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ROLLER SKATE.

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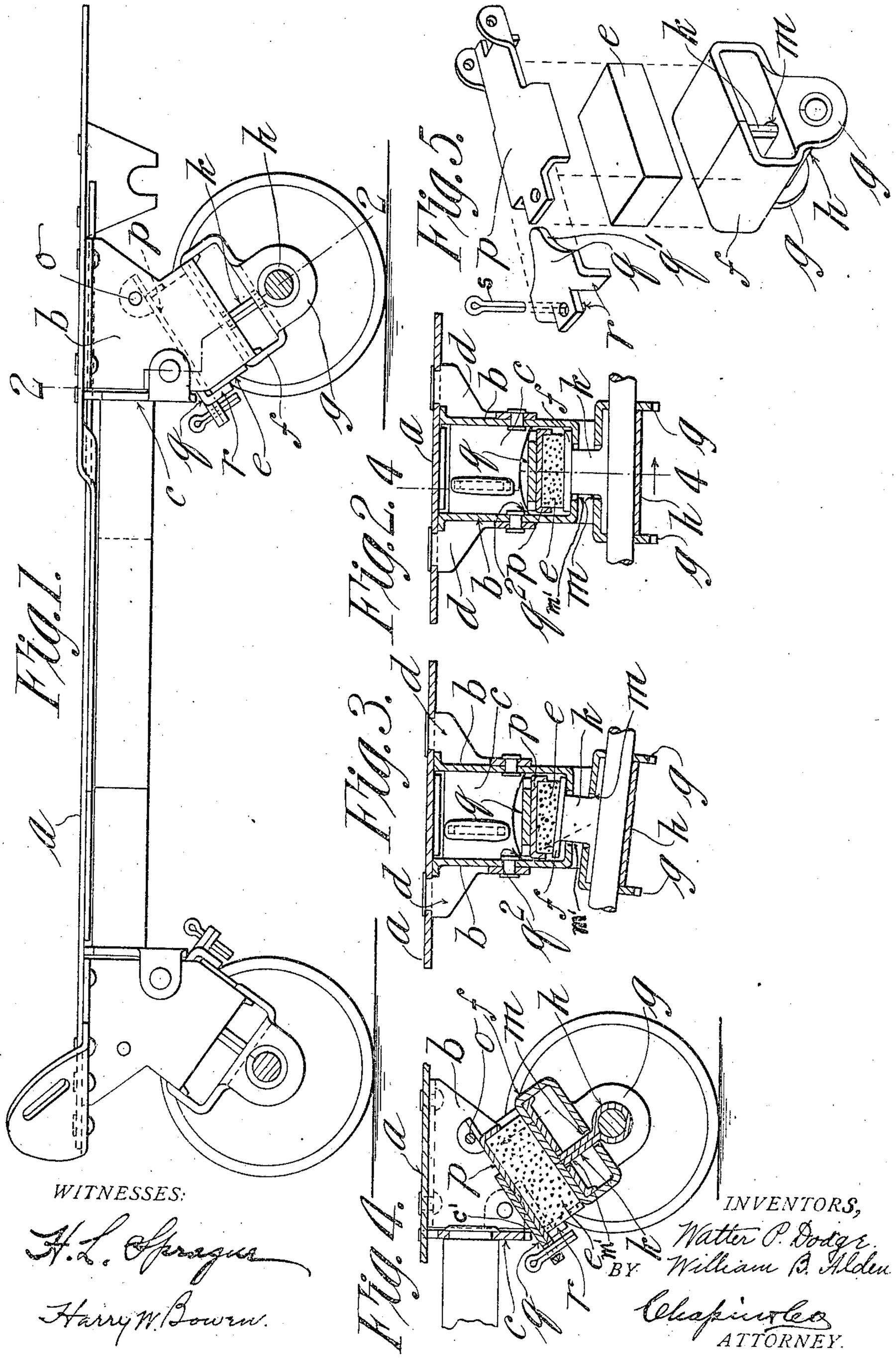

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ROLLER-SKATE.

948,666. Specification of Letters Patent. Patented Feb. 8, 1910.

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To all whom it may concern:

Be it known that we, WALTER P. DODGE and WILLIAM B. ALDEN, citizens of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Roller-Skates, of which the following is a specification.

This invention relates to roller skates and particularly to an improved truck construction and to the bracket supporting the same, all as will be described in the following specification in detail, and summarized in the claims forming a part thereof, the invention being clearly illustrated in the accompanying drawings in which,—

Figure 1 is a side elevation of a skate in which the invention is embodied in its preferred form, the clamping devices being omitted. Fig. 2 is a vertical section of the truck and bracket, the plane of the section being on line 2—2, Fig. 1; the ends of the axle in this figure and in Fig. 3 being broken off. Fig. 3 is a view similar to Fig. 2 but showing the axle and truck at an angle these parts might assume when the weight of the user is thrown on one side thereof, as in making a turn. Fig. 4 is a sectional elevation of the bracket and truck taken on a plane at right angles to that shown in Fig. 2, which plane is indicated by the line 4—4 on said Fig. 2. Fig. 5 is a perspective view of the elements constituting the truck and are shown in separated relation, one to the other, in the order of their assemblage.

The skate shown in the drawings is of the extension type of frame, but that forms no part of the present application, and the invention is equally applicable to a rigid skate frame.

The essential features of this invention are comprised in a construction whereby the cushion for a roller-skate truck may be placed in the structure under little or no compression, normally, whereby a greater range of elasticity is attained than when the cushion is normally under compression, that is when the skate is not in use; and, furthermore, in the construction of a skate-truck which has no fixed axis of oscillation but is free to adapt itself to any position resulting from the change of position of the weight of the user.

Referring to the drawings, *a* may indicate the frame of a skate and is assumed to comprise such elements as may be necessary to support a front and rear truck and their brackets. As these are identical in construction, but one will be described.

Like many other roller-skate constructions the front bracket is forwardly, and the rear bracket rearwardly, inclined for obvious and well known reasons. The front bracket is made in two parts, the rectangular part *b*,—whose sides are at right angles to the axle,—and the back plate *c* parallel with the axle. This part *b* is U-shaped in cross section, as shown in Figs. 2 and 3, and is attached to the sole-plate of the frame by securing the ends of its two sides thereto. The upper end of the back-plate *c* is likewise attached to the sole-plate and two laterally projecting ears *d* thereon are riveted to the sides of the bracket, the upper end of the plate *c* being wider than the bracket to constitute a lateral brace therefor, as shown in Figs. 2 and 3. This plate constitutes a closure for the rear side of the upper port of the bracket.

The plate *c* is at right angles to the foot-plate and from the lower edge of said plate the bracket inclines forwardly, as shown, at an angle to the vertical, and it is within this lower forwardly inclined portion of the bracket that the cushion *e* of rubber, and its associated parts are located.

The truck proper is made up of two parts, namely,—the box-like structure *f* having two depending parallel ears *g*. This piece is made from a sheet metal blank and the two ends of the latter abut at the top of the part *f* to the end that they may be left open far enough to permit the application of the truck to the lower end of the bracket *b*, as clearly shown in the drawings, particularly in Fig. 4. After the truck has been so applied, the two abutting ends of the truck structure are closed up in a suitable press. The top plate of the truck thus normally lies against the bottom of the bracket, as shown in said Fig. 4, and the upper surface of the truck constitutes a seat for the underside of the cushion *e*.

The two ears *g* are provided with holes to receive the ends of the tubular axle bearing *h*, the ends of which are headed over to secure it in place.

The axle bearing is made of sheet metal

and the blank from which it is formed is provided with two lugs or projections *k* so arranged that when the axle-bearing is formed these will be positioned side by side, as shown, to constitute a strut extending up through the bottom of the member *f*, as at *m*, their ends being in contact with the under side of the top plate of the truck on the meeting line of the two ends of the blank from which the part *f* is made and will thus act as a support for these ends and prevent them from giving way under any pressure to which said top-plate of the truck may be subjected. This, of course, necessitates the location of a hole m^1 in the bottom of the bracket *b*, as shown, through which the strut *k* extends, see Figs. 2, 3, and 4.

In assembling these parts, the ears *g* are left spread apart far enough to permit the axle bearing to be forced in between them, after the truck has been bent over the bottom plate of the bracket, as described above.

It is seen from the above construction that the truck, as applied, may rock in the bracket either transversely or longitudinally, and may move bodily toward and from the sole plate. In other words the truck has no fixed axis of oscillation, or the plate *a* has a free and unrestricted movement in all directions relative to the wheel-supporting axis of the truck, thus affording comfort and ease for the user.

An abutment for the upper surface of the cushion *e* is provided by a saddle *p*, see Fig. 5, which is pivotally supported at *o*, on the sides of the bracket *b*. This saddle has lips at one end and the two sides thereof turned down to overlap part of one end and the sides of the cushion *e* to hold the latter in place on these three sides, and to hold it from movement to the rear a small plate *q* is fitted over the rear end of the saddle, and has a lip *r* overhanging the rear end of the cushion. The cut away part q^1 of the plate *q* engages the curved cut out part c^1 of the plate *c*.

It will be noted that the saddle extends quite through the bracket, its rear end projecting beyond the lower edge of the plate *c*, as does the rear end of the plate *q*, and holes in each of these projecting ends are in registering position when the parts are assembled, and a cotter-pin *s*, or the like, is passed through these holes, to lock the plate *q* to the saddle and to hold the cushion in place. The saddle thus has a fixed support on the bracket at one end where it is pivoted thereto, and against the lower edge of the plate *c* at the opposite end.

By removing the plate *q*, the cushion may be pushed out of its seat and a new one placed in position.

When an elastic cushion of rubber, such as is generally used in constructions of this kind, is under compression when the skate is not in use, its range of compression when in use is diminished by the degree of said normal compression; whereas, if the cushion be normally uncompressed it will yield under a given weight much more readily, and therefore by inserting the cushion *e*, as described herein, without compression, it not only has a much more lively action but its range of action is also increased.

The plate *q* may be termed a wedge-plate since by increasing or diminishing the thickness thereof, the cushion may be more or less compressed as desired: or, if desired, two of the plates *q* may be used instead of one to hold the cushion properly in contact with the top of the truck *f*, if, after some use, the cushion *e* becomes more or less set in a slightly compressed condition.

What we claim, is:—

1. A truck for roller-skates consisting of a rectangular frame portion with upper and lower sides and having ears depending therefrom; a tubular axle bearing supported in said ears, and a strut extending from said axle bearing through said body portion of the truck to support the upper side thereof.

2. In a roller skate, a U-shaped bracket pendent from the skate-frame, a truck loosely suspended from the lower end of the bracket and having no fixed axis of oscillation, a resilient member in the bracket to hold the truck in operative relation to the bracket seated on the upper end of the truck, and a tubular axle-bearing carried by the truck beneath the bottom of the bracket.

3. In a roller skate, a U-shaped bracket pendent from the skate-frame, a back-plate secured to the frame and to the rear side of the bracket and constituting a lateral brace and a partial closure for the latter; a truck permanently but loosely attached to the lower end of the bracket; an elastic cushion located in the bracket and seated on the upper end of the truck; a saddle pivotally secured by one end to the bracket and bearing on the top of the cushion, the free end of the saddle extending under the lower edge of the back-plate of the bracket, and means to secure the cushion in position.

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