No. 631,579. Patented Aug. 22, 1899.

G. E. NEUBERTH.

CASTER.

(Application filed Apr. 12, 1899.)

(No Model.)

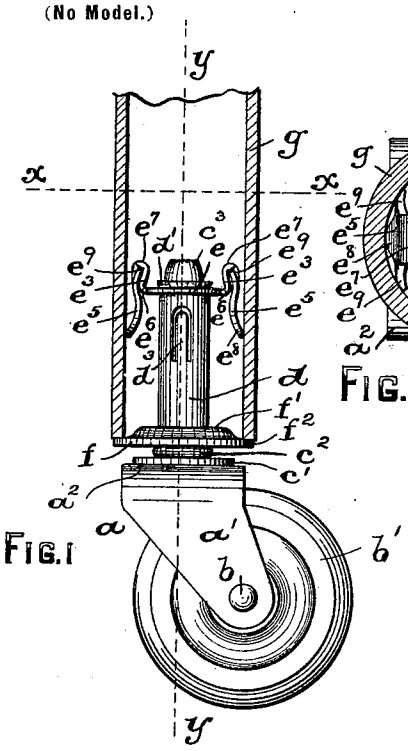


FIG. 1

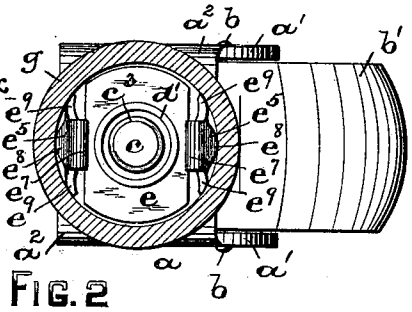


FIG. 2

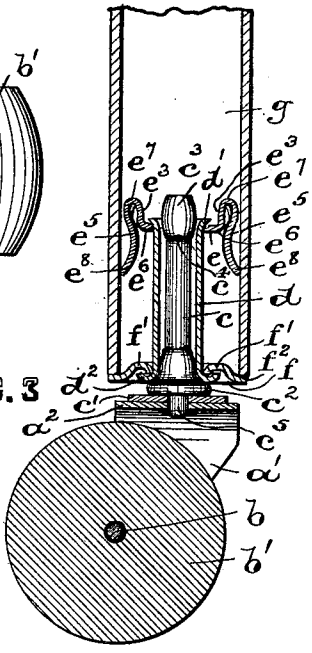


FIG. 3

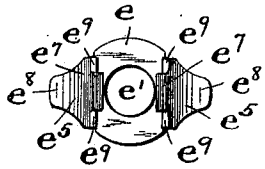


FIG. 6

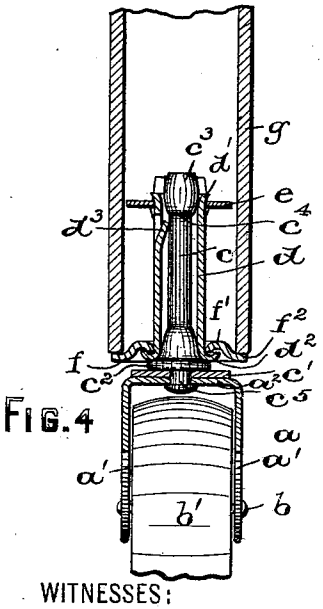


FIG. 4

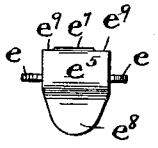


FIG. 7

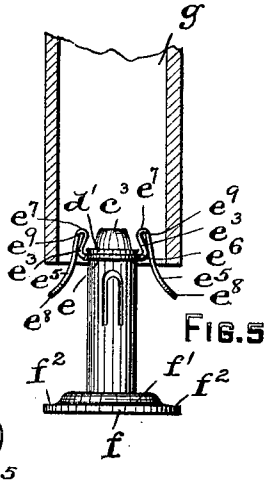


FIG. 5

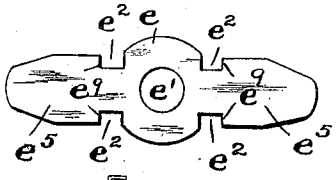


FIG. 8

WITNESSES:

Walter H. Talmage.

Wm. H. Caulfield, Jr.

INVENTOR:

GEORGE E. NEUBERTH,

BY

Fred'k E. Fraentzel,

ATTORNEY

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE E. NEUBERTH, OF NEWARK, NEW JERSEY, ASSIGNOR TO HENRY ILL, OF SAME PLACE.

CASTER.

SPECIFICATION forming part of Letters Patent No. 631,579, dated August 22, 1899.

Application filed April 12, 1899. Serial No. 712,692. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. NEUBERTH, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Casters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention has reference to improvements in casters, and has for its primary object to provide a novel construction of clamping or holding means to be connected with the caster-socket for securing the complete device in the tubular post or support of iron and other like furniture.

The invention has for its further object to provide a simple and inexpensive construction of caster-socket and caster for use more especially in connection with the tubular posts of iron furniture.

The invention therefore consists in the novel construction of caster to be hereinafter fully set forth and also in the novel arrangements and combinations of the several parts thereof with a view of providing a more simple, better, and more positive centering means for operatively retaining the caster-socket and caster in position, all of which will be fully described in the accompanying specification, and finally embodied in the clauses of the claim.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a caster made according to my present invention, illustrating the same in its operative position in a tubular support of a piece of furniture, said support being represented in vertical section. Fig. 2 is a horizontal section of the device on an enlarged scale, said section being taken on line x in Fig. 1. Fig. 3 is a longitudinal vertical section of the caster-socket and supporting or holding disks connected therewith illustrated in position in a tubular post of a piece of furniture and representing the caster and its shank in elevation. Fig. 4 is a vertical section of the several parts, taken on line y in Fig. 1. Fig. 5 is a sectional view of a portion of a tubular post of a piece of furniture with the caster-socket in elevation about to be forced into its operative position in said post. Figs. 6 and 7 are a top and side view, respectively, of a centering or holding disk employed with the caster-socket; and Fig. 8 is a view of a blank from which said disk is made.

Similar letters of reference are employed in all of the said above-described views to indicate corresponding parts.

In said drawings, a indicates the usual form of caster-frame, provided with the downwardly-extending brackets or horns a', which are provided with holes or perforations to receive a pin b, on which is rotatively arranged the usual form of roller or wheel b', substantially as illustrated in the several figures of the drawings.

On the top plate a^2, connecting the two brackets or horns a', is an upwardly-extending post or pintle c, provided with the usual washer c' and collar c^2. The upper end of said post or pintle is provided with an enlargement c^3 and shoulder c^4 for the purpose to be hereinafter set forth, and its lower end c^5 is passed through a hole in said plate a^2 and riveted against the inner side thereof, as illustrated.

The caster-socket consists, essentially, of a tubular shank d, to the top of which is secured in any well-known manner, preferably by means of a flange d', a holding or clamping plate or disk e, while the lower end of said shank has its edge d^2 turned over to form a bead, to which is secured a disk or washer f, substantially as illustrated in Figs. 3 and 4. The said disk or washer f is provided with the upwardly-curved projection f' and a flat part f^2, surrounding the same, substantially as illustrated in the several figures of the drawings. The said plate or disk e is made from sheet metal of the proper stiffness, which is formed or cut into the shape of a blank, (indicated in Fig. 8,) being provided with a central hole e' and the squared recesses e^2 to form the narrow connecting portions e^3 between the body or the main part of the disk e and the oppositely-arranged ears e^5, sub-

stantially as illustrated. By means of a die or suitable machinery the connecting portions e^3 are bent upwardly at e^6, forming fulcrumal points, where said portions are joined to the main body of the disk e and being slightly curved inwardly toward the center of the disk. The said portions e^3 are also bent at e^7, and the ears e^5 are forced in a downward direction, with their ends slightly curving outwardly, as at e^8 in Figs. 5 and 6. When said disk or plate e is secured upon the upper end of the shank d before insertion in the tubular post g of the piece of furniture, the straight edges e^9, extending in opposite directions from the narrow portions e^3, which are formed by the recesses e^2 and the ears e^5, will extend in straight lines on opposite sides of the curved or bent portions e^7, as clearly illustrated in Figs. 6 and 7.

When the shank d and the disks e and f connected therewith are driven into the tubular post g in the manner indicated in Fig. 5, the ears e^5 will have their free and curved end portions e^8 brought in holding engagement with the inner cylindrical surface of the post g, and the curved parts e^6 will act as fulcrumal supports and the oppositely-extending straight edges e^9 will be forced directly against the said inner cylindrical surface of the post g and will conform to the curvature of the said inner cylindrical surface of the post g, as clearly indicated in Figs. 1, 2, and 3 of the drawings. It will thus be seen that the socket d is readily centered in said post g by having the three-point contacts on the opposite sides of said socket, two contacts being formed on each side of said socket by the portions e^9 and the third contact being formed by the outwardly-extending end portion e^8 of each of said ears e^5. The said socket is thus permanently secured in position in the post g, with the surrounding flat part f^2 of the washer f at the lower end of the socket d resting firmly against the annular edge of the said post g, as clearly illustrated in the several figures of the drawings. When the post or pintle c is forced into said tubular shank d, the enlargement c^3 at the top of said post c will be easily forced past a spring-tongue d^3, which extends into said shank and against the annular shoulder c^4 of said post or pintle c to secure the same in its operative and rotative position in the said tubular shank d, as will be clearly understood from an inspection of Fig. 1, and which permits of the caster being readily withdrawn from the socket, when desired, by a sudden pull on the wheel or roller b and the caster-frame a.

Having thus described my invention, what I claim is—

1. A caster comprising, a tubular shank, a holding or supporting disk on said shank, consisting, of a main body portion, upwardly-extending ears connected with said main body portion, having a fulcrumal support at such points where said ears are connected with the said main body portion of said disk, and said ears being arranged and constructed to make a two-point contact at the top and a single-point contact at the bottom, with a tubular post in which said shank is to be arranged, substantially as and for the purposes set forth.

2. In a caster, the combination, with a tubular shank, of a holding or supporting disk on said shank, having a main body portion, and upwardly and downwardly extending parts connected therewith, said downwardly-extending parts forming holding-ears, and said upwardly-extending parts having a fulcrumal support at the juncture of said parts with the main body portion, and said downwardly-extending parts making holding contact at their upper corners with a tubular post in which said shank is to be arranged, substantially as and for the purpose set forth.

3. In a caster, the combination, with a tubular shank, of a disk e thereon, having a main body portion, and a pair of oppositely-arranged holding-ears e^5, connected with said main body portion by a pair of upwardly-extending narrow parts e^3, said parts e^3 having a fulcrumal support e^6 at the juncture of said parts with the main body portion, and said ears having oppositely-projecting straight edges e^9 adapted to be forced in holding contact with a tubular post in which said shank is to be arranged, substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 10th day of April, 1899.

GEORGE E. NEUBERTH.

Witnesses:
FREDK. C. FRAENTZEL,
HENRY ILL.