

No. 744,169.

PATENTED NOV. 17, 1903.

M. G. DANIELS.
CASTER.

APPLICATION FILED OCT. 10, 1902.

NO MODEL.

Fig. 1.

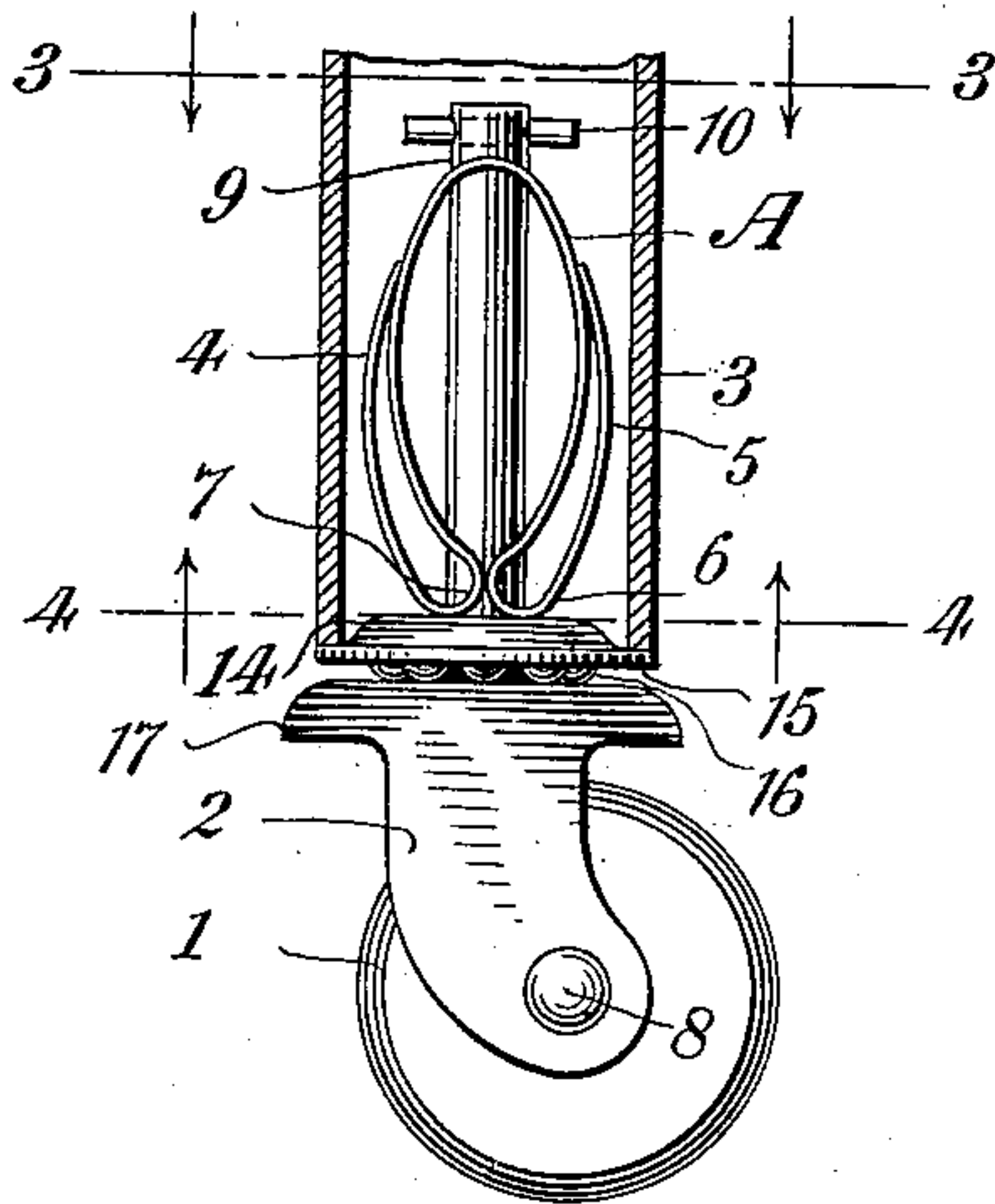


Fig. 2.

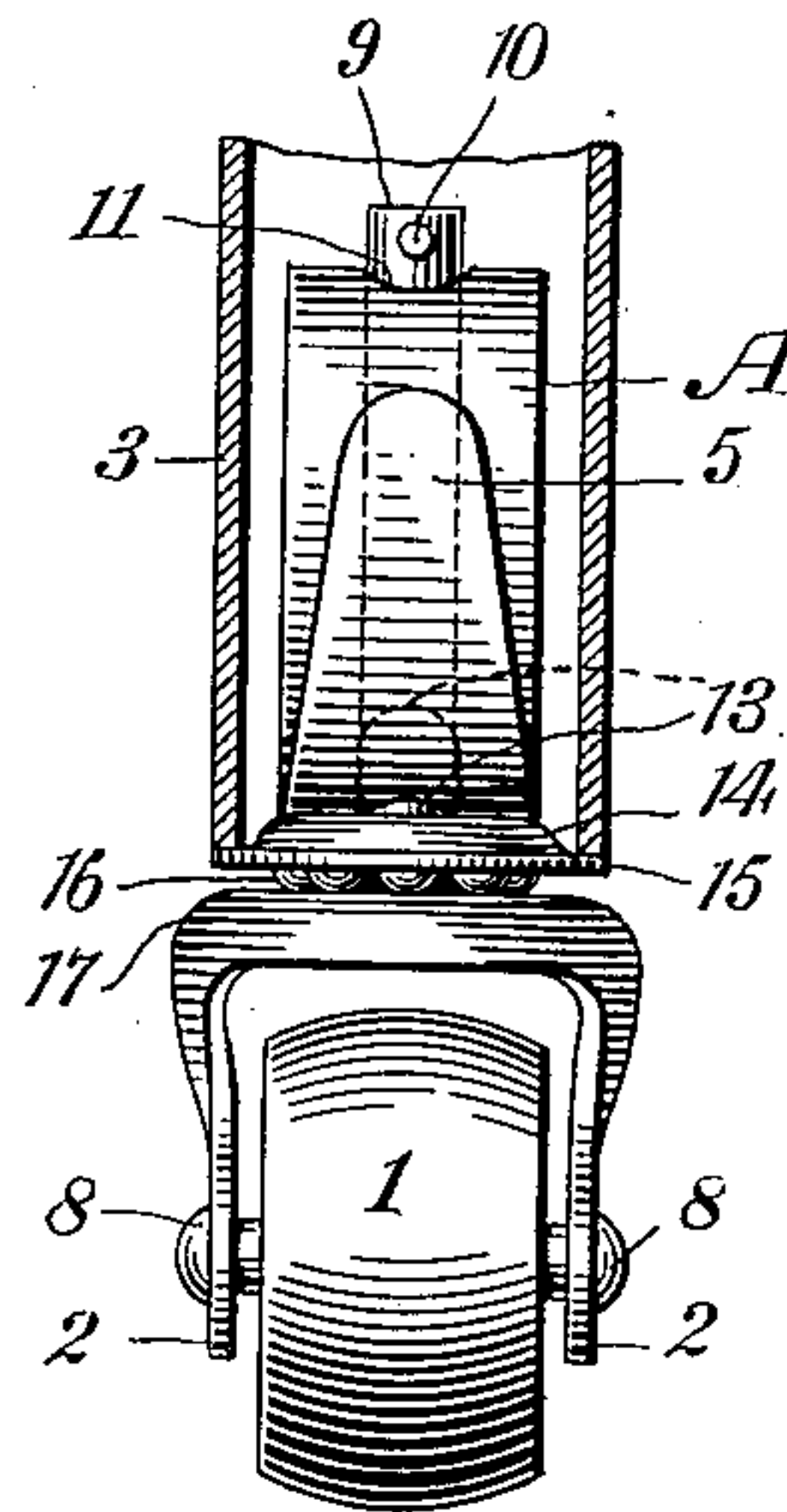


Fig. 3.

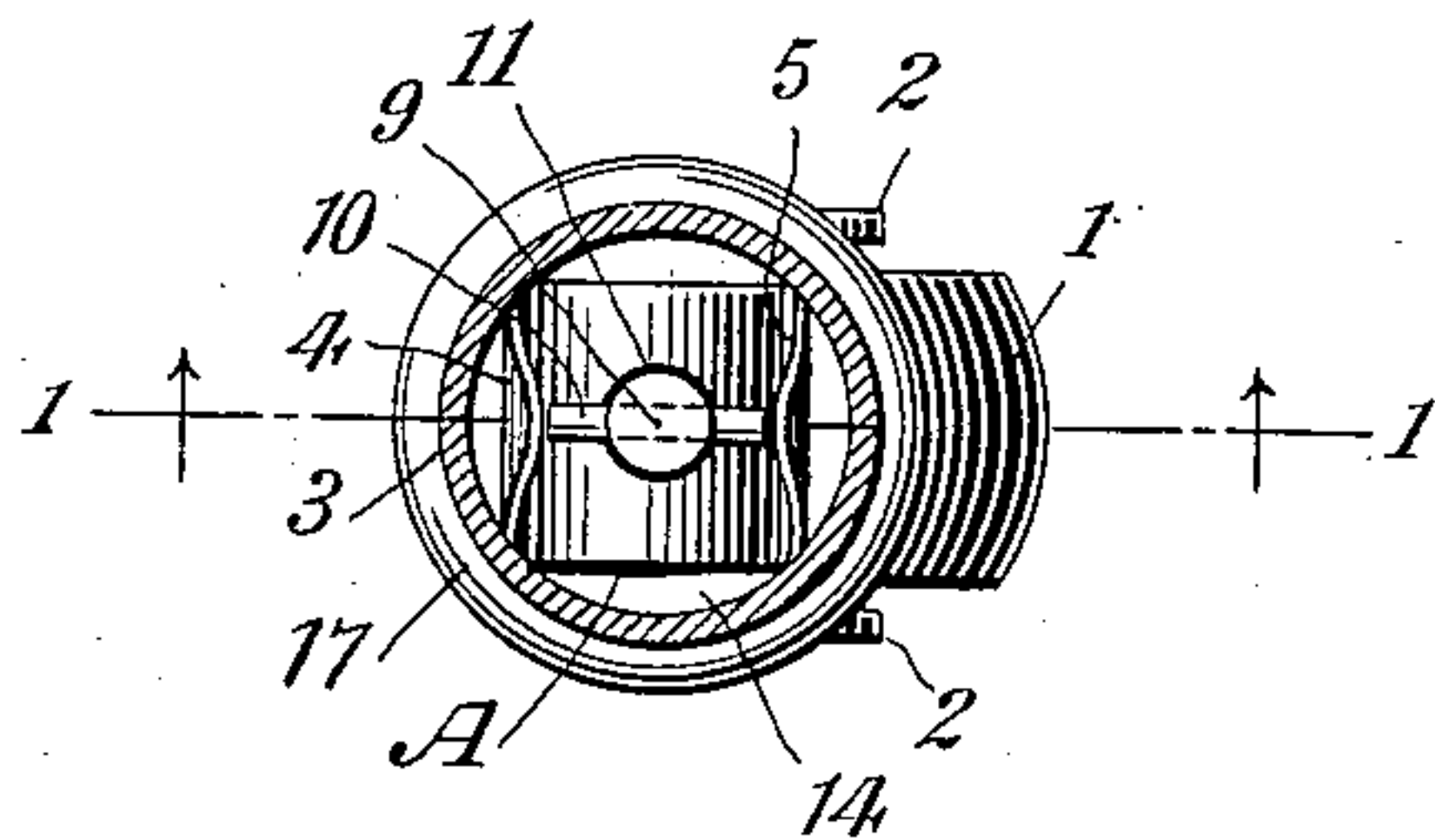


Fig. 4.

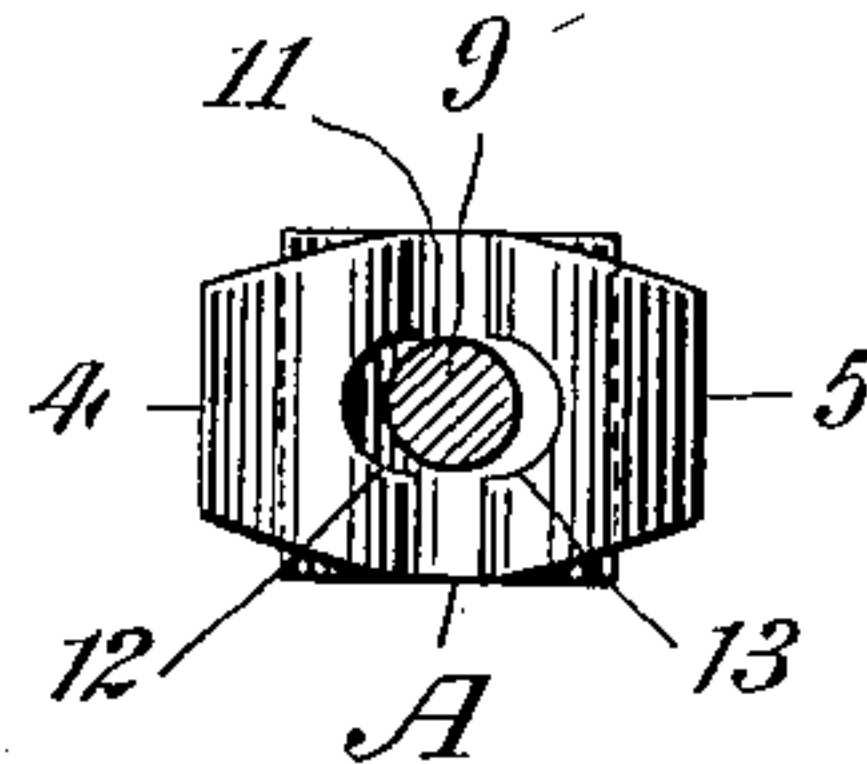
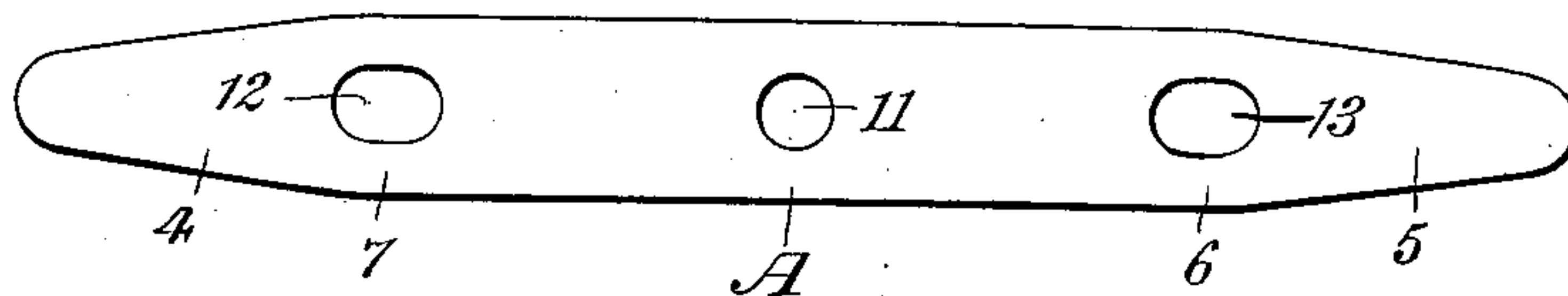


Fig. 5.



WITNESSES:

C. E. Ashley
John French

INVENTOR:

Merwin G. Daniels
By his Attorney
William Parker Butler

UNITED STATES PATENT OFFICE.

MERWIN G. DANIELS, OF NEW YORK, N. Y., ASSIGNOR TO STANDARD
CASTER AND WHEEL COMPANY, A CORPORATION OF WEST VIR-
GINIA.

CASTER.

SPECIFICATION forming part of Letters Patent No. 744,169, dated November 17, 1903.

Application filed October 10, 1902. Serial No. 126,643. (No model.)

To all whom it may concern:

Be it known that I, MERWIN G. DANIELS, a citizen of the United States of America, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Casters, of which the following is a specification.

My invention relates to an improvement in casters, particularly to that class of casters in which the pintle of the caster is held within the tubular leg of the piece of furniture by means of a metal frame, which bridges over a considerable space in the metallic tubular leg and holds the caster in said leg frictionally. Many devices have been constructed for accomplishing this purpose; but in the majority of cases the metal frame consists of a rectangular spring-frame spanning the pintle at both ends of the pintle and capable only of a very slight lateral compression, which is not sufficient to adapt the casters to the actual variations in sizes of tubular legs having the same nominal size which is found to exist in practice.

My invention consists in providing for the pintle an oval-shaped retaining-frame bent up from a single piece of sheet metal, crossing the pintle at its upper end only, and the ends of which frame are of less width than the central portion and are folded back on the main body of the frame, so as to form a double spring providing eight bearing-points for the frame against the tubular leg instead of four as in the ordinary rectangular spring-frame and also by apertures cut at the point where the bend of the wings occurs, providing a bearing for the lower end of the pintle when it is inserted in the tubular leg and the wings are compressed.

My invention will best be understood by reference to the accompanying sheet of drawings, in which—

Figure 1 is a sectional view on the lines 1 1 of Fig. 3. Fig. 2 is a front elevation of the pintle-retaining frame, shown in section, of a tubular leg; Fig. 3, a cross-section on the lines 3 3 of Fig. 1; Fig. 4, a cross-section on the lines 4 4 of Fig. 1, and Fig. 5 is a view of the blank from which the retainer is formed.

Similar letters refer to similar parts throughout the several figures.

In the drawings, 1 represents an ordinary caster-wheel rotating in the horn 2 on the pin 8, from the top of which the pintle 9 rises vertically. 3 is the tubular leg of the piece of furniture, of sufficient diameter to admit the pintle and its retaining-frame. In the drawings an ordinary ball-bearing caster is shown, the balls being held between the top of the horn 17 and the ball-cup 14. All of these parts are of ordinary form and construction.

The pintle-retaining frame forming the subject-matter of the invention consists of a piece of sheet metal A, which is bent up in the oval form shown in Figs. 1, 2, 3, and 4. The shape of this blank is shown in Fig. 5, the width of the blank being uniform throughout the greater part of its length and tapering away at both ends. This blank A is provided with three apertures 11, 12, and 13, of which the aperture 11 is cut in the center of the blank and is circular in shape and of sufficient size to admit the pintle, and the apertures 12 and 13 are cut at points midway between the aperture 11 and the ends of the blank and are oval in shape, as shown in Fig. 5. When the pintle, with its retaining-frame, is inserted in the tubular leg of the piece of furniture, the two wings of the retaining-frame are forced together at the two points 6 and 7 and furnish a second or lower bearing for the pintle at its lower extremity by means of the apertures 12 and 13 coming opposite each other at their central points, where the blank is folded, thereby holding the pintle in an upright position and preventing its tilting in the leg. The chief distinguishing features of the retaining-frame, however, are the manner in which it encircles the pintle and the shape of the spring-frame which it forms. The blank is first folded at its central point in an oval shape, and the two tapering ends are folded back upon the main portion of the frame at the points 6 and 7, following the line of curvature of the main body. From this construction it follows that when the pintle, with its retaining-frame, is forced up into the tubular leg of a piece of furniture the sides of the main body of the frame bear against the bore of the leg for a short space only at a point midway between the aperture 11 and the aper-

tures 12 and 13, and the two tapering ends form an additional bearing against the bore of the leg within the bearing formed by the main wings of the retainer for a space somewhat in excess of the bearing-surface of the main wing of the frame, thus giving a double bearing-surface, which holds the pintle in the tubular leg much more firmly and which allows of the blank being of lighter material, and is better adapted to the variations in sizes of the tubular legs, as the oval form of the spring-retainer gives a larger range of compressibility.

I claim as my invention—

1. The hereinbefore-described pintle-retainer for casters formed of a rectangular strip of sheet metal tapering at each end, so folded across the pintle that the central portion of the retainer spans it at its upper end and forms two wings extending downward and forming on either side a spring bearing against the bore of the leg of furniture opposite the central portion of the pintle, which wings are so folded back upon themselves as to engage with the pintle at the base and to form secondary wings, which extend upward

and form a second spring bearing on either side against the inner bore of the leg.

2. The hereinbefore-described pintle-retainer for casters formed of a rectangular strip of sheet metal tapering at each end, so folded across the pintle that the central portion of the retainer spans it at its upper end and forms two wings extending downward and forming on either side a spring bearing against the bore of the leg of furniture opposite the central portion of the pintle, which wings are so folded back upon themselves as to engage with the pintle at the base by apertures cut in said wings, and to form two secondary wings, which extend upward and form a second spring bearing on either side against the inner bore of the leg.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 7th day of August, 1902.

MERWIN G. DANIELS.

Witnesses:

ANTHONY F. BURKE,
GEORGE WALTERS.