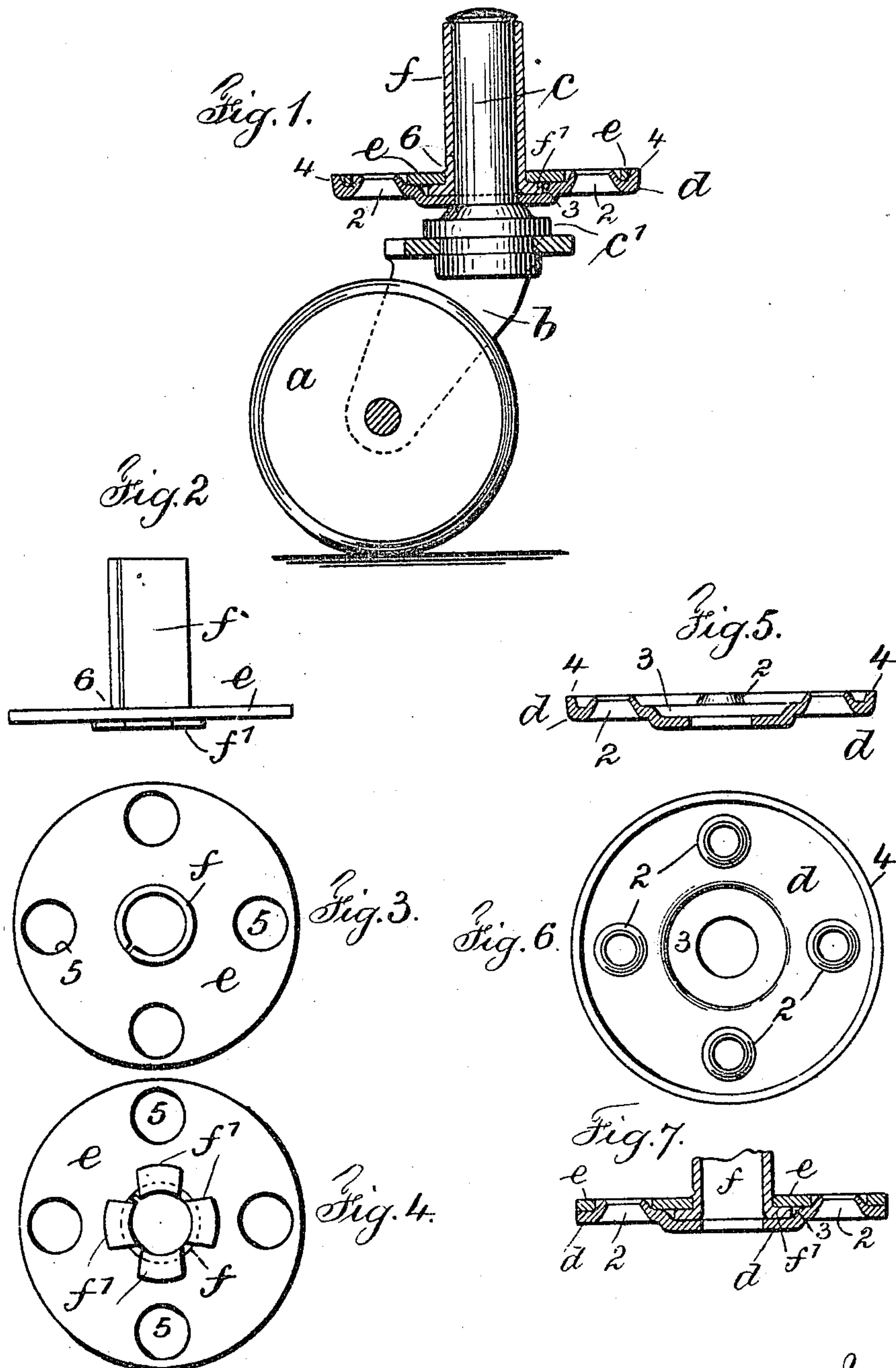


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PATENTED SEPT. 25, 1906.

A. B. DISS.
CASTER.

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Witnesses

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CASTER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT B. DISS, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented an Improvement in Casters, of which the following is a specification.

My invention relates generally to furniture-casters, and particularly to such large and heavy casters as are employed for pianos and other very heavy articles of furniture. These large and heavy casters are usually of cast metal and are subject to much breakage on account of rough handling, the great strain, and weight supported; and it is the object of my invention to provide a caster not subject to breakage and that will stand the strain and weight.

In the caster of my invention the parts, with the exception of the caster-wheel, which are subject to the greatest strain and tension and liable to breakage are formed from and stamped up out of heavy sheet metal and are so braced as to increase their strength and rigidity, and they are made with an interlocking characteristic which makes them very rigid. These features are hereinafter more particularly set forth.

In the drawings, Figure 1 is a vertical section and partial elevation representing the device of my improvement. Fig. 2 is a side elevation of the sleeve that surrounds the pintle and the perforated plate connected thereto. Fig. 3 is a plan of the parts shown in Fig. 2, and Fig. 4 an inverted plan of the same parts. Fig. 5 is a cross-section through the disk surrounding the pintle and upon which the tubular leg or other part of the furniture rests. Fig. 6 is a plan of the part shown in Fig. 5, and Fig. 7 is a cross-section of a modified structure.

The caster-wheel *a* is of usual character. These wheels are usually made of malleable cast metal.

b represents the jaws, which are to be stamped up from sheet metal and bent to the desired shape, the ends being perforated for the trunnions or axle of the caster-wheel.

c represents the pintle, with a broad base and shoulder to rest upon the upper part of the jaws. The pintle passes through an opening in the broad bearing part of the jaws and is riveted thereto in any manner usual in this art, so as to permanently con-

nect the pintle and the jaws, the broadened shouldered portion of the pintle being indicated at *c'*.

d represents a disk—the portion of these casters upon which the tubular leg or other part of the furniture rests. This disk is one of the essential features of my present invention. It is to be stamped up from a heavy sheet of metal and provided with screw-head holes formed by countersunk flanges 2. The disk is also provided with a dishing center 3 around the central opening in the disk, the inner edge of the dishing center resting upon the shouldered portion *c'* of the pintle. This disk is preferably provided with the upturned flanged periphery 4. The countersunk flanges 2, dishing center 3, and flanged periphery 4 cause this disk to be exceedingly stiff and rigid, capable of greater strain, and of supporting greater weight than could possibly be the case if the disk were flat or if it were of cast metal. As this disk *d* is made as a separate part, it is essential that its relation to the pintle should be established and maintained, and for this purpose I employ the perforated plate *e* and sleeve *f*. The plate *e* is provided with a central hole and with openings 5, which are spaced apart to conform to the spaced-apart relation of the countersunk screw-head holes, and said openings are concentric thereto, as will be apparent from Figs. 1, 3, 4, and 6. The sleeve *f*, which surrounds the pintle and is connected thereto by upsetting the end of the pintle or by any other securing means well known in this art, is preferably rolled cylindrical from a flat plate, and at one end there are three longitudinal incisions made for a predetermined distance, which provide four tangs at one end of the sleeve, and these tangs *f'* are turned over, after the sleeve is passed through the plate *e*, against one face of said plate, as shown in Figs. 2 and 4, after which I prefer to slightly notch the outer surface of the sleeve by pressing out the metal of the sleeve against the upper surface and directly above the plate *e*, as at 6, so as to assist in fixing the relation of the plate to the sleeve.

In assembling the parts after the caster-wheel, jaws, and pintle are connected the disk *d* is passed over the pintle and the connected plate *e* and sleeve *f* passed over the

pintle, the plate *e* being brought into the proper relation to the disk *d* with its openings concentric to the flanges of the countersunk screw-head holes of the disk. The end of the pintle is then upset or provided with other means well known in this art to connect the parts within which the pintle rotates, so as to prevent separation, and in this condition the plate *e* and the disk *d* are in a substantial fixed relation to one another.

While I have shown in Figs. 1, 5, and 6 the disk *d* with a flanged periphery 4, I do not limit myself to the employment of this flanged periphery. It is true that the flanged periphery greatly stiffens the disk *d* and forms a finish to the edge of the same in its relation to the plate *e*, covering over the same when the caster is connected to an article of furniture. In the form of my invention shown in Fig. 7 this flanged periphery is omitted and the parts are shown as they would appear, in which the thickness of the disk *d* and also the thickness of the plate *e* are both peripherally manifest. I prefer to make the plate *e* of a thickness corresponding with the height of the flanges 2 and flanged periphery 4 of the disk *d*, so that when these parts are in position their surfaces will be in the same plane, so as to bear directly against the under surface of the article of furniture to be supported, and I also prefer to make the inner upper edges of the countersunk flanges 2 in the same plane, so that they when the screws are forced home to place will also rest upon the surface of the article of furniture, and in this manner a solid bearing and great rigidity are secured.

From the foregoing description, as well as from the drawings, it will be apparent that the dishing central portion 3 of the disk *d*, which so greatly stiffens the disk in cross-section, also provides a recess, as it were, to receive the tangs *f'*, overturned from the sleeve *f*, the parts being so proportioned, as shown from the vertical section, Fig. 1, that the under surface of the plate *e* and the under surfaces of the tangs *f'* are in contact with the upper surface of the disk *d* when the parts are brought into their relation of use.

I claim as my invention—

1. The combination with the caster-wheel, jaws and pintle, of a disk stamped up out of sheet metal, surrounding the pintle and upon which the furniture rests, said disk being provided with a flanged edge and dishing central portion, and screw-holes for attaching-screws formed by countersunk flanges to recess the screw-heads, such irregular contour stiffening the said disk.

2. The combination with the caster-wheel, jaws and pintle, of a disk stamped up out of sheet metal surrounding the pintle and upon which the furniture rests, the said disk being provided with an irregular contour in cross-section for stiffening the same, and screw-

holes for attaching-screws, a plate *e* and connected sleeve *f* also stamped up from sheet metal, the plate having openings located concentric to the screw-hole openings in the disk, and the sleeve surrounding the pintle.

3. The combination with the caster-wheel, jaws and pintle, of a disk stamped up out of sheet metal, surrounding the pintle and upon which the furniture rests, said disk being provided with a dishing central portion and countersunk flanges to receive the heads of the attaching-screws to provide an irregular contour in cross-section to said disk for stiffening the same, a plate stamped up out of sheet metal and having perforations agreeing in number and placed so as to be concentric to the screw-holes of said disk, and a sleeve for surrounding the pintle formed from sheet metal rolled up into cylindrical form and connected to said perforated plate, the said disk and plate being placed in contact in the finished caster.

4. The combination with the caster-wheel, jaws and pintle, of a disk stamped up out of sheet metal surrounding the pintle and upon which the furniture rests, said disk being provided with a dishing central portion and countersunk flanges to receive the heads of the attaching-screws to provide an irregular contour in cross-section to said disk for stiffening the same, a plate stamped up out of sheet metal and having perforations agreeing in number and placed so as to be concentric to the screw-holes of said disk, a sleeve for surrounding the pintle formed from sheet metal rolled up into cylindrical form and provided with tangs formed integral with said sleeve and turned over against the under face of said plate, and a notch formed by pressing out the metal of the sleeve against the upper surface of said plate for connecting the plate and sleeve, the said disk and plate being placed in contact in the finished caster.

5. The combination with the caster-wheel, jaws and pintle, of a disk stamped up out of sheet metal, surrounding the pintle and upon which the furniture rests, said disk being provided with a dishing central portion, a flanged periphery and countersunk flanges to receive the heads of the attaching-screws to provide an irregular contour in cross-section to said disk for stiffening the same, a plate stamped up out of sheet metal and having perforations agreeing in number and placed so as to be concentric to the screw-holes of said disk, and a sleeve for surrounding the pintle formed from sheet metal rolled up into cylindrical form and connected to said perforated plate, the said disk and plate being placed in contact in the finished caster.

6. The combination with the caster-wheel, jaws and pintle, of a disk stamped up out of sheet metal, surrounding the pintle and upon which the furniture rests, said disk being

provided with a dishing central portion, a flanged periphery and countersunk flanges to receive the heads of the attaching-screws to provide an irregular contour in cross-section
5 to said disk for stiffening the same, a plate stamped up out of sheet metal and having perforations agreeing in number and placed so as to be concentric to the screw-holes of said disk, a sleeve for surrounding the pintle
10 formed from sheet metal rolled up into cylindrical form and provided with tangs formed integral with said sleeve and turned over against the under face of said plate, and a notch formed by pressing out the metal of
15 the sleeve against the upper surface of said plate for connecting the plate and sleeve, the said disk and plate being placed in contact in the finished caster.

20 7. The combination with the caster-wheel, jaws and pintle, of a disk stamped up out of sheet metal, surrounding the pintle and upon which the furniture rests, a plate stamped up out of sheet metal and overlying said disk, and a sleeve for surrounding the pintle

formed from sheet metal rolled up into cylindrical form and connected to said plate, the said disk and plate being in contact in the finished caster. 25

8. The combination with the caster-wheel, jaws and pintle, of a disk stamped up out of sheet metal, surrounding the pintle and upon which the furniture rests, a plate stamped up out of sheet metal and overlying said disk, a sleeve for surrounding the pintle formed from sheet metal rolled up into cylindrical form
35 and provided with tangs formed integral with said sleeve and turned over against the under face of said plate, and means for securing the plate and sleeve together, the said disk and plate being placed in contact in the finished
40 caster.

Signed by me this 21st day of September, 1905.

ALBERT B. DISS.

Witnesses:

GEO. T. PINCKNEY,
S. T. HAVILAND.