

No. 824,619.

PATENTED JUNE 26, 1906.

T. & A. E. BOURNE.

CASTER.

APPLICATION FILED OCT. 20, 1905.

Fig. 1.

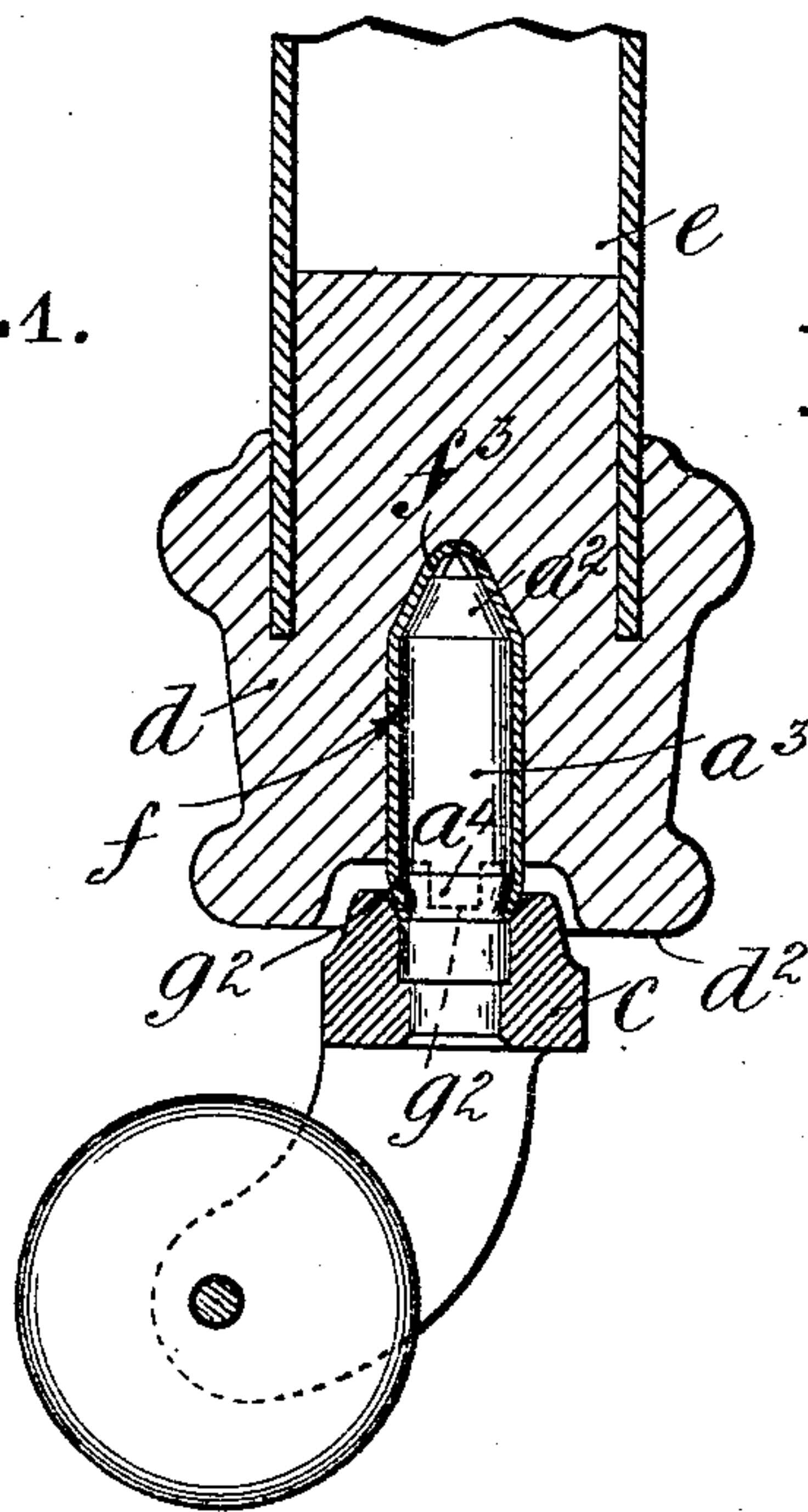


Fig. 2.

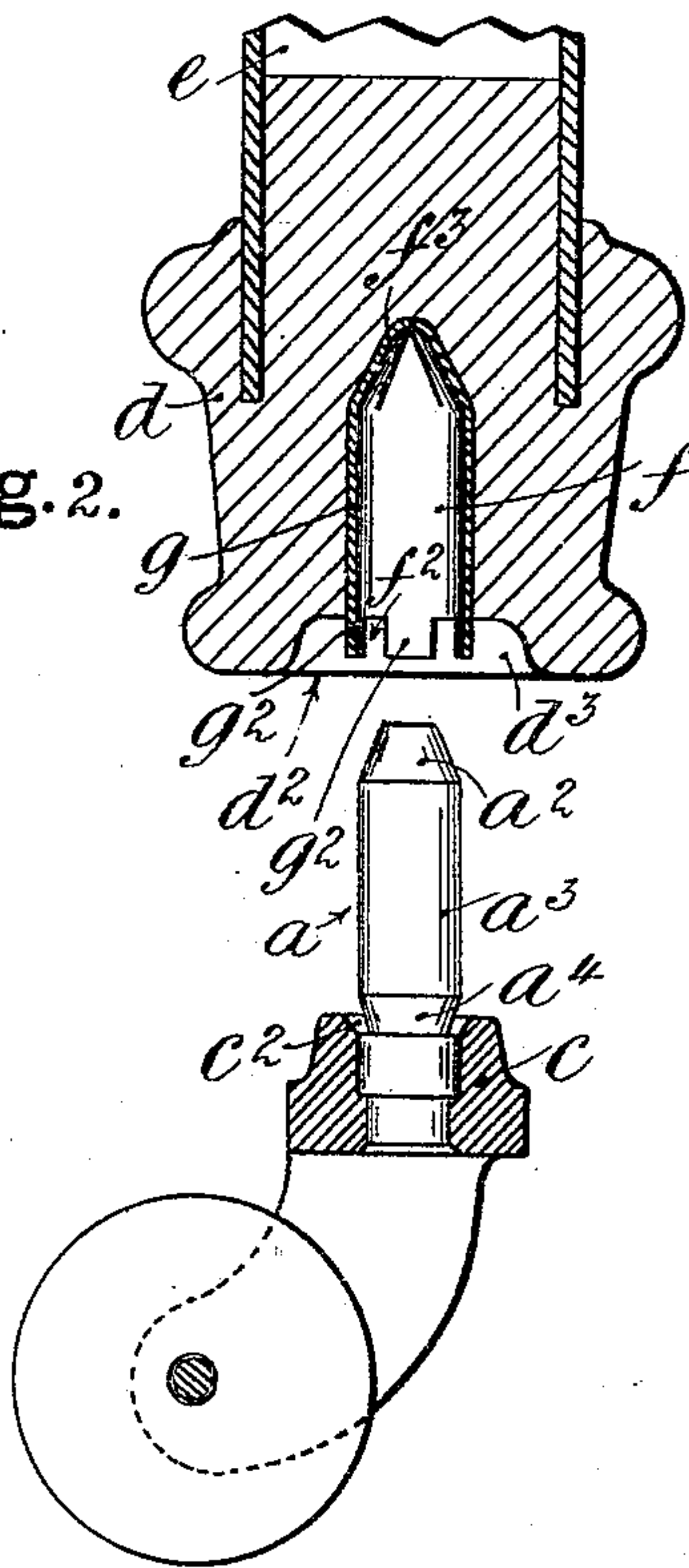


Fig. 3.

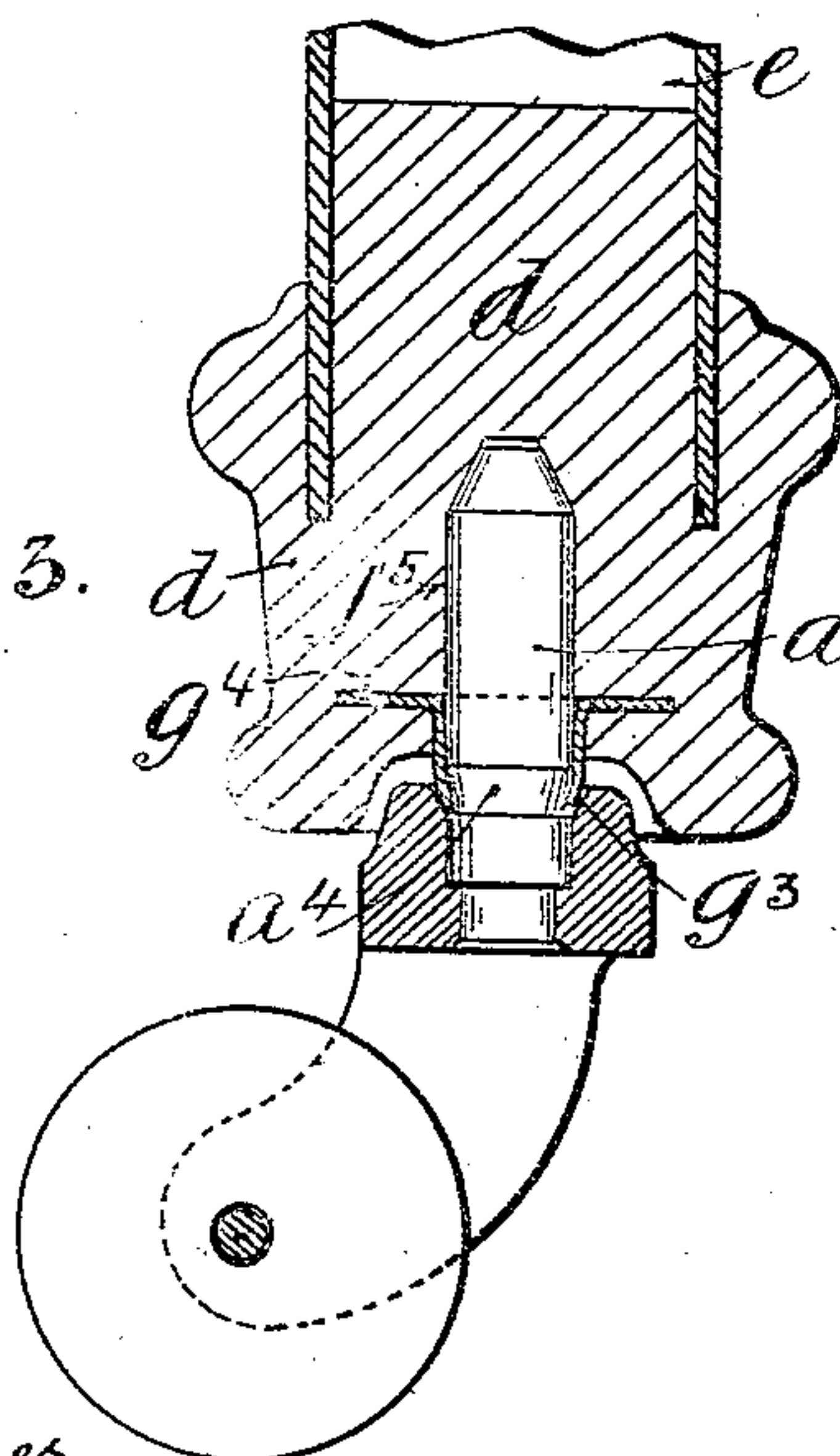
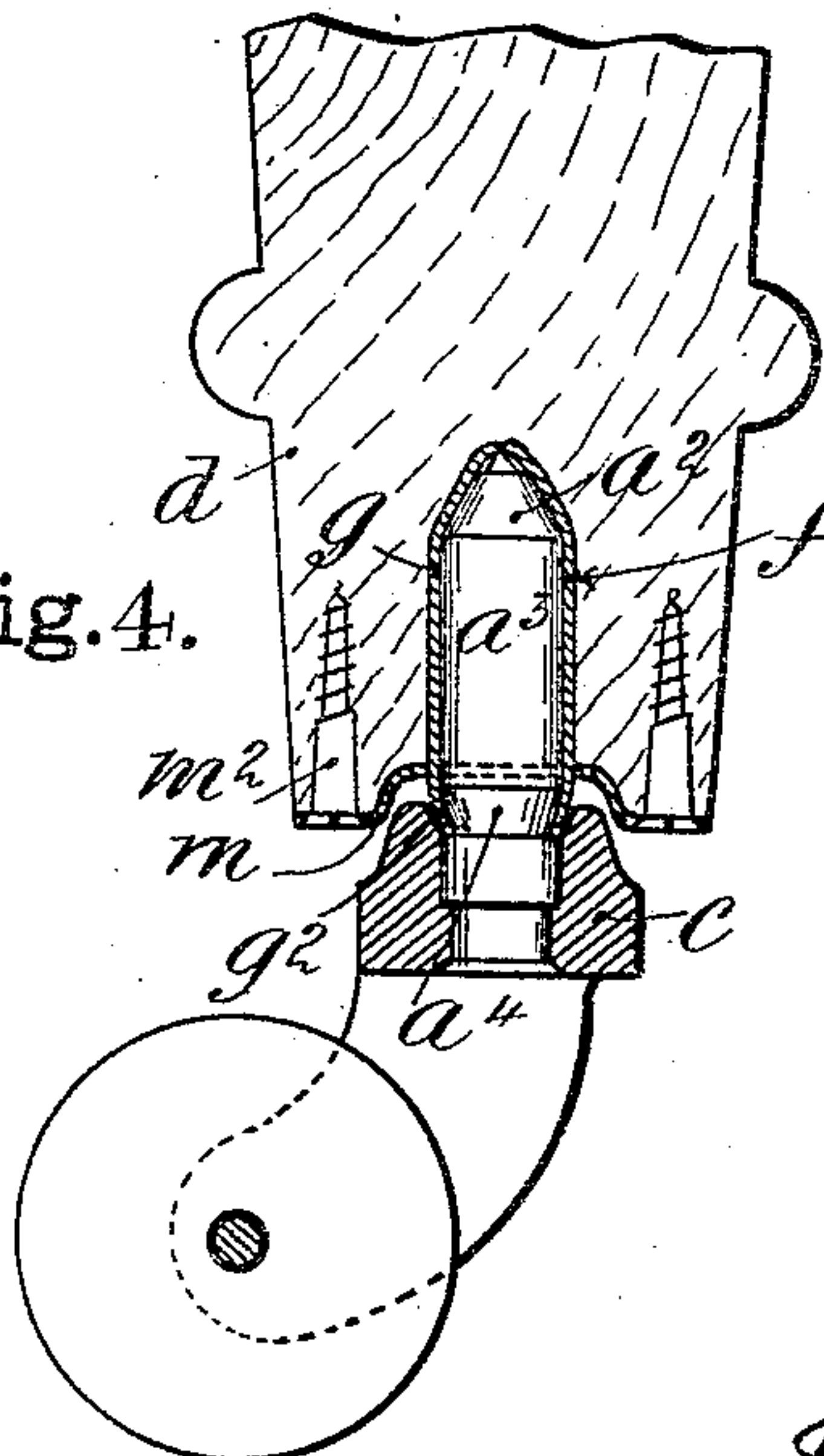


Fig. 4.



Witnesses

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ENGLAND.

CASTER.

No. 824,619.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed October 20, 1905. Serial No. 283,657.

To all whom it may concern:

Be it known that we, THOMAS BOURNE and ALBERT EDWARD BOURNE, tool-makers, subjects of the King of Great Britain, residing at 27 Chapman road, Small Heath, Birmingham, in the county of Warwick, England, have invented certain new and useful Improvements in Casters, of which the following is a specification.

This invention relates to casters, its object being to retain the pintle of the caster in its socket; and to this end the invention consists of the novel construction, combination, and arrangement of parts hereinafter more specifically described, and illustrated in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a vertical section of a caster in accordance with this invention. Fig. 2 is a similar view with the parts separate. Fig. 3 is a vertical section of a modified form, and Fig. 4 is a vertical section showing the application of the invention to the wooden leg of a chair or like piece of furniture.

Like letters of reference are used to indicate corresponding parts throughout the several views of the drawings.

Referring to the drawings by reference characters, a denotes a vertically-extending pintle which is rigidly secured to the bridge-piece c of the bracket of the caster. The said pintle a is formed with a cone-shaped free end a^2 , a smooth cylindrical shank a^3 , and a cylindrical portion a^4 , of less diameter than the said shank a^3 . The pintle a is shown as being riveted to the bridge-piece c ; but it may be otherwise secured thereto or cast integral therewith. Preferably the cylindrical portion a^4 partly extends into a countersunk portion c^2 of the bridge-piece c . The function of said countersunk portion c^2 will be hereinafter referred to.

Secured within the foot d of the pillar or post e of the bedstead is a shell or tube g , forming a vertically-extending socket f , into which the pintle a is adapted to be inserted and to fit. The mouth f^2 of the shell g is provided with resilient or elastic protuberances or tongues g^2 , which when the pintle a is positioned within the socket f , as shown in Fig. 1, close onto the reduced cylindrical portion a^4 of the pintle a to hold the said pintle in position, and thereby prevent the disconnecting of the caster from the foot d . The foot d on

its lower surface d^2 is formed with a recess d^3 , which surrounds the lower end of the shell g , and the said elastic protuberances or tongues g^2 at the mouth of the socket f are so set up in a manner as hereinafter set forth that they will project inwardly—that is to say, toward each other and clamp the portion a^4 of the pintle a . The top or upper end f^3 of the shell g is suitably shaped so as to form a bearing for the free end a^2 of the pintle a to work against, as from this bearing the weight comes onto the pintle a . The shank a^3 of the pintle a fits the socket f snugly, but not to prevent the rotation of the spindle.

By providing the recess d^3 and arranging the protuberances or tongues g^2 so that they will not project below the surface d^2 of the foot d the said protuberances or tongues g^2 are protected against damage. In Fig. 3 the protuberances or tongues g^3 are formed on the under side of a plate g^4 instead of upon the shell g , the plate g^4 being cast into the foot d , so that the said protuberances or tongues g^3 take up the same position with respect to the lower surface d^2 of the foot and the socket f^5 , which in this instance is formed in the foot without employing a shell.

The purpose of the countersunk portion c^2 is to provide an easy means for setting in clamping position the protuberances or tongues g^2 or g^3 . It will be seen in Fig. 2 that the said protuberances or tongues g^2 are straight with the walls of the shell g . Now if the pintle a is inserted in the socket f and the under side of the bridge-piece is given a blow, forcing the said pintle a into the socket f , the countersunk portion c^2 would change the shape of the protuberances or tongues g^2 or g^3 from that as shown in Fig. 2 to that as shown in Figs. 1, 3, and 4, and thereby cause the said protuberances or tongues g^2 or g^3 to clamp the reduced part a^4 , thus setting the said protuberances or tongues g^2 or g^3 . Depending upon to what degree the said protuberances or tongues are set and also upon the strength of said protuberances or tongues the pintle can be easily or only with considerable force withdrawn from the socket. The countersunk portion c^2 is not necessary, as the protuberances or tongues can be set after the shell g has been cast or secured into the foot d by a separate tool; but it is a convenience in the application of the invention to be able to set the protuberances or tongues by

simply hammering the pintle slightly into the socket *f*.

The disposition of the bearing *f*³ and the protuberances or tongues *g*² or *g*³ is such that
 5 all the weight on the caster is borne by the portion *f*³ of the shell *g* bearing upon the free end *a*² of the pintle, there being no vertical and practically no sidewise strain upon the said protuberance or tongues except in so
 10 far as they hold the pintle of the caster within the socket. The bearings *f*³ and the end *a*² are correspondingly coned. This preferably, but other suitable shape may be used with the same result.

15 In Fig. 4 the shell *g*, forming the socket *f*, is shown secured to a wooden chair-leg, said shell *g* being attached by a flange *m* and wood-screws *m*² to the chair-leg; but otherwise the caster is the same as shown in Fig. 1.

20 The foregoing construction sets up an inexpensive, simple, and very reliable caster and one that is readily secured in position.

Having now fully described the invention, what is desired to be secured by Letters Patent is—

25 1. A caster comprising a bridge-piece, a vertically-extending pintle carried thereby and provided with a reduced portion, and a socket for said pintle, said socket forming at
 30 one end a bearing for the pintle and at its other end provided with depending resilient protuberances adapted to engage the reduced portion of said pintle for retaining the pintle within the socket.

35 2. A caster comprising a bridge-piece, a vertically-extending pintle carried thereby and having a shank portion, a conoidal-shaped upper end and a portion of less diameter than said shank portion, and a socket for
 40 said pintle, said socket having its upper end conforming in contour to the conoidal-shaped upper end of the pintle, and said socket further provided at its lower end with a plurality of depending resilient protuberances adapted
 45 to engage said portion of reduced diameter of said pintle for retaining the pintle within the socket.

50 3. A caster comprising a bridge-piece having a countersunk portion in its upper face, a vertically-extending pintle carried by said bridge-piece and having a reduced portion partly surrounded by said countersunk portion in the bridge-piece, and a socket for said

pintle, said socket having the upper end thereof forming a bearing for the upper end
 55 of the pintle and its lower end provided with resilient protuberances adapted to engage said reduced portion of the pintle for retaining the pintle within the socket.

4. In a caster, the combination with a
 60 bridge-piece and a pintle carried thereby, said pintle having a reduced portion near its lower end, of a stationary shell adapted to receive said pintle and provided at its lower end with depending resilient protuberances
 65 adapted to engage the reduced portion of the pintle for retaining the pintle within the shell.

5. The combination with a foot member having a recess in its lower face and a socket,
 70 of resilient protuberances carried by said member and positioned within said recess, and a pintle extending in said socket and adapted to be engaged and connected by said protuberances to said member.

75 6. The combination with a foot member carrying a socket provided at one end with resilient protuberances, of a pintle having a reduced portion and extending in said socket, said pintle snugly fitting and abutting against
 80 one end of said socket and having its reduced portion exteriorly of the socket and adapted to be engaged by said protuberances for connecting the pintle to said socket.

85 7. The combination with a foot member having its lower surface provided with a recess, of a plurality of resilient protuberances carried by said member and positioned within said recess, said protuberances of such
 90 length as not to project below the lower surface of said foot member, a bridge-piece, a vertically-extending pintle carried thereby and provided with a reduced portion, said
 95 pintle extending in said member and having its reduced portion engaged by said protuberances, thereby connecting the pintle to said member.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

THOMAS BOURNE.

ALBERT EDWARD BOURNE.

Witnesses:

A. W. FUERY,
 HARRY DAVIS.