

J. H. SAGER.
CUSHION FRAME FOR CYCLES.
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1,062,800.

Patented May 27, 1913.

Fig. 1.

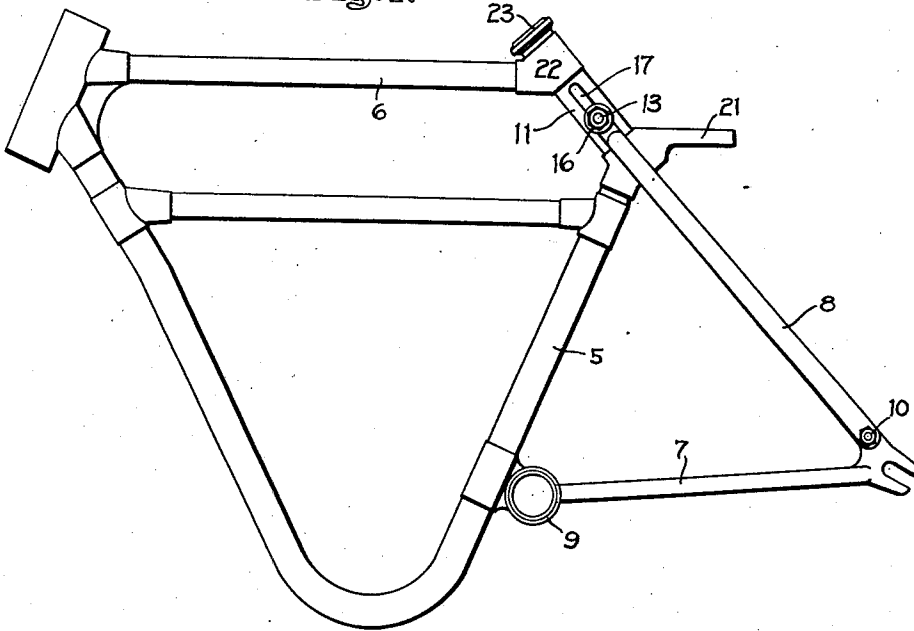


Fig. 2.

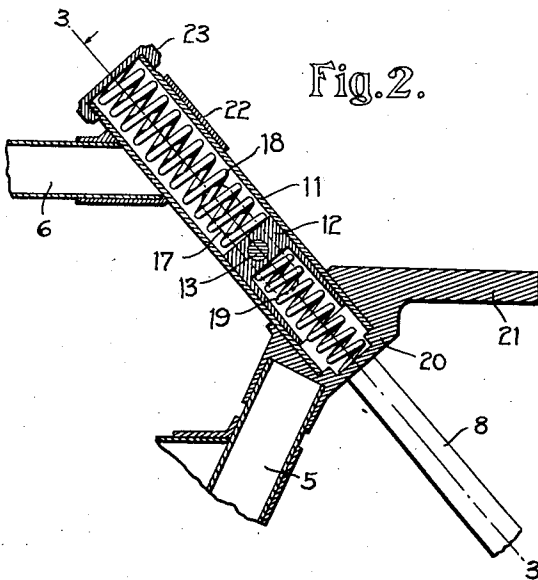
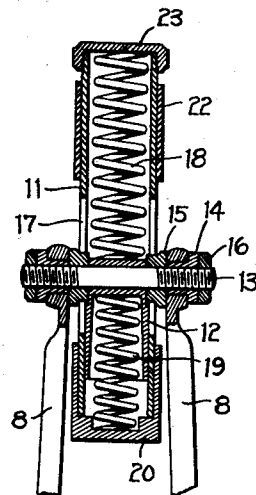


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CUSHION-FRAME FOR CYCLES.

1,062,800.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed December 30, 1912. Serial No. 739,338.

To all whom it may concern:

Be it known that I, JAMES H. SAGER, a citizen of the United States, and resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Cushion-Frames for Cycles, of which the following is a specification.

This invention relates to frames for cycles, particularly for motor-cycles, of the type commonly described as "cushion-frames", that is to say, in which the rear-portion of the frame, in which the rear-wheel is mounted, is connected movably with the forward portion of the frame and supported by a spring or springs, so as to provide a yielding connection between the rear-wheel and the major portion of the machine.

The object of the invention is to produce a cushion-frame which shall be simple in construction and conveniently arranged for assembling and disassembling its parts when necessary.

More particularly, the object of the invention is to produce a cushion-frame adapted for use in a motor-bicycle in which a low saddle-position is required, the spring-mechanism being so arranged as to permit the use of springs of adequate length without any modification of the general arrangement and construction of the frame which experience has demonstrated to be most desirable in a motor-cycle of standard design.

To the foregoing ends the present invention consists in a cycle-frame in which the rear-stays are connected with a spring-mechanism arranged to move in an inclined frame-member connecting the upper horizontal frame-member and the seat-mast, and in which the parts of the spring-mechanism are removable through the forward end of the inclined frame-member, in the manner hereinafter set forth.

In the accompanying drawings:—Figure 1 is a side-elevation of a motor-cycle frame embodying the present invention; Fig. 2 is a vertical section, on a larger scale, of the portion of the frame in which the novel features of construction are embodied; and Fig. 3 is a section on the line 3—3 in Fig. 2.

The invention is illustrated as embodied in a motor-cycle frame of which the general design is familiar, this frame including the usual seat-mast 5, upper horizontal member 6, lower rear-members or fork-sides 7, and upper rear-members or stays 8. As is usual

in cushion-frames, the members 7 are pivotally mounted, at their forward ends, by a joint located at or adjacent to the crank-hanger 9. This joint may be formed, for example, in the manner illustrated in United States Letters Patent No. 973,217, granted to me October 18, 1910, or in any other usual or suitable manner. The lower ends of the rear-stays 8 are also pivoted at 10 in the usual manner, to permit the necessary relative movements of the parts.

The present invention is embodied particularly in the means by which the upper ends of the rear-stays 8 are connected with the other parts of the frame. For this purpose the frame is provided with an inclined tubular member 11, which connects the upper horizontal member 6 with the seat-mast 5, and constitutes also a casing and guide for the spring-mechanism. Within the member 11 is a slide 12, which fits the member 11 closely and moves longitudinally therein. This slide is connected, by a transverse bolt 13, with the upper ends of the rear-stays 8, and the bolt is provided, at its ends, with threaded bearing-sleeves 14, upon which the ends of the stays are loosely pivoted. The bolt is provided also with lock-nuts 16 to fix the parts together, and with slide-blocks 15, which move through lateral slots 17 in the member 11. Two compression-springs 18 and 19 are inclosed within the member 11, respectively above and below the slide 12. The spring 18 is adapted to cushion the forward movements of the slide and the rear-stays, while the spring 19 constitutes a recoil-spring, so that the slide is cushioned in both directions, while being normally retained in an intermediate position as shown in the drawings.

The arrangement of the slide and the springs just described is somewhat similar to that disclosed in my patent above referred to, but in that patent the slide was arranged to move in the upper horizontal member of the frame, and the parts of the spring-mechanism were removable through a perforation in the rear of the seat-mast, being normally retained in place by the removable saddle-post. In the present arrangement, however, particularly when used in connection with motor-cycles, it is not convenient to remove the parts of the spring-mechanism in this manner, especially as it is common to mount the saddle of a motor-cycle without the use of a removable saddle-post.

In the illustrated embodiment of the invention, therefore, the rear-end of the inclined frame-member 11 is shown as brazed into a fitting 20 to which the upper end of the seat-mast is also brazed, and this fitting also comprises integrally a horizontally-extending stem 21, upon which the saddle may be mounted without the use of a saddle-post. This member also constitutes a seat for the lower end of the spring 19. To provide for the introduction and removal of the parts of the spring-mechanism, the forward end of the member 11 is brazed into a fitting 22, by which it is connected with the upper frame-member 6, and it passes completely through this fitting, so that its forward end projects above the frame-member 6. At this point a screw-threaded cap 23 is provided, to close the end of the member 11 and constitute a seat for the forward end of the spring 18. Upon removing this cap and disengaging the bolt 13 from the slide the springs and the slide may be removed from or replaced in the member 11, so that in case of the breakage of a spring the parts may be disassembled and a new spring substituted without the necessity of removing the saddle or disassembling any other part of the machine.

Another advantage of the arrangement above described resides in the fact that the frame-member 11 may be arranged to extend in a line parallel with the rear-stays 8, so that the thrust upon the slide 12 is direct, and lateral thrust and friction in the spring-mechanism are eliminated.

My invention is not limited to the embodiment thereof hereinbefore described and illustrated in the accompanying drawings, but may be embodied in various other forms within the nature of the invention, as it is defined in the following claims.

I claim:—

1. In a cycle-frame comprising inclined rear-stays, a seat-mast and a horizontal upper frame-member, an inclined tubular member connecting the seat-mast and the

horizontal upper frame-member, and provided with lateral slots, said inclined member extending in a line substantially parallel with the rear-stays, spring-mechanism inclosed within said inclined member and connected with the upper ends of the rear-stays through said slots, and a removable closure for one end of said inclined member.

2. In a cycle-frame comprising inclined rear-stays, a seat-mast and a horizontal upper frame-member, an inclined frame-member connecting the seat-mast and the horizontal upper frame-member, and provided with a spring-receiving chamber extending above the horizontal upper frame-member, a removable closure for the forward end of the spring-receiving chamber, a spring in said chamber, and connections between the spring and the upper ends of the rear-stays, the inclined frame-member being slotted for the passage of said connections.

3. In a cycle-frame comprising inclined rear-stays, a seat-mast and a horizontal upper frame-member, an inclined tubular member connecting the seat-mast and the horizontal upper member and laterally slotted, a fitting receiving and closing the upper end of the seat-mast and the rear end of said inclined member, and provided with an integral, rearwardly-extending saddle-supporting member, a fitting receiving the forward end of the inclined frame-member and the rear end of the upper horizontal frame-member, a screw-threaded cap closing the forward end of the inclined frame-member, springs and a spring-controlled slide movable within said inclined member, and connections between the slide and the upper ends of the rear-stays, said connections passing through the slots in the inclined member.

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