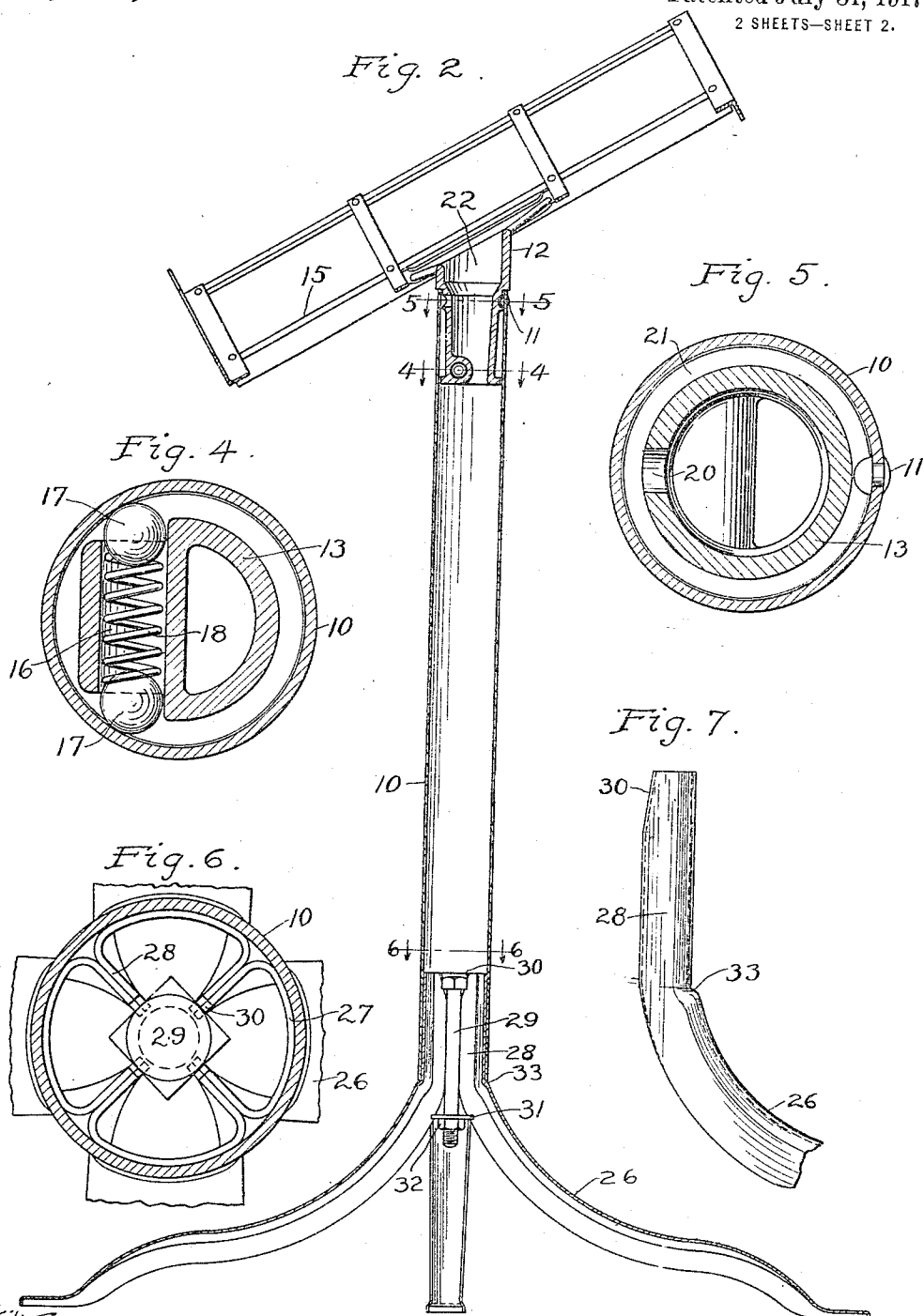


1,235,295

Patented July 31, 1917.
2 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

NELSON DE LONG, OF CHICAGO, ILLINOIS.

STAND.

1,235,295.

Specification of Letters Patent. Patented July 31, 1917.

Application filed March 13, 1914. Serial No. 824,357.

To all whom it may concern:

Be it known that I, NELSON DE LONG, a citizen of the United States of America, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Stands, of which the following is a specification.

My invention relates to stands suitable for supporting books or articles to be displayed, and has for its object the improvement in such devices. The stand is of the knock-down type in that the top and legs may be easily removed from the standard and may again be connected in place.

In the accompanying drawings:—

Figure 1 is an elevation;

Fig. 2 is a central sectional elevation on an enlarged scale and at right angles to Fig. 1;

Fig. 3 is an enlarged central section of the rack and upper end of the standards, the cap and its holding devices being in elevation.

Fig. 4 is a section on line 4—4 of Figs. 2 and 3;

Fig. 5 is a section on line 5—5 of Figs. 2 and 3;

Fig. 6 is a section on line 6—6 of Fig. 2; and

Fig. 7 is an enlarged detail of the upper end of one of the legs.

The standard 10 consists of a plain piece of tubing having a small hole in its wall at the upper end for the reception of a rivet 11. A table holding casting or cap 12 rests on the top end of the standard 10 and has its portion 13 projecting down into the tube 10, and a branching portion 14 for holding a table or display rack 15. The rack 15 is mounted directly upon angle irons 35 which are secured to the cap 12 by screws 36 (Fig. 1). One of the holes for the screw 36 is shown at 37 in Fig. 3.

Through the lower part of the projection 13, and a little off the center thereof, is a transverse opening 16 within which are two balls 17 and a spring 18. The spring presses the balls outward against the inner wall of the standard so that the said balls and the opposite edge of the flange 19 make a snug bearing in the standard. The flange 19 is slightly below the balls, and the balls and the edge of the flange opposite the balls make a three point bearing on the walls of the standard. This bearing, owing to the yielding nature of the spring, always main-

tains a good fit irrespective of irregularities in the tube and irrespective of wear which occurs by reason of turning the table with respect to the standard 10. A bearing made in this way is a friction bearing which acts to hold the cap 12 from turning but at the same time permits it to turn by the application of a moderate force.

The projection 13, of the casting 12, is hollow and has an opening 20 which connects the interior with an outer groove 21 which fits the rivet 11. By placing the cap 12 in position and turning it until the opening 20 is in line with the hole in the tube 10 which is to receive the rivet 11, said rivet may be inserted in place by passing it downward through the upper opening 22 and thence laterally through the opening 20 into position. It may then be riveted on the outside, leaving the main rivet head inward to fit in the groove 21 and prevent the cap 12 and standard 10 from separating when the table is grasped to lift the stand.

In ordinary stands the only way to remove the casting 12 from the standard 10 would be by turning the casting 12 to bring the opening 20 in line with the rivet 11, and then driving the rivet inward. In stands, however, which it is desired to take apart frequently I cut a notch 23 in the flange 24 of groove 21, and another notch 25 in flange 19. These notches are made large enough to pass the head of the rivet 11 and are offset with respect to each other so that it requires a bayonet lock movement to release the cap 12 from the standard 10.

The legs 26 may be castings but are preferably made of sheet metal bent to the form illustrated and inserted in the lower end of the tube 10. As shown in Fig. 6, the upper ends of the legs 27 fit together as hollow sectors of a circle which corresponds to the inner surface of the tube. The abutting sides 28 of the sectors extend radially toward and close to a central bolt 29. The upper ends of these sides 28 are beveled as shown at 30 in Figs. 2 and 6, and the head of the bolt 29 rests on these beveled faces so that when the bolt is drawn downward the head acts to spread the top ends of the legs and thus clamp them to the interior face of the standard 10. A washer 31 rests against the inclined inner faces of the legs, and a nut 32 serves to draw the bolt 29 downward with any desired degree of force. Shoulders 33 formed on the outer faces of the legs

serve to determine the distance which the legs are inserted in the standard, and also serve as a stop or support to carry the load of the stand. It will be obvious that by removing the nut 32 and pushing the bolt 29 inward, the legs will be freed from the clamping action of the bolt and can readily be removed. By using four legs there are four inclined surfaces 30, and an ordinary square head bolt will rest on these faces without turning when the nut 32 is tightened. Because the washer 31 bears against inclined faces as well as the head of the bolt 29, there is an expanding action both above and below as the result of tightening the nut 32.

What I claim is:

1. A tubular standard, a supporting cap projecting downward into the standard and having a transverse opening therein, balls located in said opening, and a spring between said balls and serving to force said balls against the inner wall of said standard.

2. A tubular standard, a supporting cap projecting downward into the standard, a bearing consisting of one part of the projection on said cap and two balls carried by the cap, and a spring serving to hold said part and said balls in contact with the inner surface of said standard.

3. A tubular standard, a cap resting on the upper end of the standard and having a hollow projection extending downward into the tube, and a holding device secured to the tube and engaging the projection, said projection having a lateral opening through which the holding device may be passed from the interior of the projection to position in the tube after the cap is mounted upon the standard.

Signed at Chicago, Illinois, this 11th day of March, 1914.

NELSON DE LONG.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."