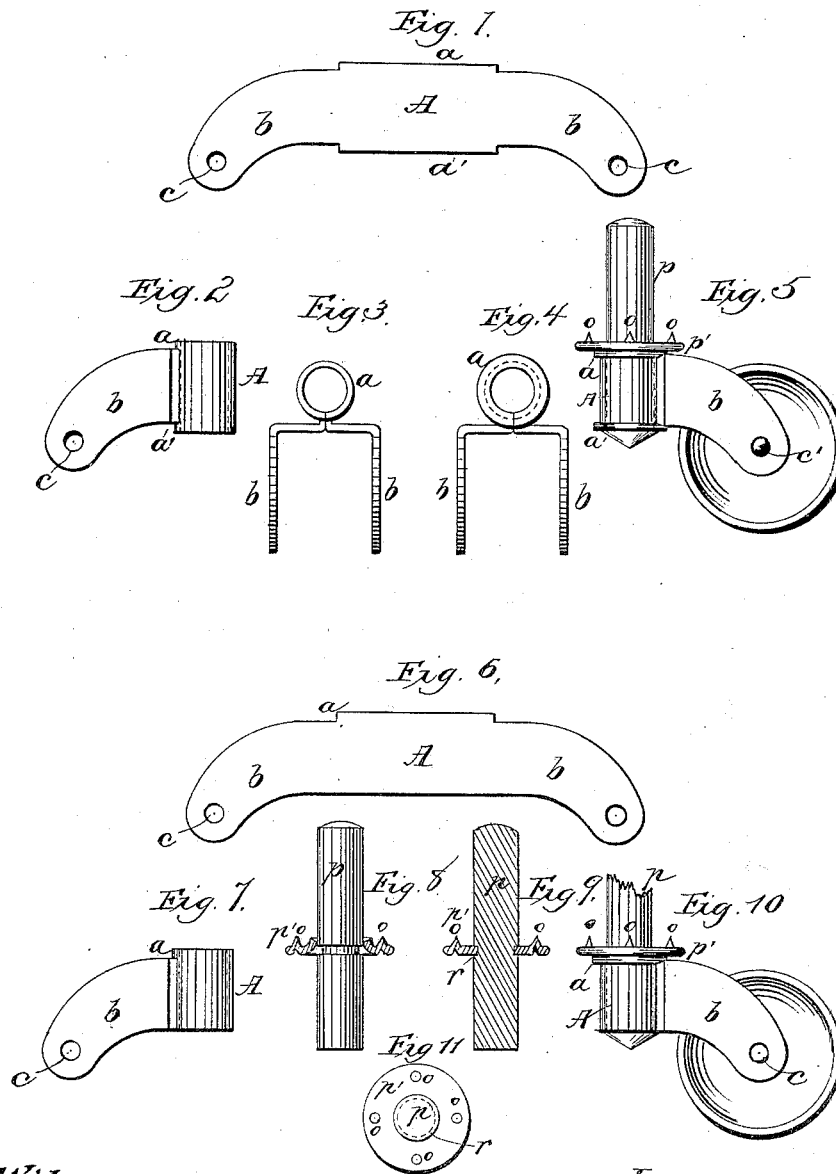


(No Model.)

W. LIVINGSTONE.
CASTER.

No. 423,065.

Patented Mar. 11, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

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CASTER.

SPECIFICATION forming part of Letters Patent No. 423,065, dated March 11, 1890.

Application filed June 27, 1889. Serial No. 315,737. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LIVINGSTONE, a resident of Jersey City, in the county of Hudson 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.

My invention relates to an improvement in casters, the object being to provide a frame of improved construction, possessing increased strength and rigidity, and having few parts, so arranged and assembled that the effect is to produce an unyielding loosely-mounted frame provided with integral laterally-projecting collars which act as ribs or stays to prevent the frame from spreading apart and causing it to lose its efficiency.

A further object is to provide a metal caster combining neat appearance with the greatest possible strength and least possible cost by reason of the reduction in the number of parts and the simplicity of construction.

With these ends in view my invention consists in a sheet-metal blank having an enlarged central projection formed on one or both edges, which serves to form a laterally-projecting collar to furnish a bearing or bearings, and also add to the strength and rigidity of the device.

It further consists in a frame composed of sheet metal bent to form bearings and horns, in combination with a pintle having an annular recess or groove and a flange the inner edge of which is swaged or forced into the groove, making said parts, to all intents and purposes, one solid piece.

It still further consists in certain features of construction and combinations of parts, as will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of a sheet-metal blank for a caster-frame with upper and lower bearing collars or flanges. Fig. 2 is a side elevation of the frame bent from the blank previous to the operation of swaging the collars or flanges. Fig. 3 is a plan view of the same. Fig. 4 is

a plan view of the frame after the operation of swaging the collar or flange is complete. Fig. 5 is a side elevation of the same. Fig. 6 is a view of a sheet-metal blank for a frame having an upper flange or collar only. Fig. 7 is a side elevation of the frame bent from the blank shown in Fig. 6 previous to the operation of swaging the collar or flange. Fig. 8 is an elevation of pintle, showing the annular recess or groove and the ring or washer in section in the position taken previous to swaging into the recess or groove. Fig. 9 is a section of the pintle and ring or washer after the inner edge of the latter has been swaged or forced into the groove. Fig. 10 is a side elevation of the completed caster made from the blank shown in Fig. 6; and Fig. 11 is a plan view of the pintle, showing the ring or washer in the groove.

A in Figs. 1 and 6 represents that portion of the blank which is to be rolled, bent, or pressed to form the tubular bearing for the pintle *p*, as shown in Figs. 2, 3, 4, 5, 7, and 10, whereby the frame is mounted loosely on the latter. The ends of the blank constitute the horns, and, as shown in Figs. 3 and 4, they are bent parallel to each other after assuming the proper distance apart. These horns are provided with the holes *c c* at their outer ends, which receive the ends of the pintle *c'*, on which the caster-roller *c''* is loosely mounted and retained by the horns.

The elongated projections *a a'* in Fig. 1 and *a* in Fig. 6 are integral parts of the central portion A of the blanks, and they are bent, rolled, or pressed laterally in the operation of forming the tubular pintle-bearing, and subsequently swaged to form a collar or collars at the end or ends of the tubular bearing, as shown in Figs. 4, 5, and 10. The advantage derived from this formation is twofold—namely, to give increased strength and rigidity to the frame, preventing the horns from spreading apart from the weight upon them, and also constitute a lateral bearing between parts of the pintle where it is mounted.

The letter *p* represents the main pintle of the caster. This is furnished with an annular recess or groove *r*, as shown in Figs. 8 and 9, a suitable distance from one end, and

p' represents the pintle washer or ring stamped out of sheet metal so as to curl up at its inner edge sufficiently to slip over the thick part of the pintle and be swaged or forced into the groove when it reaches it, as shown in Fig. 8. This ring or flange is provided with pointed indentations *o o o o* for the purpose of fixing itself permanently in the wood-work of the furniture-legs.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the particular construction herein set forth; but,

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

1. A caster-frame made of sheet metal and having a laterally-projecting collar formed

integral with one end of the bearing, substantially as set forth.

2. A caster-frame made of sheet metal and having a laterally-projecting collar formed integral with each end of the bearing, substantially as set forth.

3. In a caster, the combination, with a pintle having a circumferential groove therein, of a disk of approximately uniform thickness throughout and having an opening of less diameter than the diameter of the pintle on either side of the groove and secured within said groove, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM LIVINGSTONE.

Witnesses:

D. VAN WINKLE,
J. E. VAN WINKLE.