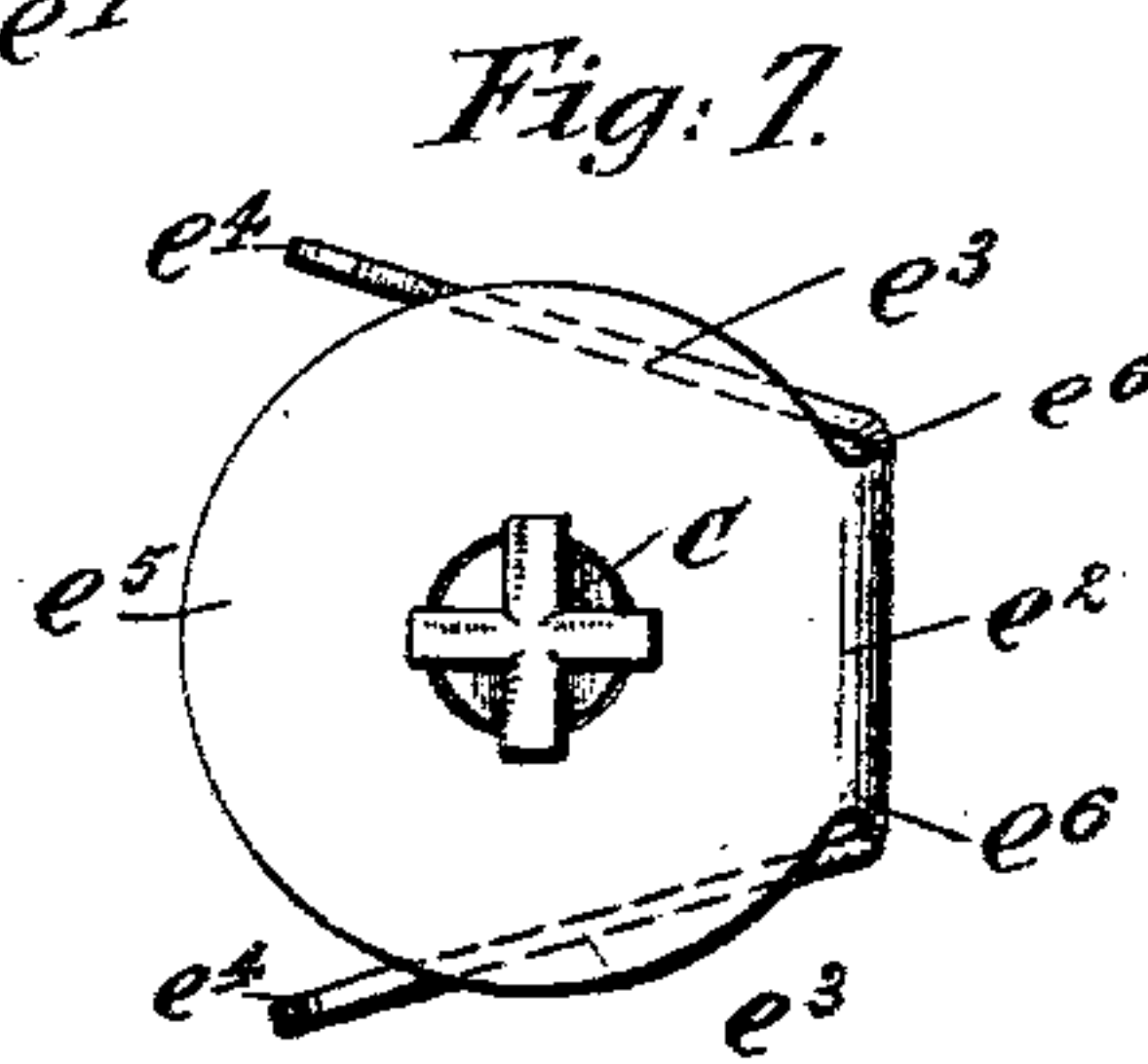
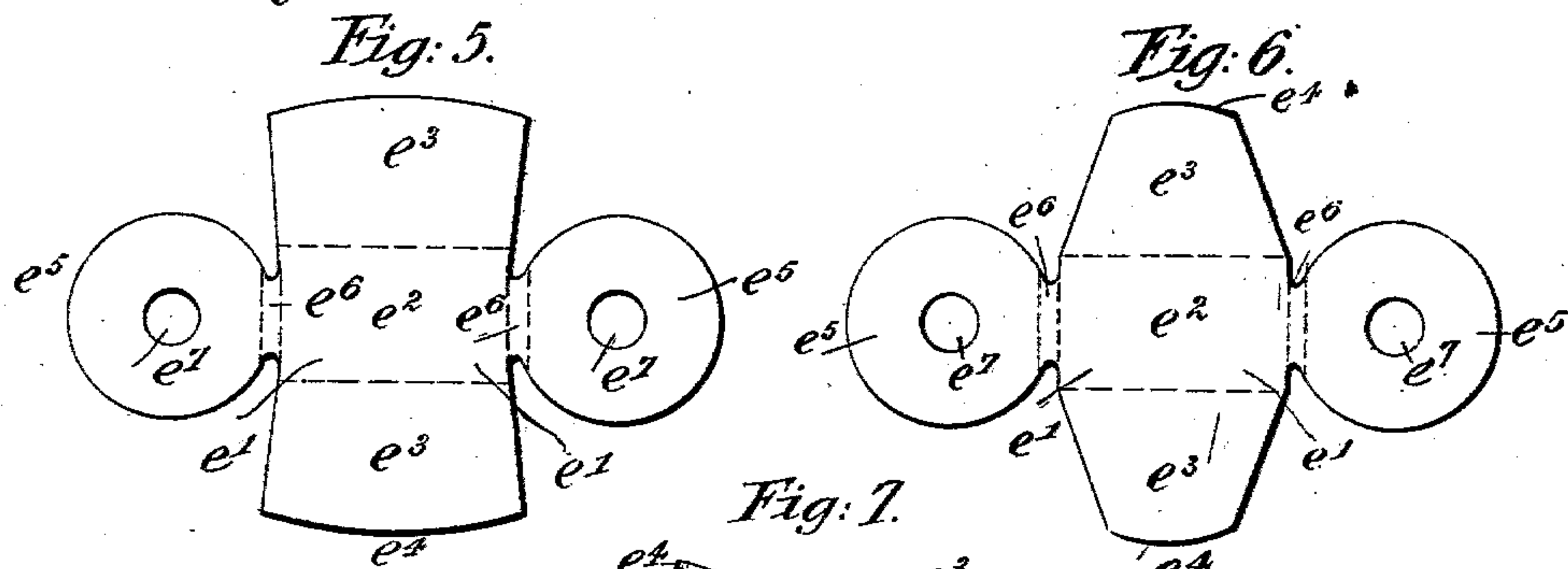
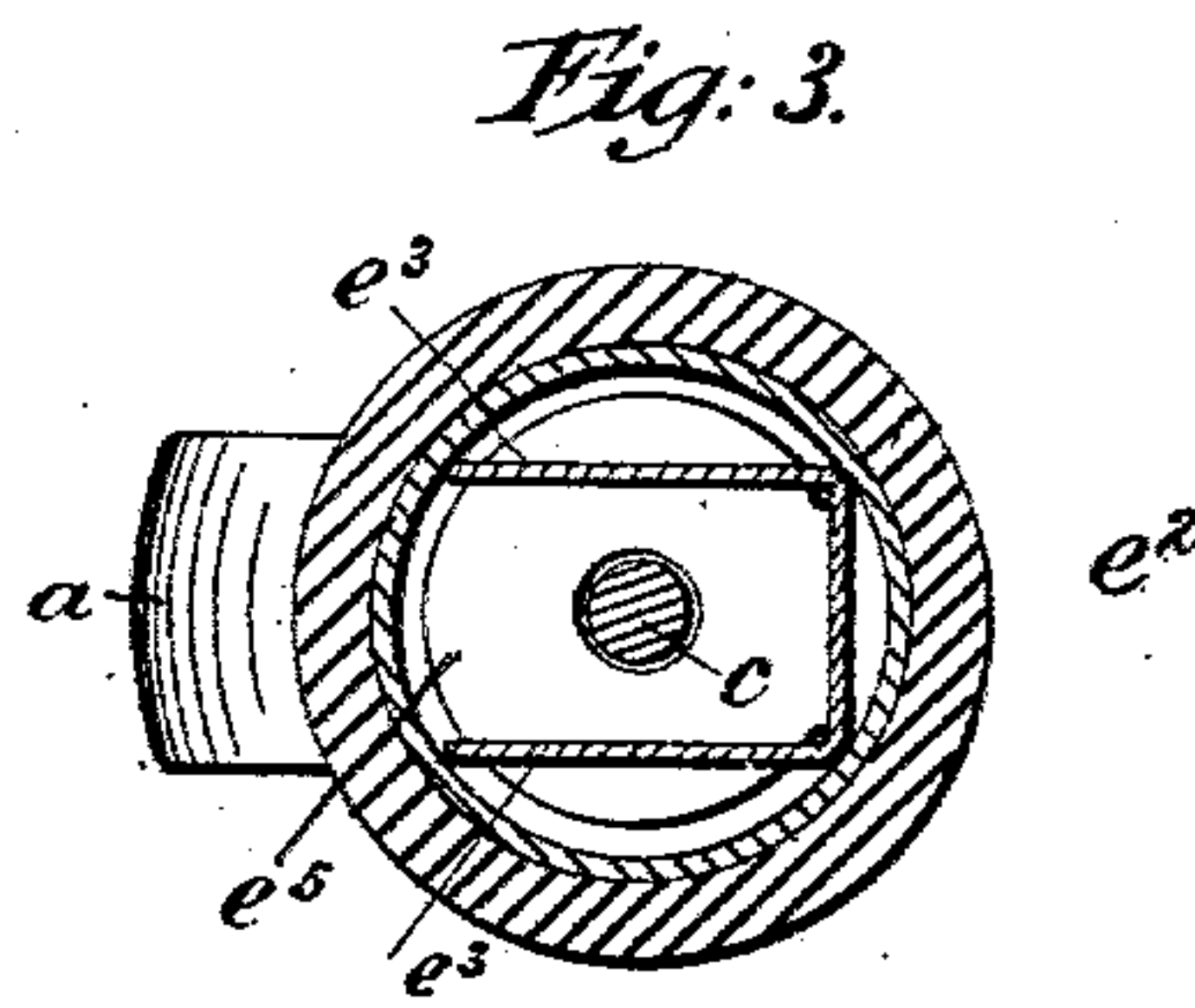
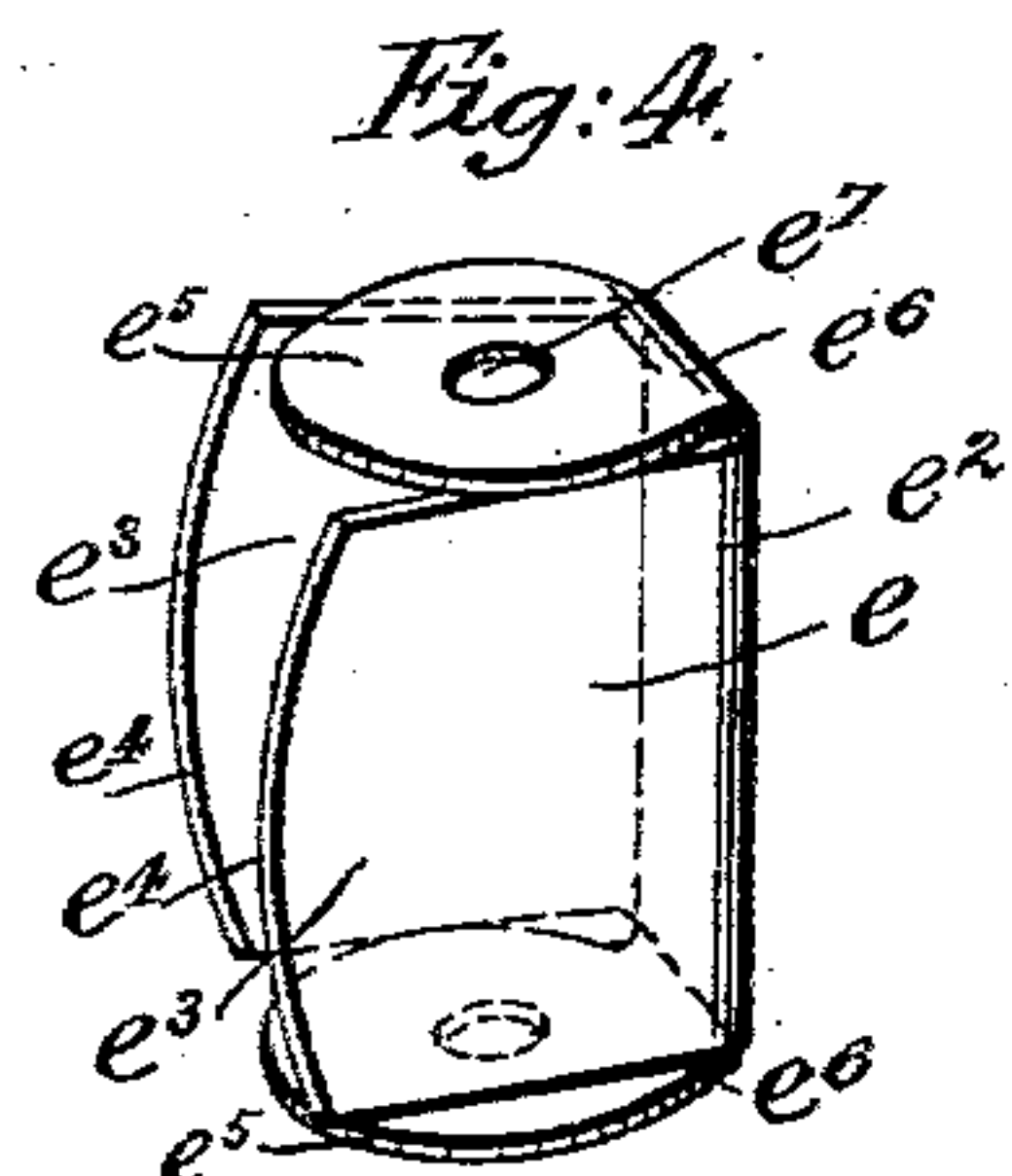
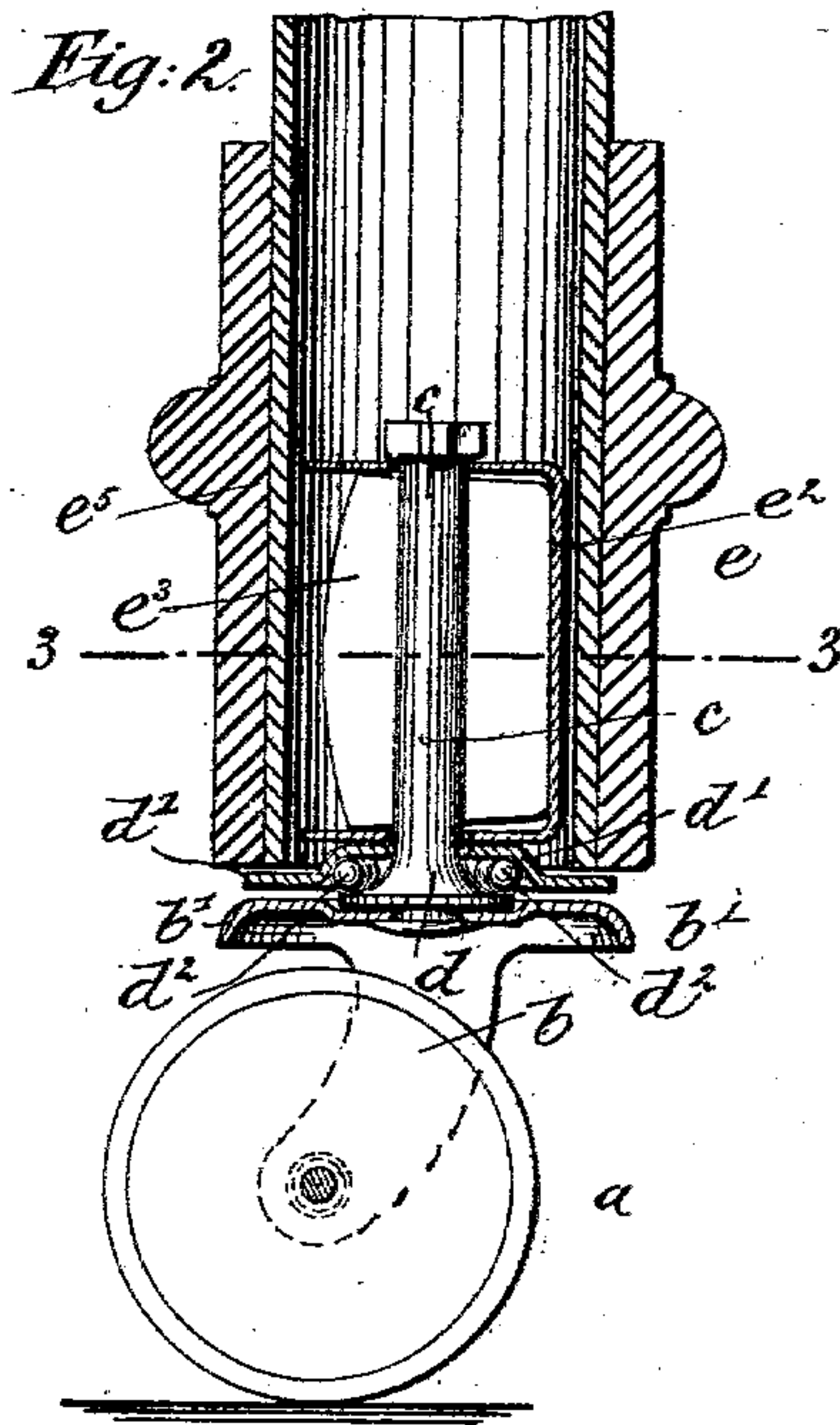
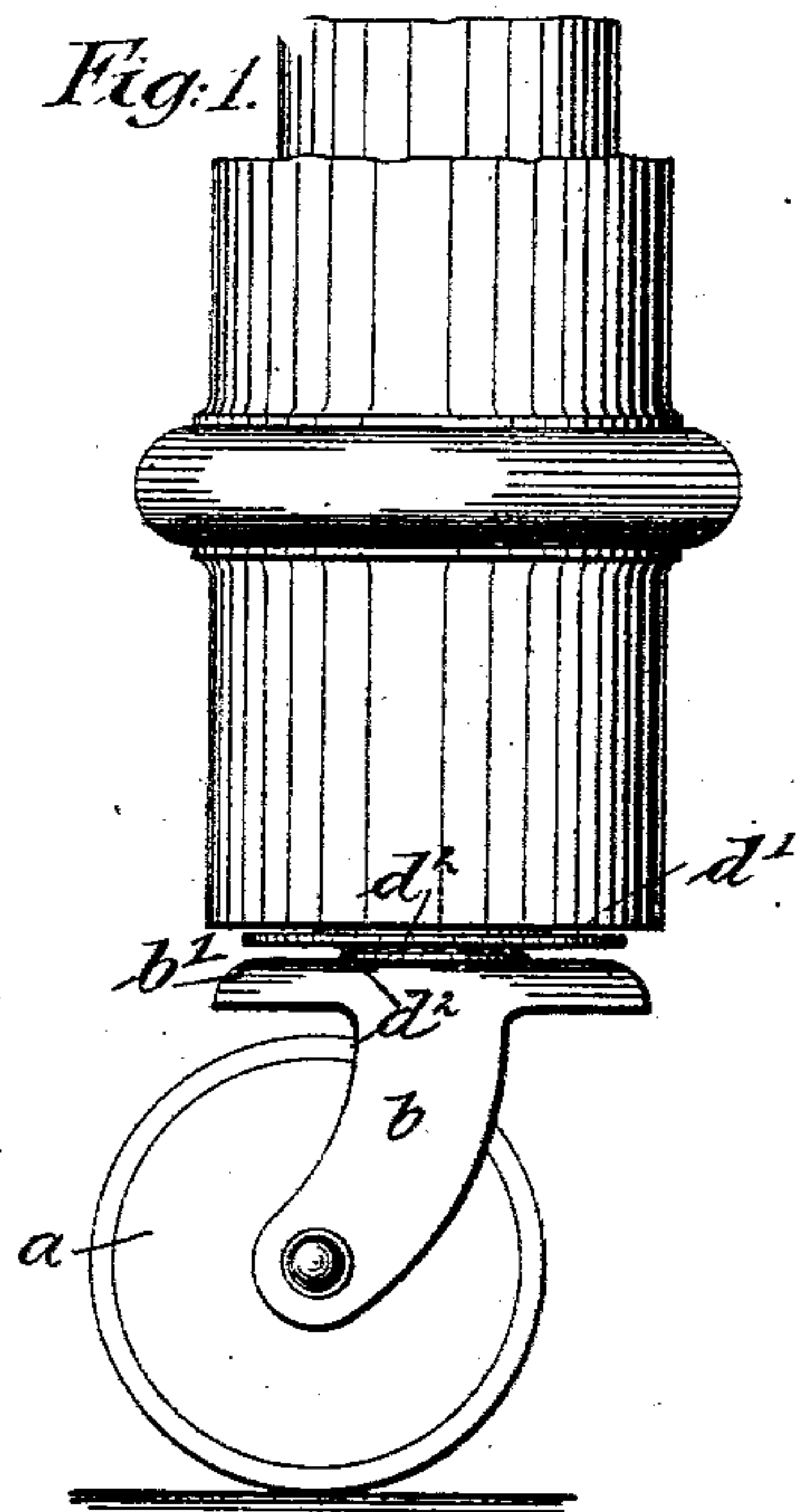


F. BUESSER.
CASTER.

(Application filed Nov. 14, 1901. Renewed Aug. 14, 1902.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

FREDRICK BUESSER, OF GUTTENBERG, NEW JERSEY.

CASTER.

SPECIFICATION forming part of Letters Patent No. 716,807, dated December 23, 1902.

Application filed November 14, 1901. Renewed August 14, 1902. Serial No. 119,682. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK BUESSER, a citizen of the United States, residing in Guttenberg, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Casters, of which the following is a specification.

This invention relates to an improved caster of that class which is used in connection with the tubular legs of metallic bedsteads or other articles of furniture, so that the caster can be quickly and conveniently introduced and then frictionally held in the tubular leg without being liable to become detached from the same when moving the furniture.

My invention consists of a caster for bedsteads and other articles of furniture, comprising a caster-wheel, a supporting-frame and pintle for the same, and a spring-frame supported on the pintle, the same consisting of a main piece parallel with the pintle, top and bottom guard-plates bent up from the ends of said main piece and provided with central openings through which said pintle passes, and spring side plates or jaws extending laterally from the said main piece, the two points located at the juncture of the main piece and side plates and the two points located at the outer edge of the side plates, forming four leg-contacts located approximately on the circumference of a circle around the said openings; and the invention consists, lastly, of certain details of construction and combinations of parts which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of the leg of a bedstead or other piece of furniture with my improved caster placed in position thereon. Fig. 2 is a vertical central section through the leg and the upper part of the caster. Fig. 3 is a horizontal section through the leg and spring-frame of the caster on line 3 3, Fig. 2. Fig. 4 is a perspective view of the spring-frame shown as detached from the pintle of the caster. Figs. 5 and 6 are top views of forms of different blanks from which the spring-frame is made; and Fig. 7 is a top view of the spring-frame, showing the location of the frictional contact edges of the same relatively to the top guard-plate.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, *a* represents a caster-wheel, *b* the supporting-frame to which the same is pivoted, and *c* is a pintle applied to the top *b'* of the frame *b*. The top *b'* of the frame *b* is made of disk shape and provided with a central depression in which the lower end of the pintle *c* is centrally riveted. The pintle *c* is made at its lower end with an outwardly-flaring cone-shaped portion *d*, over which is placed an inverted cup *d'*, between which and the conical portion *d* of the pintle antifriction-balls *d²* are placed, so that the caster can readily and with little friction turn on said balls.

On the spindle *c* is placed a spring-frame *e*, which is bent up from the blank *e'* of sheet metal, preferably sheet-steel, as shown in Figs. 5 and 6, said blank being formed of a main portion *e²* of oblong shape, side plates or jaws *e³* extending from the longer sides of the main portion *e²* and being provided with curved outermost edges *e⁴*, and disk-shaped portions *e⁵*, that are connected by intermediate portions *e⁶* with the shorter sides of the main portion *e²*, as shown clearly in Figs. 5 and 6. The disk-shaped portions *e⁵* are provided with central openings *e⁷*, through which the pintle *c* can pass. The disk-shaped portions *e⁵* are bent up at right angles to the main portion *e²*, while the side plates are bent up at an obtuse angle thereto, the side plates forming thereby the laterally-extending springs of the spring-frame, while the disk-shaped portions form perforated guard-plates at the top and bottom of the same. Owing to the short connecting portions *e⁶* between the main portion *e²* and the perforated guard-plates the edges formed by the main piece *e²* and the side plates are located outside of the circumference of the guard-plates, likewise the outer curved edges of the side plates, so that four points of frictional contact located on the circumference of a circle around the said openings are formed between the spring-frame after the same is struck up from its blank and the interior face of the tubular leg with which the caster is to be used.

The blank of the spring-frame is made in one piece and bent up by suitable dies. It is placed by the perforations of the guard-

plates on the pintle, the side plates forming spring-jaws that bind at the interior of the tubular leg and hold the caster firmly in position, while the top and bottom guard-plates serve merely for holding it centrally on the spindle, as they are of less diameter than the interior diameter of the tubular leg. After the spring frame is placed on the pintle the upper end of the same is upset so as to retain the spring-frame on the same and prevent its becoming detached therefrom. The outer curved edges of the side plates of the spring-frame facilitate the introduction of the spring-frame into the tubular leg, as they are gradually pressed toward each other when introduced until the leg abuts against the top plate or cup on the supporting-frame. When the spring-frame of the caster is inserted into the tubular leg, it forms frictional contact with the same at four points—namely, at the two upright edges of the main piece and at the outer edges of the side plates—so that the dropping of the caster from the leg is thus prevented in a reliable manner when the piece of furniture is to be moved or lifted. As the spring-frame is capable of different degrees of compression, the same size of caster may be used for several sizes of legs within certain limits, so that only a few sizes of spring-frames have to be made up. When the caster is once inserted into the tubular leg, it is held firmly in the same by the friction between the edges of the same and the interior of the leg, while the antifriction-balls permit the caster to move easily in any direction when the piece of furniture is moved about. The caster can readily be detached from the leg by pulling in downward direction, so as to overcome the frictional contact of the spring-frame with the leg, the side plates “giving” then sufficiently to permit the withdrawing of the caster from the leg.

Casters of the general type of which my improved caster is an example are commonly employed for metallic furniture. A serious difficulty heretofore met with in the use of these casters was that of securing the caster rigidly in the leg of the article without some permanent fastening means. The tubes used in the manufacture of metallic furniture, particularly of the cheaper grades, are rough and uneven at the interior. Furthermore, they frequently vary in interior diameter. Under these conditions and especially by reason of the rough and uneven condition of the interior surface of the tubes the spring-frames heretofore used failed to always hold the caster rigid and stable, as the spring-frame was unable to seat itself immovably in the tube, owing to the inequalities in the surface of the same. This difficulty is largely done away with and, in fact, practically overcome by my improved spring-frame, owing to the fact that the outer edges of the spring-actuated side plates are convexly curved. The convex edge contacts normally at one point

in its length with the tube into which it is inserted, and thereby seats itself reliably upon the surface presented, whatever be the character of the same, so that a firm hold is obtained. The spring-frame readily adapts itself to tubes of different sizes and holds the caster reliably in place.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a caster-wheel, of a supporting-frame and a pintle attached to the top of said supporting-frame, a spring-frame supported on said pintle, the same consisting of a main piece parallel with the pintle, top and bottom guard-plates bent up from the ends of said main piece and provided with central openings through which said pintle passes, and spring side plates or jaws extending laterally from said main piece, the two points located at the juncture of the side plates and main piece and the two points located at the outer edges of the side plates forming four leg-contacts located approximately on the circumference of a circle around the said openings, substantially as set forth.

2. A spring-frame for casters, the same consisting of a main piece, parallel top and bottom guard-plates bent up from the ends of said main piece and provided with central openings, and spring side plates or jaws extending laterally from said main piece, the two points located at the juncture of the side plates and main piece and the two points located at the outer edges of the side plates forming four leg-contacts located approximately on the circumference of a circle around the said openings, substantially as set forth.

3. A blank for the spring-frame of furniture-casters, said blank being composed of an oblong main portion, centrally-perforated disk-shaped portions provided with contracted portions or necks connecting them with the ends of the blank, and side portions extending from the entire length of the sides of the main portion, substantially as set forth.

4. The combination, with a caster-wheel, a yoke for the same, and a pintle extending from said yoke, of an expansible spring-frame rotatably mounted on said pintle and provided with a main piece approximately parallel with the same and having approximately vertical edges radially stationary therefrom, and spring-actuated side plates extending laterally from said main piece and having convexly-curved forward edges for cooperating with said stationary edges for holding the caster in place, substantially as set forth.

5. A spring-frame for casters, consisting of a vertical main piece, portions at either end of the same arranged at an angle thereto and adapted for rotatably mounting the same on the caster-pintle with the edges of said main piece radially stationary therefrom, and

spring-actuated side plates extending laterally from said main piece and having convexly-curved forward edges, substantially as set forth.

- 5 6. A blank for the spring-frame of casters, said blank consisting of an oblong main piece, perforated disk-shaped portions connected with the ends of said main piece, and side plates extending from the sides of said main

portion and convexly curved at their outer edges, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FREDRICK BUESSER.

Witnesses:

JOSEPH H. NILES,
HENRY SUHRBIER.