J. M. ADAMS.

CASTER SOCKET.

APPLICATION FILED OCT. 14, 1912.

1,136,201.

Patented Apr. 20, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

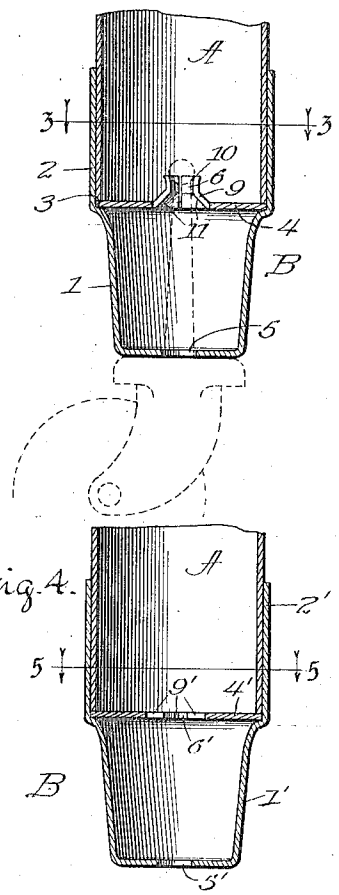


Fig. 2.

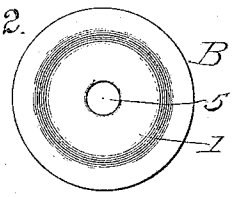


Fig. 3.

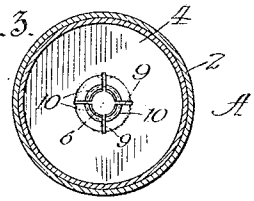


Fig. 4.

Fig. 5.

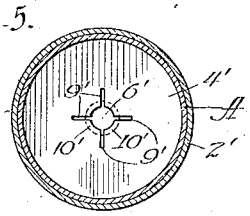
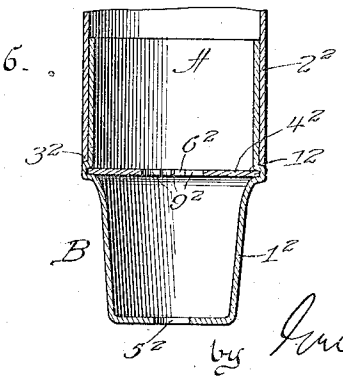


Fig. 6.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 7.

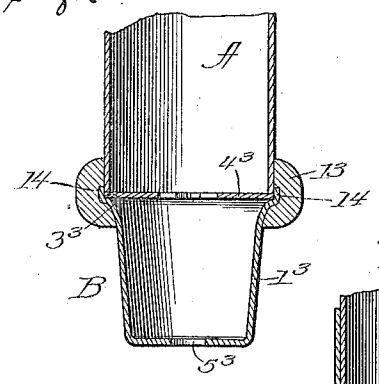


Fig. 8.

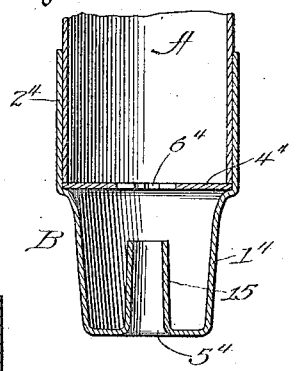


Fig. 10.

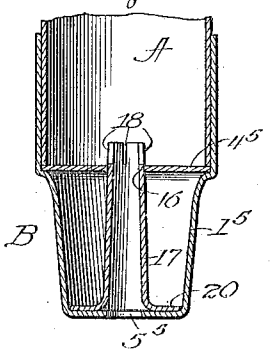


Fig. 9.

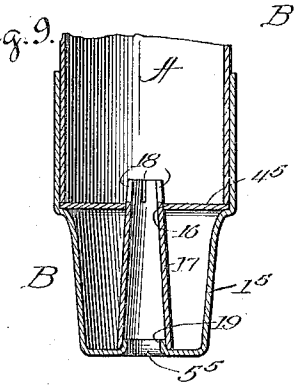


Fig. 11.

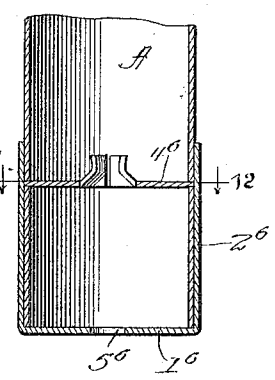
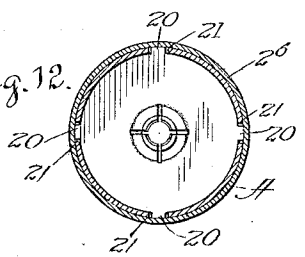


Fig. 12.



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UNITED STATES PATENT OFFICE.

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CASTER-SOCKET.

1,136,201. Specification of Letters Patent. Patented Apr. 20, 1915.

Application filed October 14, 1912. Serial No. 725,608.

To all whom it may concern:

Be it known that I, JOHN M. ADAMS, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Caster-Sockets, of which the following is a specification.

This invention relates to caster sockets for the posts of metal bedsteads and other furniture having hollow metal posts.

At the present time, so far as I am aware, the practice of manufacturers is to utilize the hollow posts themselves as caster sockets. This necessitates carrying in stock different sizes of casters for all the different sizes of posts, and, owing to the fact that many different sizes of posts are used, it is necessary to carry a large number of casters in stock, comprising a quantity of casters for each different size of post. This is objectionable, as it requires manufacturers to carry a large line of casters, and also because of the relatively high prices of the larger sizes of casters.

The object of my invention is to provide what may be termed a "standard" caster socket for metal bedsteads and other furniture which shall have pintle bearings of the same size regardless of the sizes of the posts, thus providing for using one size of casters on all bedsteads regardless of the size of the bed posts, preferably the smaller and less expensive casters. To this end, a caster socket of my invention comprises the various features and details of construction hereinafter described and claimed.

In the accompanying drawing, in which my invention is fully illustrated, Figure 1 is a sectional view of the lower end of the post of a metal bedstead showing a caster socket of my invention applied thereto; Fig. 2 is a bottom plan view thereof; Fig. 3 is a plan section taken on the line 3—3 of Fig. 1; Fig. 4 is a view substantially like Fig. 1, showing a modified form of caster of my invention; Fig. 5 is a plan section thereof on the line 5—5 of Fig. 4; Figs. 6, 7, 8, 9, 10, and 11 are views substantially similar to Fig. 1, showing other modified forms of caster sockets of my invention; and Fig. 12 is a plan section taken on the line 12—12 of Fig. 11.

Referring now particularly to Figs. 1–3 of the drawings, A designates the post of a metal bedstead secured to the lower end of which is a caster socket of my invention designated, as a whole, B. Said socket B comprises what, for purposes of convenient reference, may be designated as a thimble 1, which is adapted to be secured to the lower end of the post A with the end of said post resting against a rigid surface or shoulder on said thimble in any suitable manner. As shown in said Figs. 1–3, said thimble 1 is secured to the post A by means of a sleeve or tubular extension 2 at the upper edge of said thimble, which is of proper size and shape to receive the lower end of the post A and which is adapted to be secured to said post in any desired manner, as by solder or brazing. My invention contemplates any other desired or approved means for securing said sleeve 2 to said post, as pins or screws or friction only. As shown in said Figs. 1–3, also, the lower end of the post A rests upon a shoulder 3 formed between the thimble 1 and the sleeve or tubular extension 2 thereof, and which sustains the weight of said post. Secured in the thimble 1 at a distance above the lower end thereof corresponding substantially to the length of the caster pintle is a plate 4, said plate 4, as shown, being confined between the shoulder 3 on said thimble and the lower end of the post A.

Formed in the lower end of the thimble 1 and in the plate 4, respectively, are holes 5 and 6 which are adapted to receive and which form the bearings for the caster pintle, indicated in dotted lines at 7, said openings being of proper size to permit the caster to turn freely therein.

To prevent the caster from falling out when the post A is raised from the floor, means are provided for detachably securing said caster in its socket. As shown, said means consist of a head or enlargement 8 formed on the upper end of the caster pintle 7, said head being slightly larger than the hole 6, which forms the pintle bearing in the plate 4, and said plate 4 being provided with radial slots 9 which extend outwardly from the hole or bearing 6 therein, and which form spring sections 10 around said bearing 6, which will permit the head 8 to be inserted and withdrawn through said bearing, the ends of said spring sections 10 which form the sides of the hole 6 engaging beneath said head 8 when said head is inserted through said hole, thus yieldingly securing the caster in its socket in the manner desired. Also, to facilitate inserting the

caster pintle 7 through its bearing 6 in the plate 4, said plate 4 comprises a section surrounding said bearing 6, which tapers upwardly, as shown at 11.

With a caster socket constructed as described, it is obvious that casters of uniform size may be used regardless of the sizes of the posts A, the only changes necessary to adapt said sockets for use on posts of different size being to make the upper end of the thimble 1, the sleeve or tubular extension 2, and the plate 4 of different sizes, corresponding to the different sizes of posts. In this manner, what may be termed a "standard socket" is provided, and a necessary stock of such sockets will include merely thimbles of different sizes with associated parts of corresponding size, which, owing to the cheapness of said thimbles and plates, will involve, relatively, a very small investment as compared with the cost of a stock of casters of different sizes, such as is now necessary. A large economy is thus effected, due to the fact that small casters may always be used, even on large posts, and that such small casters are much cheaper than the large sizes heretofore used on the larger posts.

A caster socket of my invention admits of a wide range of variation and modification of its structural details without departure from my invention, including the means for securing said socket to the post, the pintle engaging and retaining means, the pintle grinding means and the upper bearing plate attaching means. Several different modifications are shown in the drawings (Figs. 4 to 12, inclusive), which I will now describe. Except as particularly pointed out in connection with the description of the different modifications illustrated in said Figs. 4 to 12, the construction of said sockets is the same as the construction of the socket shown in Figs. 1–3, and will be readily understood from an examination of said figures, when considered in connection with the description of said socket shown in Figs. 1–3.

As one modification, I contemplate substituting for the bearing plate 4, a plain, flat plate of resilient material, as thin sheet steel provided with a bearing for the upper end of the caster pintle and being provided with slots which extend outwardly from said bearing, thus forming flat spring sections adapted to yield in both directions to permit said pintle to be inserted and withdrawn through said bearing. This modification is illustrated in Figs. 4 and 5 of the drawings, in which 4′ designates the bearing plate provided with a bearing 6′ slightly smaller than the head on the caster pintle, 9′ the slots extending outwardly from said bearing, and 10′ the spring sections formed by said slots.

As a further modification, I contemplate securing the bearing plate permanently to the thimble of the socket. This can be effected in a simple manner by confining the edges of said bearing plate in an interior groove formed in the thimble, preferably at its juncture with the sleeve or tubular extension on the upper edge of said thimble. Said groove can be readily formed by stamping or swaging. With this modification, also, the sleeve or tubular extension on said thimble, instead of being fitted to the outside of the post, is preferably reduced in size and is fitted to the bore of said post, being secured thereon by suitable means, as by soldering, brazing, or in other desired manner. This modification is illustrated in Fig. 6 of the drawings, in which 4^2 designates the bearing plate for the upper end of the caster pintle, and which, as shown, is like the bearing plate shown in Figs. 1–3 of the drawings, and the edges of said plate are confined in a groove 12 formed at the juncture of the caster thimble and the sleeve 2^2. As shown, also, said sleeve 2^2 is fitted to the bore of the post A, the lower end of said post resting upon and the weight of the bed being sustained by a shoulder 3^2 formed at the lower end of said sleeve by the top side of the bead resulting from the formation of the groove 12.

Still a further modification of my improved caster socket relates to the means for securing the socket thimble to the post. In accordance with this modification, said thimble, instead of being secured to the post by means of a sleeve formed on said thimble, is secured thereto by means of a cast iron chill or head cast upon the lower end of the bed post and in which the upper edge of the thimble is embedded. This modification is illustrated in Fig. 7 of the drawings, in which 13 designates the chill or head cast upon the lower end of the bed post A, and in which the upper end of the socket thimble 1^3 is embedded. For convenience in defining the position of the bearing plate 4^3 in the thimble 1^3 and of said bearing plate and thimble on the end of the post A, and for retaining said bearing plate and thimble in position on said post during the process of casting said chill or head 13, said thimble is preferably provided with a short flange 14 on its upper end which forms a recess of proper size to receive the bearing plate 4^3 and which is sufficiently long to project a short distance above the lower end of the post A. The lower end of the post A rests upon and its weight is sustained by the shoulder 3^3 formed at the upper edge of the thimble 1^3.

Still a further modification of my improved caster relates to the guides for facilitating and insuring engagement of the upper end of the caster pintle with its bearing in the bearing plate when said pintle is

inserted. In accordance with this modification, the bearing plate for the upper end of the caster pintle is preferably made like the bearing plates shown in Figs. 4 and 5, being flat and being provided with slots which extend outwardly from the pintle bearing therein, thus forming spring sections adapted to engage beneath the head on the caster pintle. When inserted into the caster socket, the upper end of the caster pintle is adapted to be guided into the pintle bearing in said bearing plate by means of a tubular extension of the pintle bearing in the socket thimble. Said tubular extension is rigidly secured to the thimble socket, being preferably formed integral therewith, which can be conveniently effected by means of stamping or swaging, in a familiar manner. This modification is shown in Fig. 8 of the drawings, in which 1^4 designates the socket thimble, provided with a bearing 5^4 for the caster pintle, 4^4 the bearing plate for the upper end of the caster pintle, and 6^4 the pintle bearing therein. Surrounding the pintle bearing 5^4 in the thimble 1^4 is a tubular extension 15, said tubular extension being preferably formed integral with said socket thimble and being of such length that when the caster pintle is inserted therethrough, it will guide the end of said caster pintle into the pintle bearing 6^4 in the bearing plate 4^4. Still a further modification of my improved caster socket relates to the means for guiding the caster pintle into its bearings and for yieldingly securing said caster pintle therein. In accordance with this modification, the bearing for the upper end of the caster pintle is formed at the upper end of a tube which surrounds the pintle bearing in the socket thimble, the upper end of said tube being confined in a hole or opening formed in a plate secured in the socket thimble and which corresponds to the bearing plate of the sockets heretofore described. The bore of said tube at its upper end is slightly smaller than the head on the caster pintle and is slotted lengthwise at its upper end so as to permit the sides of said tube to expand to provide for inserting and withdrawing the caster pintle therethrough. When the caster pintle is inserted in position, the spring sections at the upper end of the tube will engage beneath the head on the caster pintle, thus removably securing said caster pintle in engagement with said socket. This modification is shown in Figs. 9 and 10 of the drawings, in which 1^5 designates the socket thimble provided with a pintle bearing 5^5, 4^5 a plate secured in said thimble in position corresponding to the bearing plates for the upper end of the caster pintle, formed in which is a hole or opening 16. Secured within the socket thimble 1^5 is a tube 17, the lower end of which surrounds the pintle bearing 5^5 in said thimble and the upper end of which is confined in the hole 16 in the plate 4^5 and projects above said plate, said tube being preferably slightly tapered, its size decreasing from its lower to its upper end. The upper end of the tube 17 is slightly smaller than the head on the caster pintle and to provide for inserting and withdrawing said head through the upper end of said tube, said tube is provided with slots 18 which form spring sections at the upper end of said tube. When in position the sides of the opening 16 closely embrace the upper end of the tube 17 and the lower end of said tube is secured in position by engagement thereof with a rigid part of the socket thimble. As shown in Fig. 9, this is effected by striking up a flange 19 surrounding the pintle bearing 5^5 in the socket thimble which is adapted to enter and closely fit within the lower end of the tube 17, and which will operate to prevent lateral displacement of the lower end of said tube. As shown in Fig. 10, lateral displacement of the lower end of the tube 17 is prevented by means of a flange 20 formed thereon, the outer edges of which are fitted to the inside of the thimble 1^5 at its lower end in which the pintle bearing 5^5 is formed.

In accordance with still a further modification of my improved caster socket, the bearings for the caster pintle are formed in plates secured, one directly to the lower end of the leg A and the other within said leg at a short distance above said plate secured to the lower end of the leg. The plate secured to the lower end of the post corresponds to the socket thimble of the other forms of caster socket, and, as shown the upper plate is substantially similar to the bearing plate shown in Figs. 1–3 of the drawings. This modification is illustrated in Figs. 11 and 12 of the drawing, in which A designates the post, 1^6 the plate secured to the lower end thereof, and 4^6 the plate secured within said post above the plate 1^6. As stated, the plate 1^6 corresponds to the socket thimble 1 (Figs. 1–3), being provided with a pintle bearing 5^6, and the plate 4^6 being shown as similar to the bearing plate 4 (Figs. 1–3).

As shown, the plate 1^6 is secured to the bed post by means of a sleeve or tubular extension 2^6 thereon which fits the outside of the post A and is secured thereto in any suitable manner, as by solder or brazing, as the thimble 1 is secured to the post, Figs. 1–3.

As shown, the bearing plate 4^6 is secured to the post A by means of lugs or projections 20 on the edge of said plate which engage and interlock with holes or openings 21 formed in said post. In order to cover and conceal the holes 21 and the projections

20, the flange 2^6 is made of sufficient length to extend above said openings.

I claim:—

1. A hollow post, a caster, and a socket for said caster, said socket comprising a post-supporting plate secured to the lower end of said post, and a second plate rigidly supported at a distance from said first plate, said plates being provided with caster bearings, substantially as described.

2. A hollow post, a caster, and a socket for said caster, said socket comprising a post-supporting plate secured to the lower end of said post, and a second plate rigidly supported at a distance from said first plate, said plates being provided with caster bearings, and means for removably securing the caster in said socket, substantially as described.

3. A hollow post, a caster, and a socket for said caster, said socket comprising a thimble secured to the lower end of said post, a shoulder thereon which sustains the weight of the post, a plate secured in said thimble at a distance above its lower end, said thimble and plate being provided with caster bearings, substantially as described.

4. A hollow post, a pintle caster, and a socket for said caster, said socket comprising a post-supporting plate secured to the lower end of said post, and a second plate rigidly supported at a distance from said first plate, said plates being provided with bearings for the caster pintle, and yielding means for removably securing the caster pintle in said socket, substantially as described.

5. A hollow post, a pintle caster, and a socket for said caster, said socket comprising a post-supporting plate secured to the lower end of said post, and a second plate rigidly supported at a distance from said first plate, said plates being provided with bearings for the caster pintle, and yielding means on the upper bearing plate for removably securing the caster pintle in said socket, substantially as described.

6. A hollow post, a pintle caster, and a socket for said caster, said socket comprising a post-supporting plate secured to the lower end of said post, a second plate secured above and at a distance from said first plate, said plates being provided with bearings for the caster pintle, a guide for directing the end of the caster pintle into its upper bearing when inserting the same, and means for removably securing the caster pintle in said socket, substantially as described.

7. A hollow post, a pintle caster, and a socket for said caster, said socket comprising a post-supporting plate secured to the lower end of said post and provided with a bearing for the caster pintle, a bearing for the upper end of the caster pintle comprising a tube which surrounds the bearing in the plate secured to the end of said post, and a second plate supported above and at a distance from said plate secured to the lower end of the post and provided with a hole in which said tube is rigidly secured, and springs on the upper end of said tube adapted to engage a rigid part of the caster pintle when inserted into said socket, substantially as described.

8. A hollow post, a pintle caster, and a caster socket therefor, said socket comprising a thimble secured to the lower end of said post, a shoulder thereon which sustains the weight of said post, a plate secured in said thimble at a distance above its lower end, said thimble and plate being provided with pintle bearings, a tubular guide extension which surrounds the pintle bearing in said thimble, and means for removably securing the caster pintle in said socket, substantially as described.

9. A hollow post, a pintle caster, and a caster socket therefor, comprising a thimble secured to the lower end of said post, a shoulder thereon which sustains the weight of said post, said thimble being provided with a pintle bearing, a tubular guide which forms an extension of said pintle bearing, a plate secured in said socket thimble at a distance above its lower end, said plate being provided with a hole in which the upper end of said tubular guide is confined, said tubular guide projecting above said plate and forming a bearing for the upper end of the caster pintle, and means on said guide sleeve for engaging the caster pintle and removably securing the pintle in said socket, substantially as described.

10. A hollow post, a pintle caster, and a caster socket therefor, said socket comprising a thimble secured to the lower end of said post, a shoulder thereon which sustains the weight of the post, a plate of resilient material secured in said thimble at a distance above its lower end, said thimble and plate being provided with pintle bearings, and said plate being provided with slots which extend outwardly from the pintle bearing therein forming spring sections adapted for engagement with a rigid part of the caster pintle, substantially as described.

11. A hollow post, a pintle caster, and a caster socket therefor, said socket comprising a thimble secured to the lower end of said post, a shoulder thereon which sustains the weight of the post, a plate of resilient material secured in said thimble above its lower end, said thimble and plate being provided with pintle bearings and said plate comprising a section around the pintle bearing therein which tapers upwardly, and said plate being provided with slots which extend outwardly from the pintle bearing in

said plate forming spring sections adapted to engage a rigid part of the pintle caster, substantially as described.

12. A hollow post, a pintle caster, and a caster socket therefor, said socket comprising a thimble secured to the lower end of said post, a shoulder thereon which sustains the weight of the post, a plate inserted between said shoulder and the end of said post, said thimble and plate being provided with pintle bearings, substantially as described.

In testimony that I claim the foregoing as my invention, I affix my signature in presence of two subscribing witnesses this 27th day of September, 1912.

JOHN M. ADAMS.

Witnesses:
MARY H. BIXEL,
S. J. DORAIS.

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