

No. 713,082.

Patented Nov. 11, 1902.

M. FISHEL.
CASTER.

(Application filed Nov. 30, 1901.)

(No Model.)

Fig. 1.

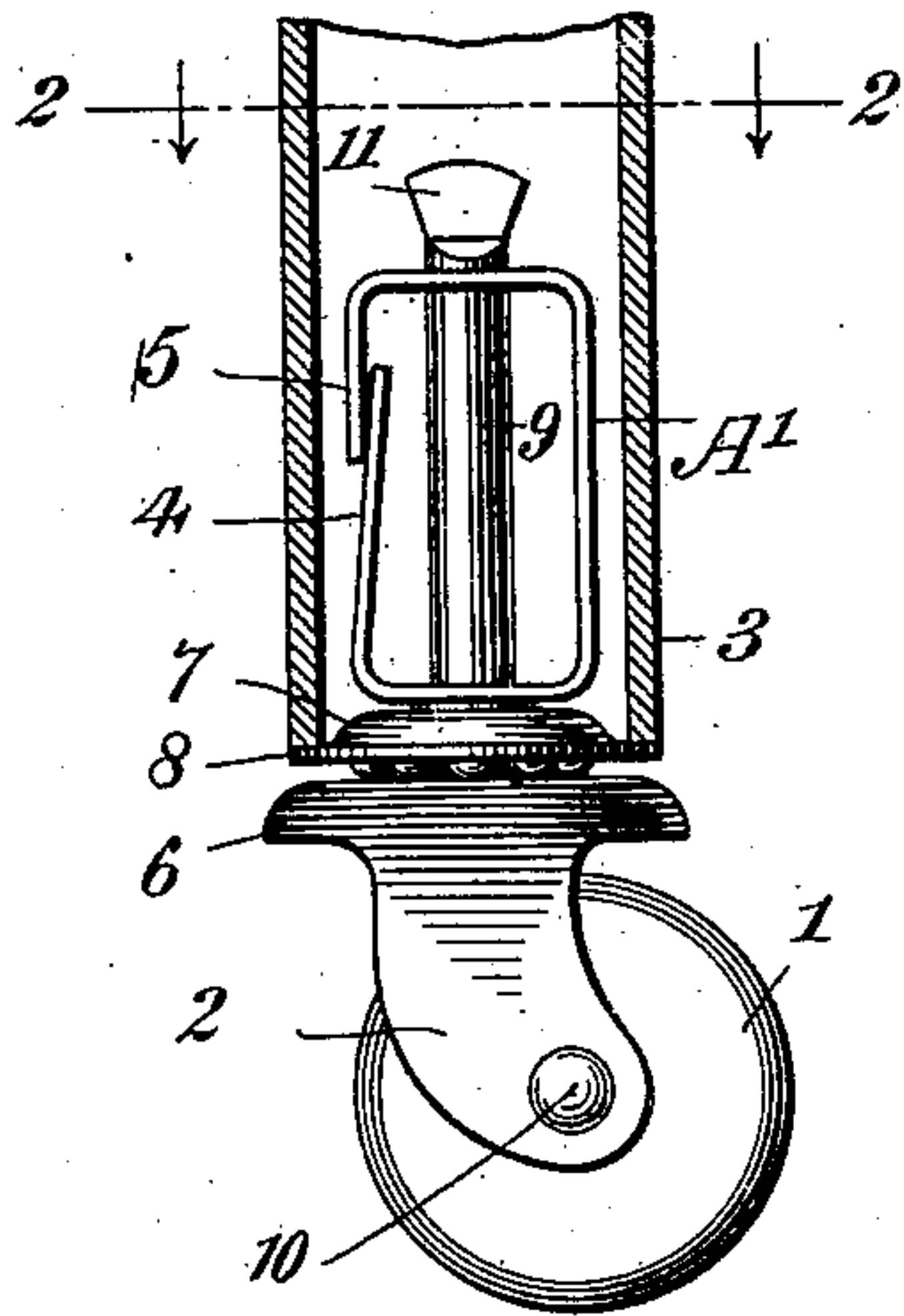


Fig. 6.

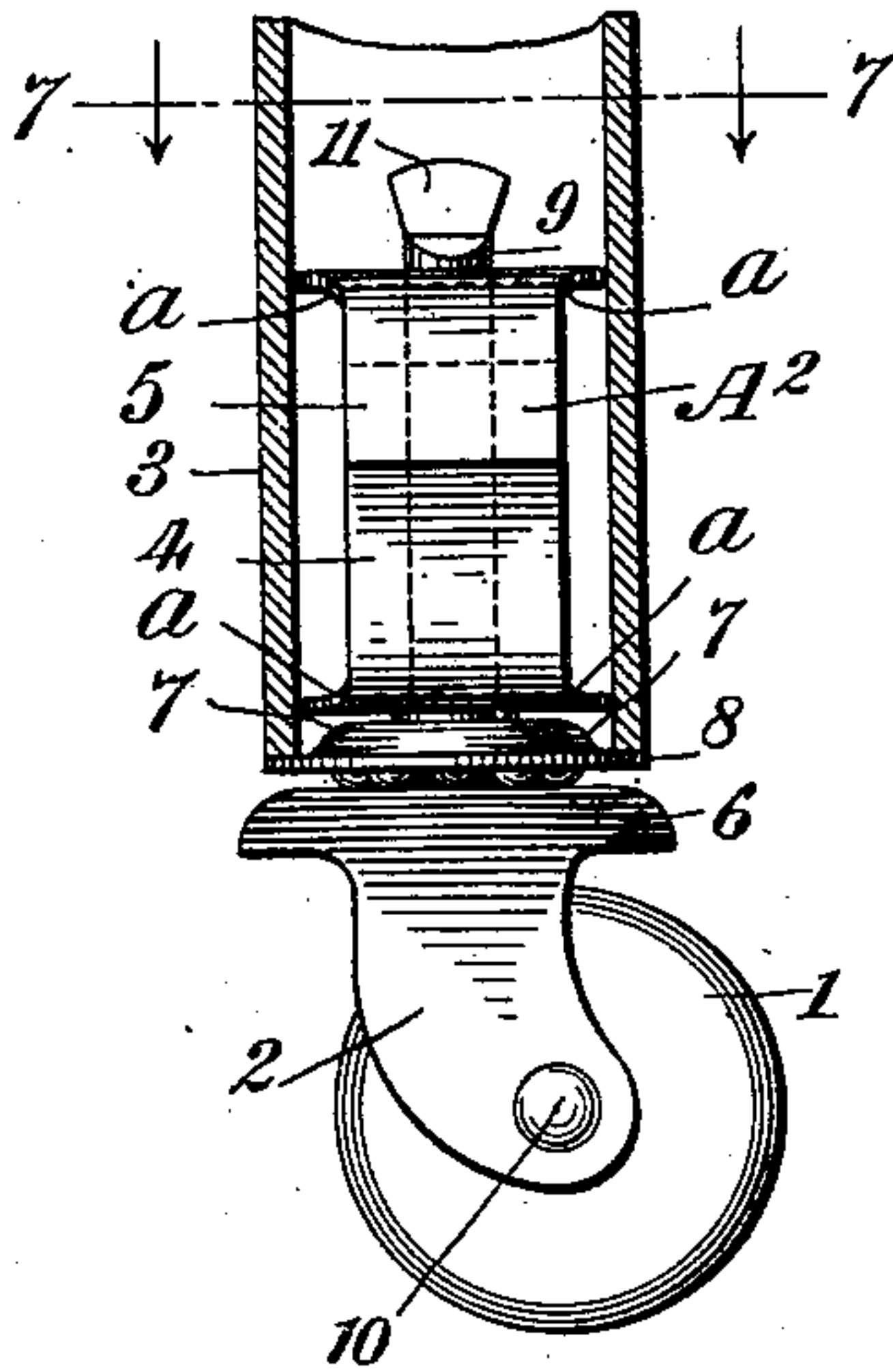


Fig. 2.

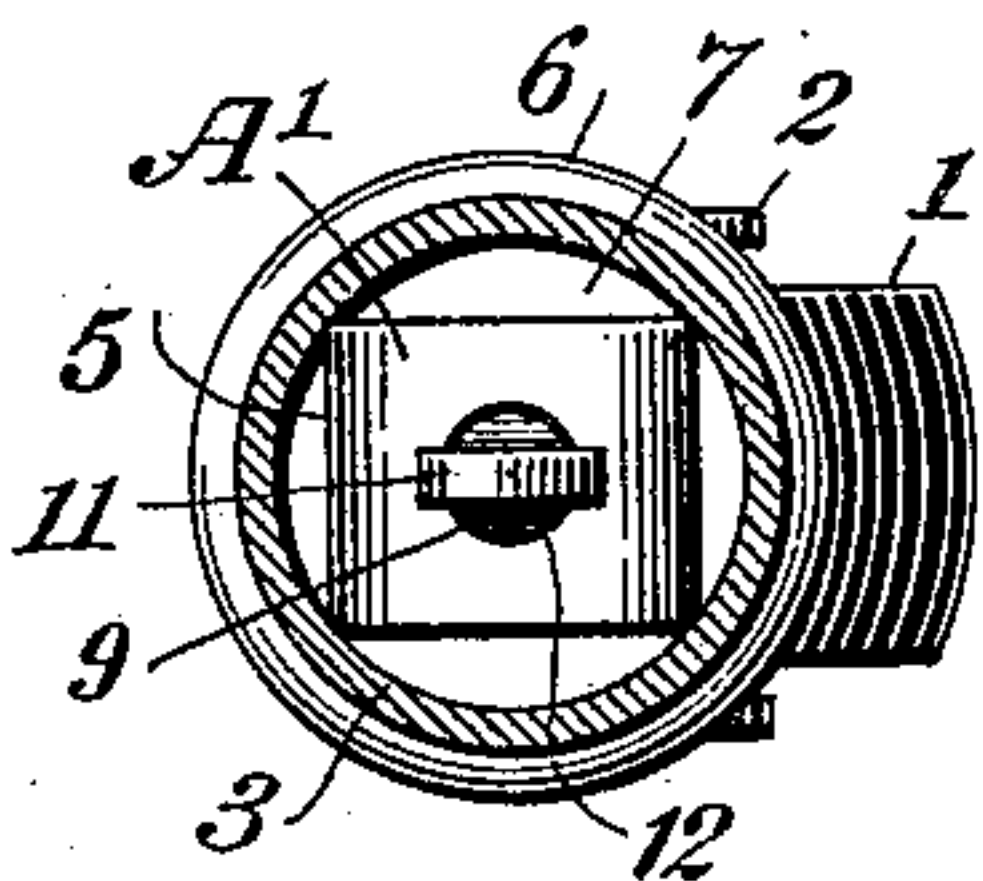


Fig. 7.

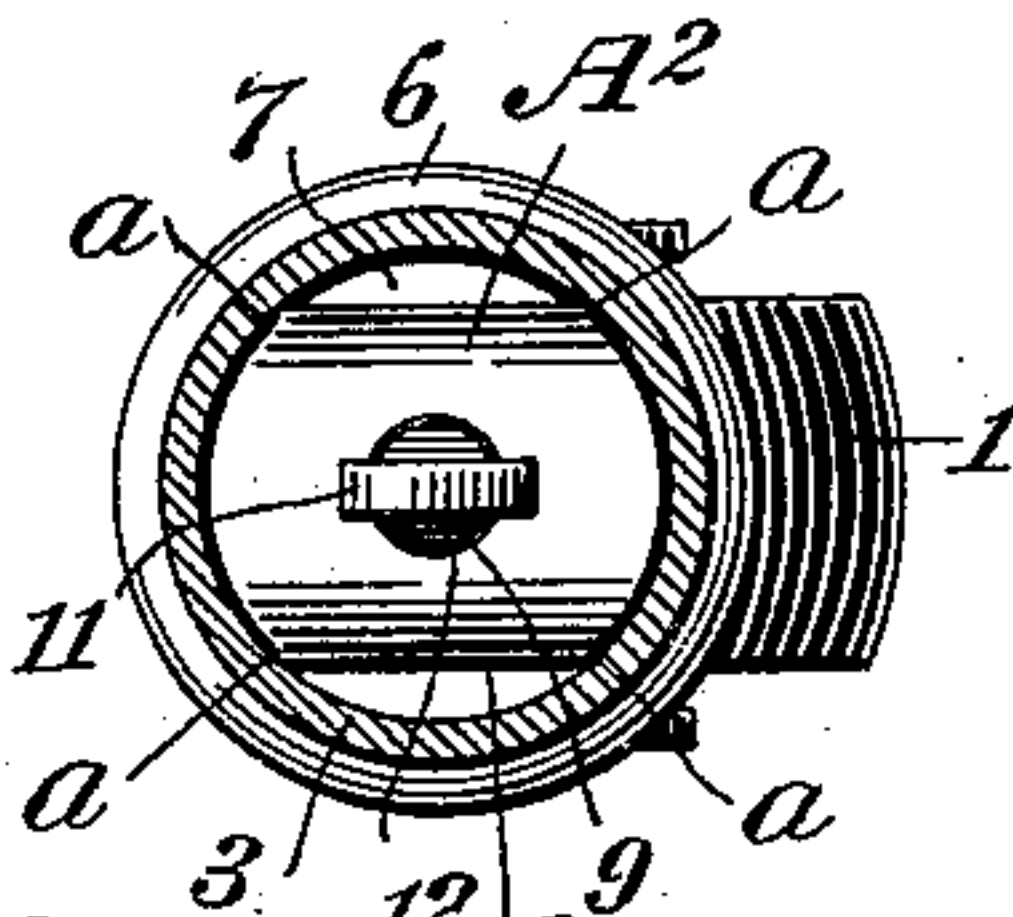


Fig. 4.

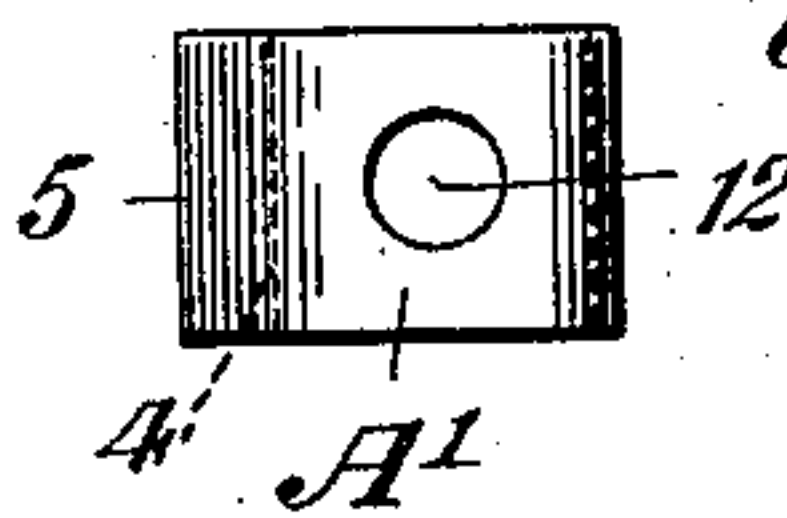


Fig. 3.

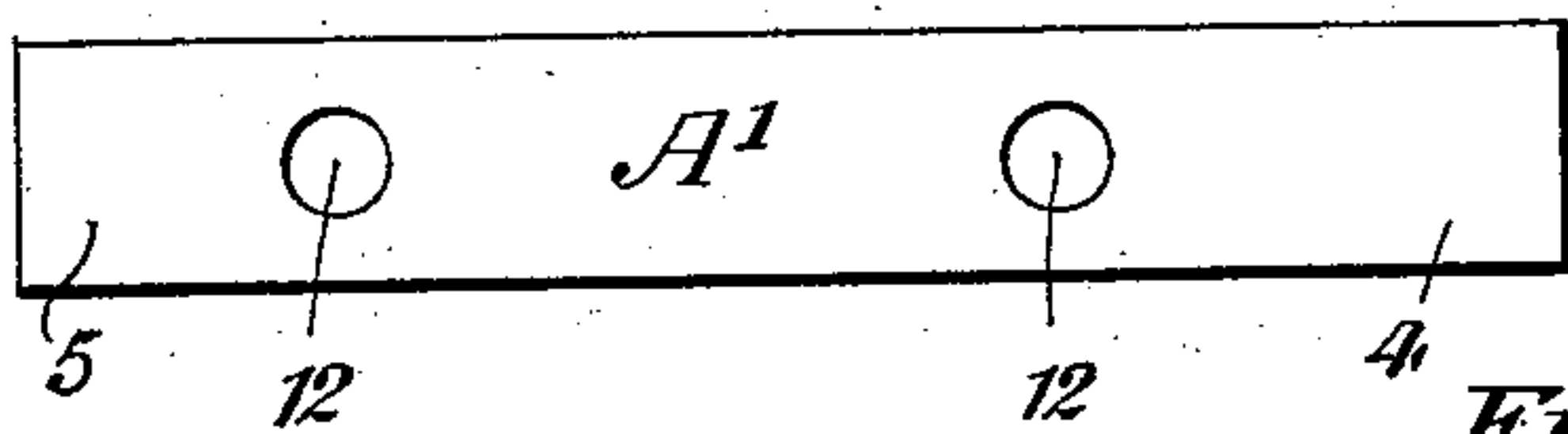


Fig. 8.

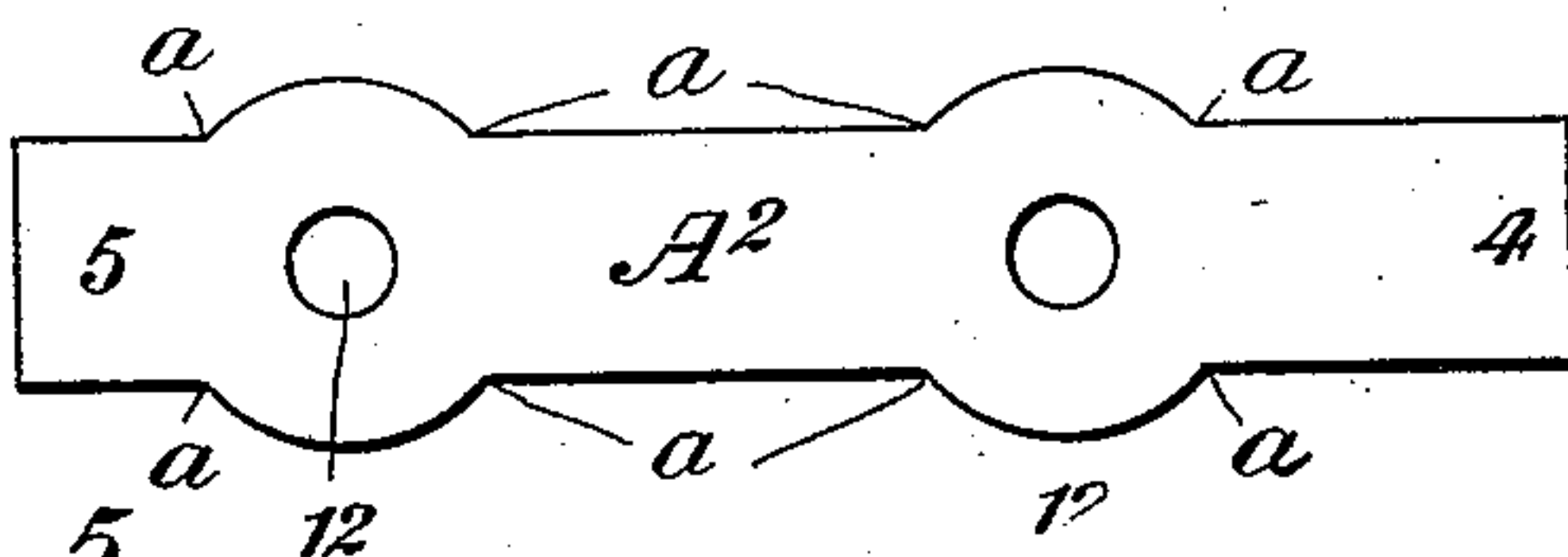
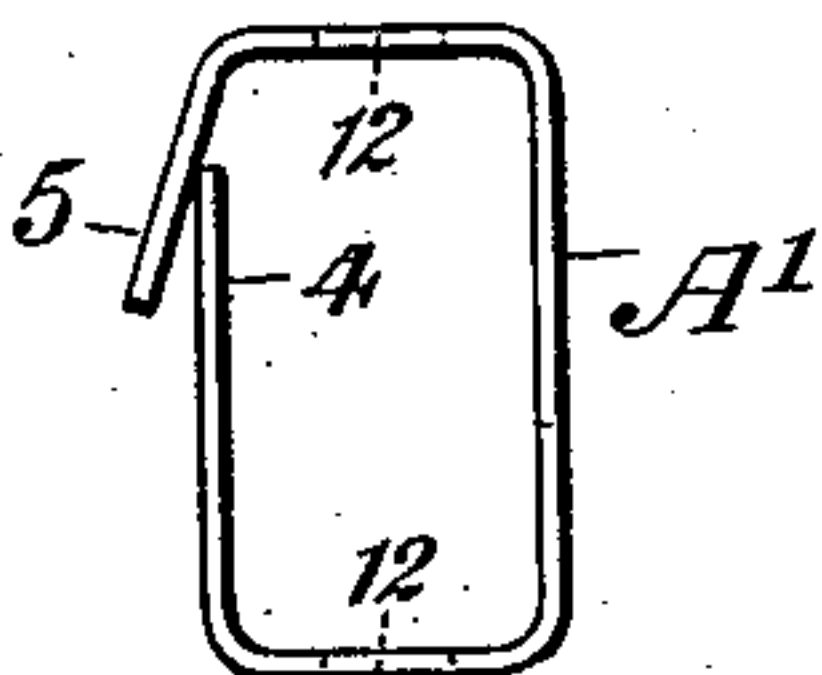


Fig. 5.



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UNITED STATES PATENT OFFICE.

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CASTER.

SPECIFICATION forming part of Letters Patent No. 713,082, dated November 11, 1902.

Application filed November 30, 1901. Serial No. 84,180. (No model.)

To all whom it may concern:

Be it known that I, MARK FISHEL, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Pintle-Retainers for Casters, of which the following is a specification.

My invention relates to an improvement in casters, particularly that class of casters in which the pintle of the caster fits into a metallic frame inserted in the leg of a piece of furniture and is held therein frictionally. In the ordinary construction of casters or caster-sockets of this type the pintle is surrounded at the top and at the bottom with pieces or plates of sheet metal, which serve to center the pintle and hold it in an upright position, and a variety of devices is employed either by a variety of constructions, which devices serve as springs for retaining the pintle in metallic tubes. All of these constructions are more or less expensive and more or less inefficient, for the reason that they do not afford sufficient frictional holding-surface for the pintle and are not adapted to fit different-sized tubular legs.

It is well known that tubular legs of the supposed same size vary considerably in the diameter of the inner tube, and consequently require in the forms now in use a variety of sizes to fit these variations. My invention does away with this by providing a frame adapted to fit different tubular legs varying in size within reasonable limits; and it consists in providing for the pintle a rectangular retaining-frame rigid on one side, with a double spring on the other side, and having an opening at the top and bottom, and bent up from a single piece of steel, so as to form interiorly two horizontal bearings for supporting the pintle in the tube, and a spring on one side which bears against the inner surface of the metallic tube in which the device is inserted, thus forcing the rigid side of the frame against the opposite side of the inner metallic tube, and thus holding the pintle of the caster within the tube by reason of the friction between its surface and that of the retaining-frame at the points of contact.

The invention will be best understood by

reference to the accompanying sheet of drawings, forming a part of this specification, in which—

Figure 1 is a vertical elevation of a caster provided with one form of my pintle-retaining frame. Fig. 2 is a sectional view looking downward on the line 2 2 of Fig. 1. Fig. 3 is the blank from which the retaining-frame is made; and Figs. 4 and 5 are respectively a plan view and an elevation of the blank after it is shaped up, but before it is inserted in the furniture-leg. Fig. 6 is a vertical section of a modification, and Fig. 7 is a cross-section of such modification on the line 7 7 of Fig. 6. Fig. 8 is a plan view of the blank from which this form is made.

Similar characters refer to similar parts throughout the several views.

In the drawings, 1 represents an ordinary caster-wheel rotating in the horn 2 on the pin 10, from the top of which the pintle rises vertically. 3 represents the tubular leg of the piece of furniture or metallic tube inserted therein. It is made of iron or other metal and is of sufficient diameter to admit the retaining-frame of the pintle. In Figs. 1, 2, 3, 4, and 5 A' represents a strip of steel, which is bent up to form the pintle-frame in the manner hereinafter described. In all the figures a ball-bearing caster is shown, the balls being held between the top of the horn 6 and the beveled ball-cup 7. All of these parts are of the ordinary form and construction, and obviously other forms of caster than the one shown here can be used.

The pintle-retaining device forming the subject-matter of the present invention consists of a piece of sheet metal A', which is bent up in the form shown in Figs. 4 and 5. It is provided with two holes 12 12, and when it is bent up these holes form vertical cylindrical bearings, which surround the pintle tightly, and the frame is capable of holding the pintle in an upright position. The two ends 4 and 5, respectively, of the strip A' are bent upward and downward in the manner shown in Figs. 4 and 5, thus forming a double spring, the outer end of which will impinge against the inner surface of the tube, thus forcing the sharp edges of the opposite rigid side of the frame into contact with the

opposite inner surface of the tube and frictionally hold the frame in the manner shown in Figs. 1 and 2, the shorter end of the frame A' being after insertion forced downward into a position practically parallel to the rigid side of the frame, as shown in Fig. 1, or nearly so, according to the variations in size of the inner tube.

In order that the pintle may be more nearly centered than will always be the case above described, the construction of the form of a pintle-retaining frame shown in Figs. 6, 7, and 8 may be employed. In this case a blank of the form shown in Fig. 8 is used, the sides of which are extended outwardly and curved between the points *a a* around the openings 12, as shown, the diameter of the curved portions being such that when the blank is formed up the curved portions will furnish a larger frictional surface within the tubular leg, and thus center the pintle more efficiently. When formed up, the frame takes the form shown in Fig. 6, and the portions *a a* impinge against the inner surface of the tubular leg at the top and bottom, as there shown, and operate to more nearly center the pintle, while at the same time the frame holds the caster within the leg in the same manner as before.

I claim as my invention—

1. The herein-described pintle-retainer for casters, formed of sheet metal, and comprising the upper and lower horizontal apertured ends, the connecting side perpendicular to said ends and adapted at its edges to bear throughout its length against the bore of a leg of furniture, and compressible tongues or terminals located at and extending from the opposite sides of said horizontal apertured ends, whereby when compressed in said bore the tongues or terminals serve to force the opposite bearing edges of the said connecting side into frictional contact with the wall of said bore.

2. The herein-described pintle-retainer for

casters, formed of sheet metal, and comprising the upper and lower horizontal apertured ends, the connecting side perpendicular to said ends and adapted at its edges to bear throughout its length against the bore of a leg of furniture, and compressible tongues or terminals oppositely and outwardly disposed from the said horizontal apertured ends and overlapped and adapted when the pintle-retainer is in position to combine to force the said retainer laterally, whereby the said connecting side has its opposite edges forced into frictional contact with the said bore.

3. The herein-described pintle-retainer for casters, formed of sheet metal, and comprising the upper and lower horizontal apertured ends, a connecting side perpendicular to said ends and adapted to bear against the bore of a leg of furniture and compressible tongues or terminals outwardly disposed from said apertured ends and adapted when the pintle-retainer is in position to force the said retainer laterally, whereby said connecting side is forced into frictional contact with the bore.

4. The herein-described pintle-retainer for casters, formed of sheet metal, and comprising the upper and lower horizontal apertured ends, a connecting side perpendicular to said ends and adapted to bear against the bore of a leg of a piece of furniture, and means located at the opposite side of the retainer from said connecting side whereby when the retainer is seated within the bore the said retainer is forced laterally and the connecting side brought into frictional contact with the said bore throughout substantially the entire length of said connecting side.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 29th day of November, 1901.

MARK FISHEL.

Witnesses:

WILLARD PARKER BUTLER,
CHARLES ENGEL.