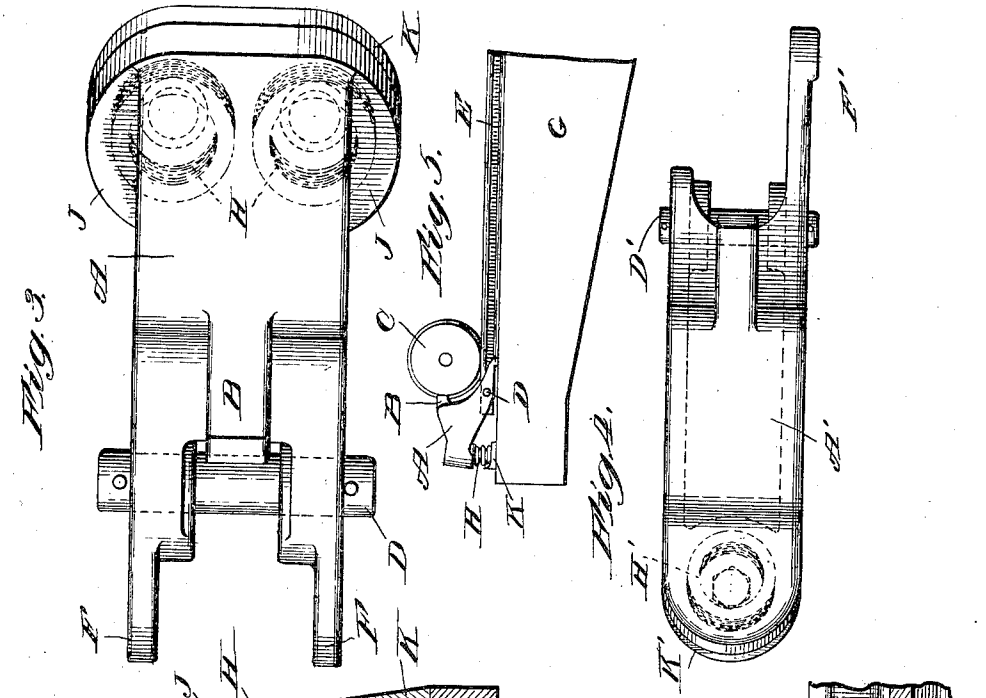
No. 678,589. Patented July 16, 1901.

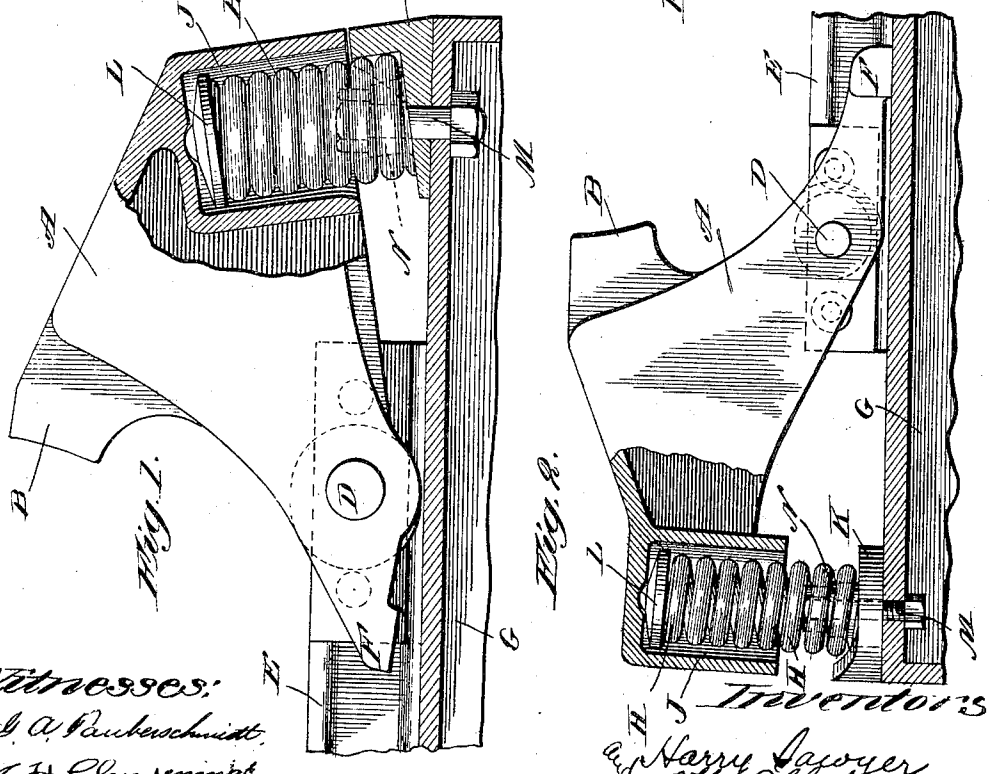
H. SAWYER & O. ALBERT.

SPRING CHOCK OR BUFFER.

(Application filed Mar. 6, 1901.)

(No Model.)





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UNITED STATES PATENT OFFICE.

HARRY SAWYER AND OTTO ALBERT, OF MUSKEGON, MICHIGAN, ASSIGNORS TO SHAW ELECTRIC CRANE COMPANY, OF SAME PLACE.

SPRING CHOCK OR BUFFER.

SPECIFICATION forming part of Letters Patent No. 678,589, dated July 16, 1901.

Application filed March 6, 1901. Serial No. 50,075. (No model.)

To all whom it may concern:

Be it known that we, HARRY SAWYER and OTTO ALBERT, citizens of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented a new and useful Spring Chock or Buffer, of which the following is a specification.

This invention relates to spring chocks or buffers.

The object of the invention is to provide a construction of spring chock or buffer which is simple and efficient.

The invention consists, substantially, in the construction, combination, location, and arrangement, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally pointed out in the appended claims.

Referring to the accompanying drawings, and to the various views and reference-signs appearing thereon, Figure 1 is a view in side elevation, parts in vertical section, of a spring chock or buffer embodying the principles of our invention, the chock or buffer being shown with the chock or buffer spring in compression. Fig. 2 is a similar view taken from the opposite side, the chock or buffer spring being expanded. Fig. 3 is a top plan view. Fig. 4 is a view similar to Fig. 3, showing a slightly-modified construction. Fig. 5 is a broken view, in side elevation, showing the application of a chock or buffer to electric crane work.

The same part is designated by the same reference-sign wherever it occurs throughout the several views.

In the drawings, reference-sign A designates a block or casting pivotally mounted and provided with a buffer-face B, adapted to receive impact of the wheel C or other convenient part of the truck or trolley to be arrested. In practice the casting A is pivoted upon a bolt D, suitably fastened or secured to the end of the rail E, upon which operates the truck or carriage and rocks upon said bolt under the impact of the wheel or part C of the truck or carriage in the direction in which the wheel C or other part of the truck or carriage travels, and said casting is provided with a toe or extension F, arranged to extend beyond the point of pivotal support of said casting upon bolt D to engage a flange or other convenient part of the girder or beam G, upon which the track-rail E is supported, thus forming a limiting-stop for the rebound of the casting when relieved of the pressure of the wheel or other part of the truck or carriage. In order to relieve the shock of impact of the wheel or other part of the truck or carriage against the buffer or chock, we provide means for yieldingly resisting the receding or rocking movement of the casting under the influence of the impact. This yieldingly-resisting means may comprise one or more springs H. The casting A is bifurcated, as clearly shown, and arranged to straddle the rail E, upon which said casting is pivoted, and in the form shown in Figs. 1, 2, and 3 the casting is provided with two chambers J, in each of which a stout coiled spring H is received, said springs being interposed between the base of the chambers and the girder or beam G in position to be compressed when receiving impact of the wheel or other part of the frame of the truck or carriage. Any suitable provision may be made for enabling the springs to accommodate themselves to the swinging movement of the casting about its pivot-bolt D. Simple provisions for this purpose are shown, wherein a wedge-block K is interposed between the spring and the girder or beam G, and a swivel-cap L may be similarly interposed between the opposite end of the spring and the base-wall of the chamber J, as clearly shown. The wedge-block K may be held in any convenient manner—as, for instance, by means of a bolt M—and, if desired, said wedge-block may be provided with an enlarged boss (indicated at N) which is adapted to be received within the coiled spring to hold the same in place and prevent accidental displacement of the same.

In Fig. 4 is shown a slightly-modified arrangement specially adapted for light work and wherein the casting A′ is provided with only one chamber and spring, the casting being bifurcated and mounted upon a pivot-bolt D and provided with a limiting stop or abutment F′, similar in all respects to the construction above described and as shown in Figs. 1, 2, and 3. For heavy work, how-

ever, we prefer to employ the construction shown in Figs. 1, 2, and 3, wherein two compression-springs are employed.

The operation will be readily understood from the foregoing description, taken in connection with the accompanying drawings, and is as follows: Assuming the parts to be in the position shown in Fig. 2, the wheel C or other movable part of the truck or carriage when it reaches the end of its travel abuts against the chock or buffer, thereby rocking the casting A about its pivot-bolt D and in a direction to compress the spring or springs, thereby relieving the truck or carriage of shock or jar due to the impact, and the wedge-block K and swivel-cap L enabling the spring or springs to accommodate themselves to the rocking movement of the casting or block A, the parts under the influence of the impact of the wheel or truck frame assuming the position shown in Fig. 1. When the chock or buffer is relieved of the influence of the impact exerted thereon by the wheel or frame of the truck or carriage the parts are restored by the expansion of the spring or springs to normal position, as shown in Figs. 2, limit stop or projection F limiting the movement of the casting or block and preventing the buffer-springs from becoming displaced.

It is obvious that many variations and changes in the details of construction and arrangement would readily occur to persons skilled in the art and still fall within the spirit and scope of our invention. We do not desire, therefore, to be limited or restricted to the exact construction shown; but,

Having now set forth the object and nature of our invention and various constructions embodying the principles thereof, what we claim as new and useful and of our joint invention, and desire to secure by Letters Patent, is—

1. In a spring stop or buffer, the combination with a track-rail, a block or casting pivotally mounted at one end upon a pivot arranged in stationary relation to said rail and a spring arranged to yieldingly oppose the rocking movement of said block or casting about its pivot, as and for the purpose set forth.

2. In a spring stop or buffer, the combination with a block or casting pivotally mounted at one end and provided with a chamber at the opposite end, and a compression-spring arranged to be received in said chamber for yieldingly opposing the rocking movement of said block or casting in one direction, as and for the purpose set forth.

3. In a spring stop or buffer, the combination with a track-rail, a block or casting pivotally connected at one end directly to said rail, and a spring arranged to yieldingly oppose the swinging movement of the opposite end of said block or casting in one direction, and a limiting-stop for limiting the movement of said block or casting under the influence of said spring, as and for the purpose set forth.

4. In a spring stop or buffer, the combination with a supporting girder or beam, a track-rail mounted thereon, a block or casting pivotally connected directly to said rail at one end, and a spring interposed between said girder or beam and the opposite end of said block or casting, as and for the purpose set forth.

5. The combination with a supporting girder or beam and a track-rail, of a block or casting pivotally connected directly to the end of said rail and provided with an extension beyond the pivotal support thereof to form a limiting-stop therefor, and a spring interposed between said girder or beam and said block or casting, as and for the purpose set forth.

6. The combination with a supporting girder or beam, a track-rail mounted thereon, a block or casting pivotally mounted at one end the point of pivotal support of said casting being in stationary relation with respect to the rail, a coiled spring arranged to oppose the rocking movement of said block or casting in one direction, and means for accommodating said spring to the direction of rocking of said block or casting, as and for the purpose set forth.

7. The combination with a supporting beam or girder, a track-rail, a block or casting pivotally mounted adjacent to the end of said rail, a spring for opposing the swinging movement of said block or casting in one direction, a wedge-block interposed between one end of said spring and said girder or beam, and a swivel-cap interposed between the opposite end of said spring and said block or casting, as and for the purpose set forth.

8. The combination with a supporting beam or girder, a track-rail, a block or casting arranged to straddle said rail and pivotally connected thereto and provided with chambers at the free end thereof, and springs arranged to be received within said chambers and respectively interposed between said block or casting and supporting beam or girder, as and for the purpose set forth.

In witness whereof we have hereunto set our hands, this 28th day of February, 1901, in the presence of the subscribing witnesses.

HARRY SAWYER.
OTTO ALBERT.

Witnesses:
P. J. KNIPERS,
J. L. HAGA.