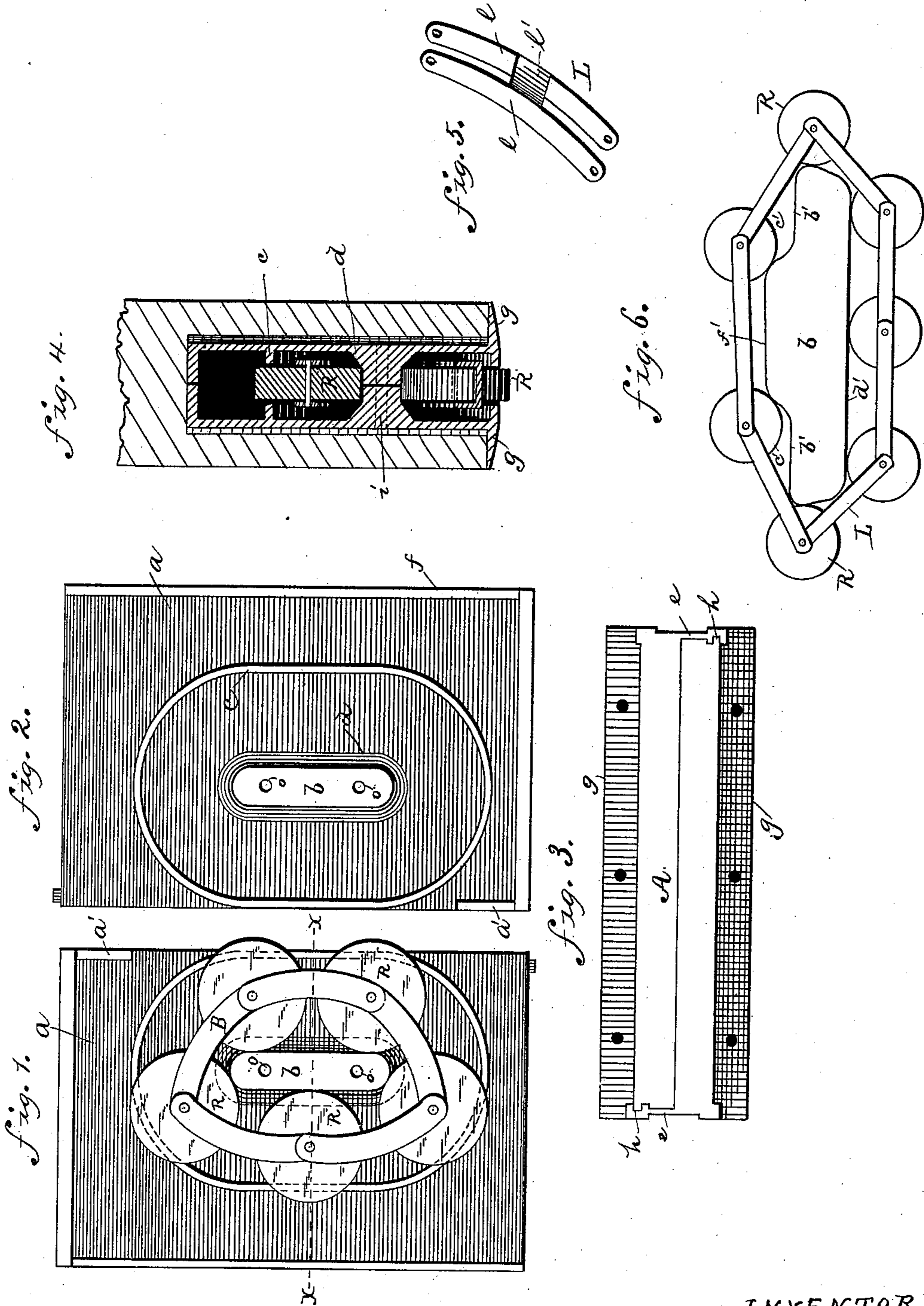


(No Model.)

J. M. WEYMOUTH.
ANTI FRICTION DEVICE.

No. 308,117.

Patented Nov. 18, 1884.



WITNESSES:
H. B. Brown
O. F. Hillyard.

INVENTOR:
BY James M. Weymouth
M. G. Young
ATTORNEY.

UNITED STATES PATENT OFFICE.

JAMES M. WEYMOUTH, OF NEW ORLEANS, LOUISIANA.

ANTI-FRICTION DEVICE.

SPECIFICATION forming part of Letters Patent No. 308,117, dated November 18, 1884.

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To all whom it may concern:

Be it known that I, JAMES M. WEYMOUTH, a resident of the city of New Orleans, parish of Orleans, and State of Louisiana, have invented a certain new and useful Improvement in Anti-Friction Devices; and I do hereby declare the following to be a full, clear, and correct description of the same, reference being had to the annexed drawings, making a part of this specification.

This invention relates to a certain new and useful improvement in a device for relieving the great amount of friction incident to the moving of doors, windows, gates, gangways, scenery in theaters, and similar purposes; and it consists in the peculiar construction of the casing whereby the same is rendered self-securing.

Another novel feature of this invention consists in forming the connecting-links of the roller-chain in one piece, the same being stamped out of sheet metal, and having a central portion which serves not only to brace or strengthen the link, but which, coming between the set of rollers, acts as a scraper to also remove any foreign matter which may adhere to the rollers, and thereby prevent the same from being carried within the casing, and thus impair the working parts of this device.

This invention further consists in the peculiar construction and arrangement of its parts, all more fully hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is a side elevation having one side of the case removed. Fig. 2 is a plan view of the detached side, showing the guide and bearing-center. Fig. 3 is a plan view of the case. Fig. 4 is a cross-section on line $x x$ of Fig. 1. Fig. 5 is an enlarged perspective view of one link. Fig. 6 is a modification of the bearing-center having recessed ends.

A is the box-casing for inclosing the roller-chain B, and it is made in two parts, and as the parts are constructed exactly alike, it is only necessary that a description of one be given. One of these parts consists of the plate a , the bearing-center b , guides $c d$, end extension, e , and side extension, f , and the outwardly-projecting flange g . While I have shown all these parts cast integral with the plate a , it is ob-

vious that each may be made separately and secured to the same in any approved manner; but I prefer the construction shown, as it is cheaper, and the loosening of joints is entirely avoided. The bearing-center b may be of any approved form, but preferably of an oblong shape, as shown in Figs. 1, 2, and 6, as it affords a better bearing-surface for the rollers. It is obvious that the construction may be modified without departing from the spirit of this invention.

Fig. 6 shows a modification of the bearing-center having a straight bearing under surface, d' , and an upper broken surface, f' —that is to say, a surface varying from a straight plane. By this construction I am enabled to prevent the sagging in the roller-chain which is so common in devices of this kind as heretofore constructed.

It will be seen by having reference to Fig. 6 that as the rollers on the upper side of the bearing-center are riding the inclined portions of the depressions $c' c'$ the rollers on the ends will simultaneously ride the oppositely-inclined ends of the bearing-center, and thereby strain the chain and prevent its sagging or wobbling.

In all modifications of the bearing-center I intend to provide the same at its base with a guide, d , which, acting in conjunction with the outer guide, c , serves to keep the parts of the roller-chain B in the same plane, and at the same time prevents the links L of the roller-chain from impinging against the side of the casing. The guides $c d$ are made to conform to the contour of the bearing-center b , and are at such a distance therefrom as to allow free passage of the links L between them and the said bearing-center. The end extensions, e , are provided with grooves h , which are designed to receive the opposite end of each plate, and thus form a self-securing case, and to guard against lateral displacement the pins i pass through the holes o , which extend transversely through the casing A and bearing-center $c b$. When said pins are in position, it is impossible to separate the same.

In order that the case A may be entirely closed, excepting in that portion through which the roller-chain B protrudes, I provide the plates with a side extension, f , which runs

the whole length of said plates and springs at right angles therefrom to a plane passed centrally between the opposite ends of the said plates *a*, and also are provided with the extension *a'*, which fills the space between the same, and are of a sufficient length so as not to interfere with the roller-chain B.

The roller-chain B is made of rollers R, links L, said links consisting of the side bars, *l*, and central portion, *l'*, stamped out of sheet metal, and the bars *l* bent at right angles to the said central portion, *l'*, which serves to brace or strengthen the side bars, *l*, and preventing sagging thereof, and at the same time is adapted to remove anything which may adhere to the rollers.

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

1. In an anti-friction device, in combination with an endless roller-chain and casing, A, guides *c d*, and bearing-center *b*, substantially as described.

2. In an anti-friction device, in combination with an endless roller-chain, the bearing-center *b* and guides *c d*, said guides conforming to the contour of the bearing-center *b*, substantially as described.

3. In an anti-friction device, and in combination with an endless roller-chain, a casing constructed in two parts, each part having guides *c d*, and a bearing-center, *b*, substantially as and for the purpose herein described.

4. In an anti-friction device, and in combination with an endless roller-chain, means,

h i o, for locking the same, substantially as described.

5. A casing constructed in two parts, each provided on its opposite end with a side extension, *e*, having a groove, *h*, constructed to receive the opposite end of each part, substantially as and for the purposes herein described.

6. In an anti-friction device, in combination with the rollers R, the links L, each link consisting of the side bars, *l*, and central portion, *l'*, all constructed of one piece of metal, substantially as and for the purposes specified.

7. In an anti-friction device, in combination with the endless roller-chain B, casing A, made in two parts, each part consisting of the following elements: bearing-center *b*, guides *c d*, end extension, *e*, having a groove, *h*, and side extension, *f*, all constructed, arranged, and operating as herein set forth.

8. In an anti-friction device, and in combination with the roller-chain and casing thereof, a bearing-center, *b'*, having a straight under bearing-surface, as *d'*, and an upper broken surface, as *f'*, substantially as and for the purpose herein set forth.

9. In an anti-friction device, and in combination with the endless roller-chain and casing thereof, a bearing-center, as *b'*, having the end depressions, *c' c'*, substantially as and for the purposes as herein set forth and described.

J. M. WEYMOUTH.

Attest:

ALF. SARDET,
R. W. YOUNG.