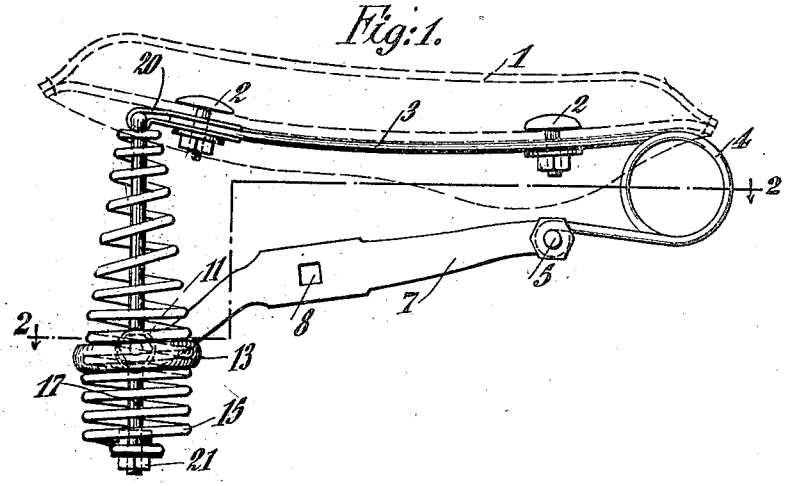
Nov. 20, 1923. 1,474,977

H. MESINGER ET AL

CUSHION SADDLE

Filed Sept. 23, 1921 2 Sheets-Sheet 1

Fig:1.



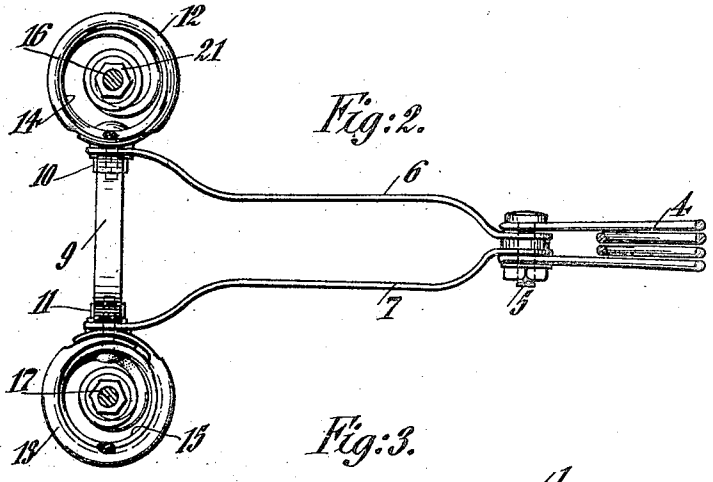
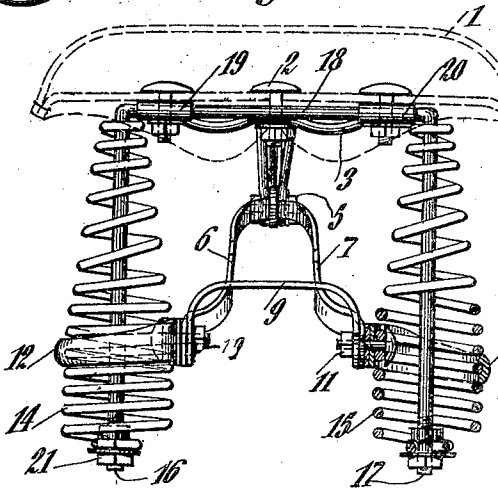


Fig:2.

Fig:3.



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Filed Sept. 23, 1921 2 Sheets-Sheet 2

Fig:4.

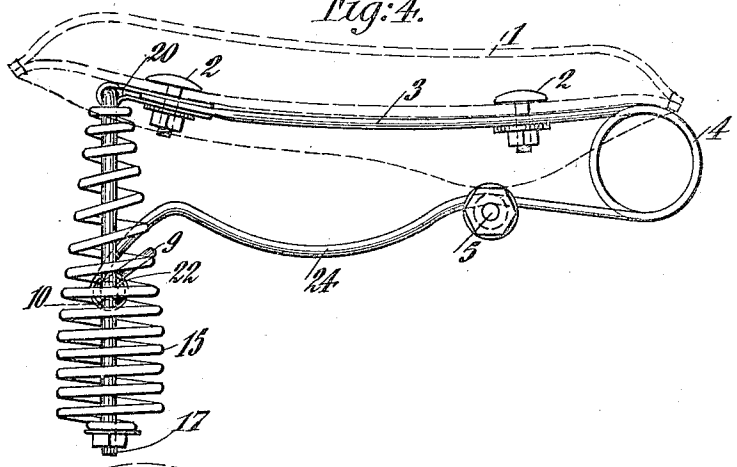


Fig:5.

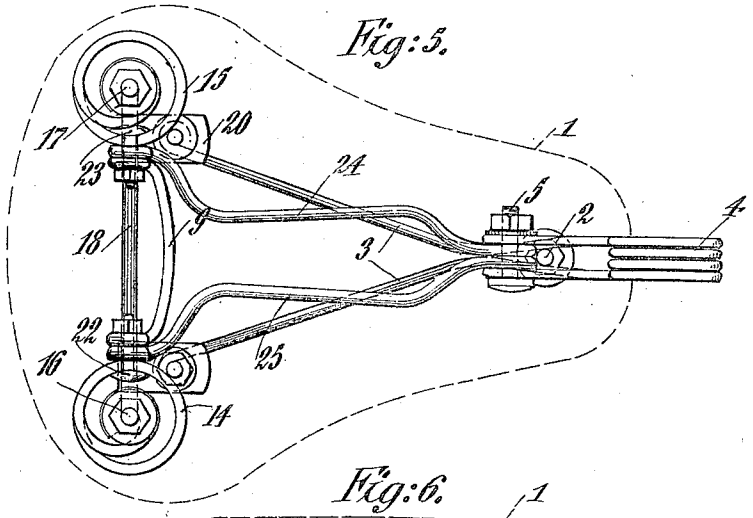
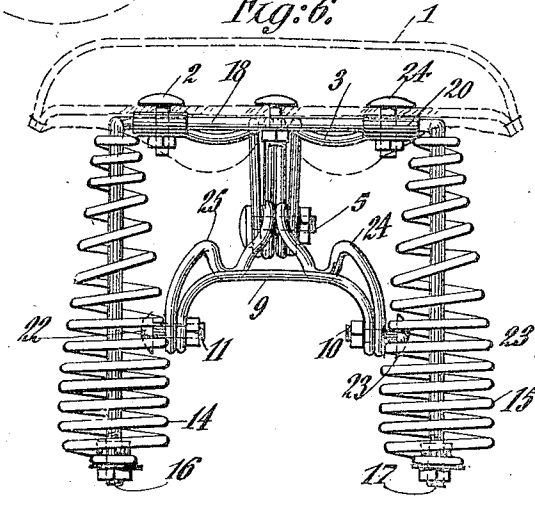


Fig:6.



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UNITED STATES PATENT OFFICE.

HENRY MESINGER AND FREDERICK MESINGER, OF NEW YORK, N. Y.

CUSHION SADDLE.

Application filed September 23, 1921. Serial No. 502,719.

To all whom it may concern:

Be it known that we, HENRY MESINGER and FREDERICK MESINGER, both citizens of the United States, and residents of New York city, in the county of Bronx and State of New York, have invented certain new and useful Improvements in Cushion Saddles, of which the following is a specification.

The present invention relates to improvements in cushion saddles and is intended for use particularly in conjunction with bicycles and motorcycles and the invention has for an object to provide for resiliently supporting a saddle seat and further, avoiding that objectionable rebound which occurs consequent upon the compression of the cushioning springs incident to encountering inequalities in the roadway over which the vehicle is passing.

Another object of the invention is to provide a simple, compact and inexpensive structure in which the coil springs for cushioning the saddle are divided in effect and made to act in the dual function of resiliently supporting the seat and checking the rebounding movement thereof caused after a compression of the springs.

With the above and other objects in view, the invention consists in the improved form, construction and relative arrangement of the several parts as will be hereinafter more fully described, illustrated in the accompanying drawings and subsequently incorporated in the subjoined claims.

In the drawings wherein we have illustrated one practical and satisfactory embodiment of the invention and in which similar reference characters designate corresponding parts throughout the several views,

Figure 1 is a view in side elevation of an improved resiliently supported saddle as constructed in accordance with the present invention,

Figure 2 is a horizontal sectional view thereof taken on the line 2—2 of Figure 1,

Figure 3 is a rear view of the device,

Figure 4 is a side view showing a slight modification,

Figure 5 is a bottom plan view thereof, and

Figure 6 is a rear end view.

Referring more particularly to the drawings and for the present to Figures 1, 2 and 3, 1 designates a saddle seat which in this instance is secured as by bolts 2 to an upper frame 3 preferably of heavy wire construction having its forward portion coiled into a number of convolutions 4 beneath and projecting slightly beyond the front tongue portion of the saddle 1 and constituting a resilient support for this portion of the seat. The ends of the wire frame work, after issuing from the convolutions 4 at their lower portions are brought rearwardly and are suitably rolled over to receive a transverse pin 5 to which the convergent ends of companion bars 6 and 7 constituting a lower frame are pivotally secured.

The bars 6 and 7 lie in a general diagonal direction and have openings 8 made therethrough to receive a bolt or other fastening by which the bars are clamped firmly upon the frame work or adjustable post of a bicycle, motorcycle, or the like. At their rear ends the bars 6 and 7 diverge as most clearly seen in Figure 2 and project down at an angle as illustrated in Figure 1. At this point a brace or bridge piece 9 is connected between the bars for the purpose of keeping them spaced apart and imparting strength to the structure. For the purpose of connecting the rear ends of the bars 7 and the ends of the brace 9 to the respective springs, I preferably employ the rings 12 and 13. Each of these rings is provided with an internal spiral groove and may be threaded downwardly upon the lower cylindrical portions of the springs 14 and 15 to any desired position in spaced relation to the lower ends of said springs. The end portions of these rings overlap at the inner sides of the springs and are provided with coinciding openings to receive the bolts 10 and 11 respectively. These bolts extend between adjacent convolutions of the respective springs and have heads which are of sufficient diameter to extend upon the inner sides of the two adjacent turns or convolutions of the springs. Suitable nuts are threaded upon the other ends of said bolts to tightly clamp or rigidly secure the ends of the bars 7 and of the brace 9 to the rings 12 and 13. Rods 16 and 17 extend axially through the respective springs. These rods 16 and 17 are in one piece with the rockshaft 18 which has a pivotal movement in straps or bearings 19 and 20 held by the bolts 2 to the rear underface of the saddle seat 1. The rods 16 and

17 are threaded at their lower ends and receive nuts 21 engaging above and below the lower terminals of the springs. The threads of the rods are preferably continued over some length to secure an adjustment of the springs as to compression.

It will be noted particularly from Figures 1 and 3 that each cushioning spring is composed of a number of turns or convolutions wound concentrically about its respective rod, the lower turns being uniform and encompassing substantially a cylindrical space, while the upper portion of each spring is made of turns or helices which progressively decrease in diameter and form a frustum of a cone, the terminal upper helix engaging freely beneath the end of the rockshaft 18.

The action of the device is as follows:

When encountering ruts or other inequalities in the roadway or surface over which for instance a bicycle is traveling, the shock received upon the wheel is transmitted through the frame work and directly thereby to the bars 6 and 7. There is consequently an upward thrust which develops by causing the bars 6 and 7 to execute a swinging movement about the pin center 5 and resulting in carrying the rings 12 and 13 upwardly to cause a compression of the portions of the spring 14 and 15 extending thereabove and likewise, an extension of the portions of such springs lying beneath these rings. The effect is to transmit the shocks and the jars to the seat saddle 1 only through the upper portions of the springs and consequently, to absorb the force of these shocks and jars. As soon as the force of the shocks and jars is spent, the upper portions of the springs above the rings 12 and 13 will tend to expand due to the elasticity inherent in the metal and this action will be assisted by the tendency of the lower portions of the springs beneath the rings to contract downwardly inasmuch as the latter portions of the springs have been distended out of their normal position. Moreover, the lower portions of these springs will form resilient and yielding abutments to cushion the downward movement of the rings 12 and 13 and to further absorb or cushion any shock that is apt to occur in the saddle seat 1 due to the rebound or return of the springs to their normal positions. In other words, the upper and lower portions of the springs when they are divided in the manner described by the rings 12 and 13 exert a mutually compensating effect, the one upon the other, and together contribute to cushion the seat 1.

By the provision of the rings 12 and 13 and the means for rigidly fixing these rings upon the respective springs and to the ends of the bars 7, the compression and extension of the upper and lower portions of the springs in the vertical movement of the bar 7 will be equally distributed circumferentially around the springs. Thus undue pressure at one side of the springs tending to exert a bending or distorting strain upon the spring coils or on the rods 16 and 17, is obviated and a better resilient cushioning effect is obtained.

Referring more particularly to Figures 4, 5 and 6, an arrangement generally similar to that previously described is herein illustrated with the exception that the rings 12 and 13 are dispensed with and the heads 22 and 23 of the bolts 10 and 11 made to extend within adjacent turns of the springs 14 and 15. The shanks of these bolts are engaged between adjacent convolutions of the springs and transmit the stresses and strains therethrough in the same manner as the rings 12 and 13 except that the rings are continuous around the convolutions and they exert a more uniform distending and compression influence upon the springs. In this instance the bars 6 and 7 are also dispensed with and heavy metallic wire rods 24 and 25 substituted therefor having downwardly curved intermediate parts as shown in Figure 4 to receive the seat post or other rigid part of the vehicle frame.

While we have herein shown and described the preferred construction and arrangement of the several elements, it will nevertheless be understood that the device is susceptible of considerable modification in the form, proportion and relative arrangement of the several parts and we accordingly reserve the privilege of adopting all such legitimate changes as may be fairly embodied within the spirit and scope of the invention as claimed.

We claim:

1. Cushioning means for vehicle saddles comprising in combination with the saddle proper, a support therefor including spaced parts, rods depending from the rear end of the saddle, a spring surrounding each of said rods and fixed thereto at its lower end, and means connected to each of the spaced parts of the support and surrounding the respective springs, and a threaded connection between said means and the spring convolutions permitting of their relative axial adjustment whereby a selected number of the convolutions may be disposed above and below the frame connection to be subjected to compression and expansion respectively, under load.

2. Cushioning means for vehicle saddles comprising in combination with the saddle proper, a supporting frame therefor including spaced parts, depending rods pivotally connected at their upper ends to the saddle, a coil spring surrounding each of said rods and having an upwardly tapering portion with the terminal coil closely engaged around said rod, the lower portion of the

spring having coils of uniform diameter, a ring threaded upon the latter coils of each spring, and means for rigidly connecting the spaced parts of the supporting frame to the respective rings including bolts extending between adjacent spring convolutions and having heads for clamping engagement against the inner sides of the spring convolutions.

In testimony that we claim the foregoing as our invention, we have signed our names hereunder.

HENRY MESINGER.
FREDERICK MESINGER.