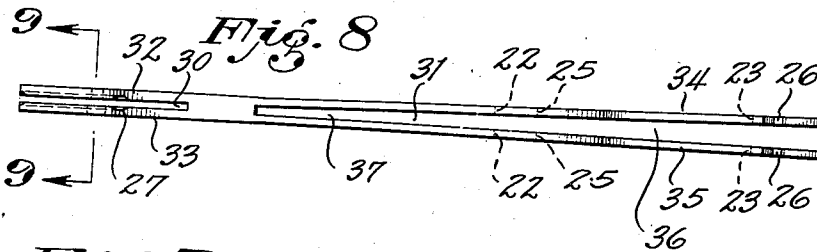


Fig. 7

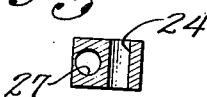
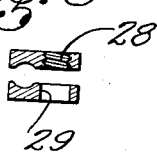


Fig. 9



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UNITED STATES PATENT OFFICE

2,298,000

COMPASS

Floyd G. Eubanks, Pasadena, Calif., assignor of
forty-seven and one-half per cent to Francis
E. Vaughan, Pasadena, Calif., and five per cent
to Robert M. McManigal, Compton, Calif.

Application February 23, 1942, Serial No. 432,001

2 Claims. (Cl. 33—27)

My invention relates to new and useful improvements in compasses.

The object of my invention is to provide compass legs which can easily be machined from press punchings or other simple pieces and which shall function efficiently.

Another object of my invention is to make the compass legs of open truss construction such that each leg can be cut from a single member.

Another object of my invention is to make the compass legs of light weight, particularly when of material not easily welded.

My invention has other objects which will be evident from a study of the following specification read in connection with the accompanying drawings, in which a preferred form of my invention is shown.

Referring to the drawings:

Figure 1 is an upright front view of the compass.

Figure 2 is an upright side view showing the open truss construction of the legs.

Figure 3 is a plan view of one of the punchings before being machined to form a completed leg.

Figure 4 is a side view of the punching shown in Figure 3.

Figure 5 is a plan view of a punching partly machined.

Figure 6 is a side view of the punching shown in Figure 5.

Figure 7 is a section along the line 7—7 in Figure 5.

Figure 8 is a side view of a punching completed as a leg.

Figure 9 is a section along the line 9—9 in Figure 8.

Referring to Figures 1 and 2, the numeral 11 indicates a hinge pin which carries the upper ends of the legs 12 and 13, said legs being held in the grooves of the hinge pin 11 by the C-spring 14. A handle 15 is pressed on the shaft 16 which passes through a hole in the spring 14 and is firmly screwed into the hinge pin 11.

In order to adjust the spread of the compass legs, a center-screw 17 can be turned by means of the thumb-piece 18. The screw threads in 17 are left-handed on one side of the thumb-piece 18 and right-handed on the other. The center screw 17 is articulated with the legs 12 and 13 by means of the cylindrical nuts 19 and 20, respectively. Each of these nuts fits smoothly in holes 25 in the two upper long bifurcations of the corresponding leg. Transverse holes through the nuts 19 and 20 are threaded to receive the

center-screw 17. In passing through each of the nuts, the center screw at the same time passes between the bifurcations of the corresponding leg.

The lower ends of each leg are provided with a clamp operated by the screw 21, which can be used to hold either a pencil lead, or a steel point. The clamp can also be used to hold the tang of a suitably designed pen so that circles may be drawn in ink.

The construction of one of the compass legs is shown in Figures 3 to 9. The compass leg is formed from a single member, which may be a simple stamping as shown in Figures 3 and 4. The stamping may be provided with a recess 22 to admit the thumb-piece 18 when the legs are brought together and with a recess 23 to receive the hinge pin 11.

Figures 5, 6 and 7 show the punching after certain machine operations have been performed. A hole 24 has been drilled, which hole is later finished to receive the thumbscrew 21, a hole 25 has been drilled and reamed to receive one of the cylindrical nuts 20, a recess 26 has been cut to receive the ends of the C-spring 14, and a hole 27 has been drilled to receive a pencil, steel point, or tang of a pen.

Figures 8 and 9 show the completed leg. The hole 24 has been threaded at 28 to receive the threaded part of the thumbscrew 21 and counter-bored at 29 to clear the threads of said thumbscrew. Slots 30 and 31 have been cut to form short bifurcations 32 and 33 and long bifurcations 34 and 35. By tightening the screw 21, the ends of bifurcations 32 and 33 can be brought closer together to clamp upon the object introduced into the hole 27.

The long bifurcations 34 and 35 are spread apart so that the hole 25 receives the cylindrical nuts 19 and 20 through which passes the center-screw 17, as is shown in Figures 1 and 2. These figures also show clearly how the recess 23, now separated into two parts, on the long bifurcations 34 and 35, is received in the grooves of the hinge pin 11 and held there by the C-spring 14.

It is clear from Figure 2 that the long bifurcations, 34 and 35, separated at their upper ends and held in position against the hinge pin 11, enclose a triangular space 36—37 and provide a compass leg of open-truss structure of great strength and light weight.

Other advantages and the use and operation of the compasses of my invention will be readily understood by those skilled in the art to which the invention appertains. While I have described

the form of my invention which I now consider to be the best embodiment thereof, I desire to have it understood that the form shown is merely illustrative and that the invention is not to be limited to the details disclosed herein, but is to be accorded the full scope of the appended claims. I claim:

1. A compass comprising a pair of legs hinged at their upper ends and an adjusting screw engaging each of said legs intermediate the ends thereof to control the spread of the lower ends of said legs, each of said legs being a unitary member bifurcated from a point below said adjusting screw to its upper end, the bifurcations of each leg diverging into spaced relationship at their

upper ends to thus form legs of open truss construction.

2. A compass comprising a pair of legs, a hinge pin engaging the upper ends of said legs, an adjusting screw engaging each of said legs intermediate the ends thereof to control the spread of the lower ends of said legs, one of said legs being a unitary member bifurcated from a point below said adjusting screw to its upper end, said bifurcations diverging upwardly and engaging said hinge pin in spaced relationship, and a spring member engaging said legs adjacent said hinge pin and arranged to retain said legs in engagement with said hinge pin.

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