H. E. GYNN.

SPRING SEAT.

APPLICATION FILED NOV. 22, 1919.

1,355,225. Patented Oct. 12, 1920.

Fig. 1

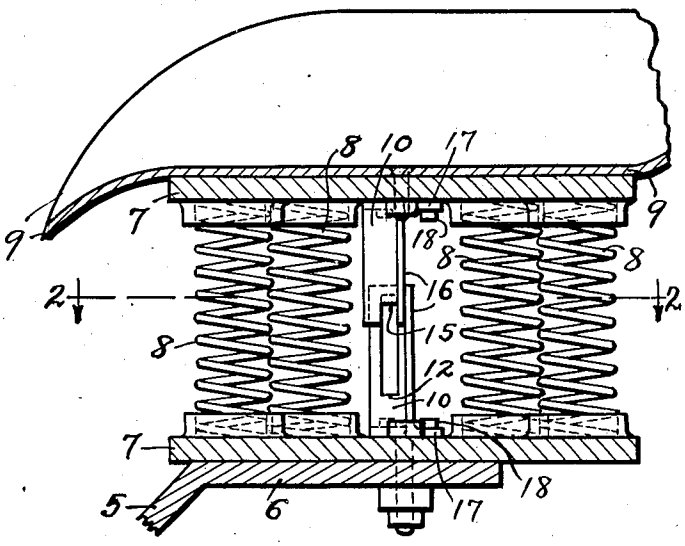


Fig. 3

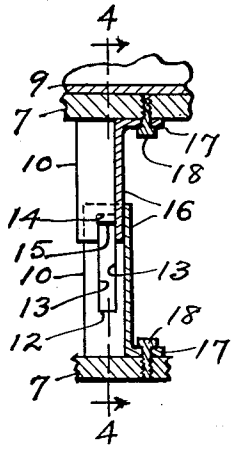


Fig. 4

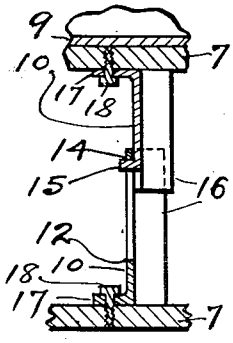
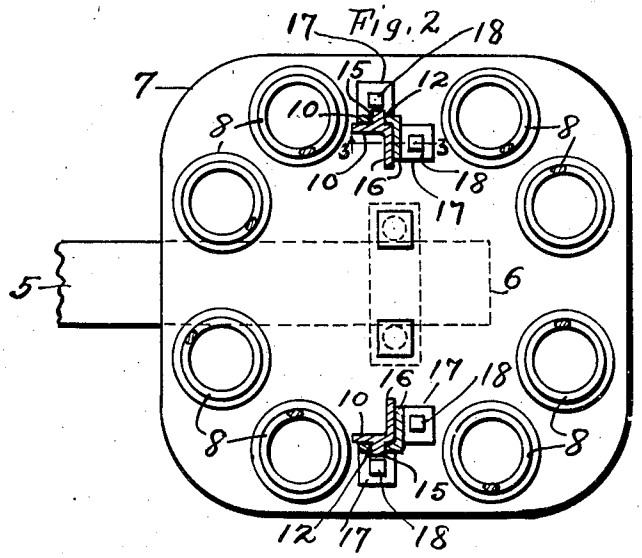


Fig. 2



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SPRING-SEAT.

1,355,225. Specification of Letters Patent. Patented Oct. 12, 1920.

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To all whom it may concern:

Be it known that I, HATTIE E. GYNN, a citizen of the United States, and residing at Cleveland Heights, in the county of Cuyahoga and State of Ohio, have invented a new and useful Spring-Seat, of which the following is a specification.

This invention relates to improvements in spring-seats, and pertains more especially to a spring-seat comprising two vertically spaced and oppositely arranged substantially horizontal plates the lower of which is adapted to be carried by a supporting member, and also comprising springs employed in supporting the upper plate from the lower plate, and furthermore comprising means for guiding the upper plate relatively to the lower plate and positively preventing rotary movement in a horizontal plane and lateral movement and forward and rearward movement of the upper plate independently of the lower plate.

The object of this invention is to have said guiding means independent of the hereinbefore mentioned springs, to avoid the projection below said lower plate of any component member of said guiding means, to have said guiding means permit descent of the hereinbefore mentioned upper plate against the action of said springs without the movement of any portion of said means below the aforesaid lower plate, to render said guiding means simple and durable in construction, and to facilitate the assemblage of the component members of said guiding means.

With this object in view, and to attain any other object hereinafter appearing, this invention consists in certain features of construction, and combinations and relative arrangements of parts, hereinafter described in this specification, pointed out in the claims, and illustrated in the accompanying drawings.

In said drawings, Figure 1 is a side elevation in central vertical section of a spring-seat embodying my invention. Fig. 2 is a horizontal section taken along the line 2—2, Fig. 1, looking downwardly. Fig. 3 is a vertical section, in detail, taken along the line 3—3, Fig. 2, looking outwardly. Fig. 4 is a vertical section taken along the line 4—4, Fig. 3, looking in the direction indicated by the arrow.

Referring to said drawings, 5 indicates the upper portion of a bracket adapted to be carried by the framework or body of a tractor or other vehicle or machine, and said bracket has a rearwardly projecting arm 6 on which my improved seat is shown mounted. Said seat comprises two vertically spaced and directly oppositely arranged substantially horizontal metal plates 7 the lower of which is shown mounted directly on the bracket-arm 6 and secured to said arm in any approved manner. The seat illustrated comprises an even number of substantially vertically arranged corresponding helical springs 8 interposed between the plates 7 and spaced circumferentially of the space between the central portions of said plates and supporting the upper plate from the lower plate. The seat-proper 9 is mounted on the upper plate and secured to said plate in any approved manner.

My improved seat comprises two pairs of substantially vertical and laterally facing coöperating metal guiding members 10 which are secured the one to the upper of the plates 7 and the other to the lower of said plates. Preferably said pairs of guiding members are arranged at opposite sides respectively of the space between the central portions of the plates 7 and wholly between said plates. Each member of each pair of guiding members 10 projects from the plate carrying it toward the other plate and is spaced at its free end from the last-mentioned plate, and said guiding members are movable endwise independently of each other. It will be observed therefore that one member of each pair of guiding members 10 projects vertically downwardly from the upper plate, and the other member of said pair of guiding members projects vertically upwardly from the lower plate, and the free end portions of said guiding members are arranged side by side and in close proximity to each other. Preferably each member of each pair of guiding members 10 has one side of its free end portion overlapping one side of the free end portion of the other member of said pair of guiding members centrally between said plates. One member of each pair of guiding members 10 is provided between its free end and the plate carrying it with a slot 12 which extends substantially vertically and consequently endwise of said guiding member, and said slot, (see Figs. 3 and 4) has side walls 13 and an end wall 14 which faces said plate, and the other of said guiding

members is provided with a projection 15 extending into said slot and arranged opposite and abutting against said end wall. Said slot extends therefore from said projection in the direction in which said end wall faces and is arranged to permit movement of the upper plate toward the lower plate. In the seat illustrated the slots 12 are formed in the lower members of the pairs of guiding members 10, and the projections 15 are formed on the upper members of said pairs of guiding members. In the upper and normal position of the upper plate the springs 8 are somewhat compressed and under tension, so that the projections 15 bear against the end walls 14 of the slots 12. The relative arrangement of the parts is such that said end walls of said slots and said projections are arranged between and adequately spaced from both plates 7 and constitute means for preventing movement of the guiding members of the upper plate upwardly independently of the guiding members of the lower plate and consequently prevent said plates from moving relatively to increase the distance between them, but obviously said plates are relatively movable against the action of the spring 8, to reduce the distance between the plates. The side walls 13 of the slots 12 and the projections 15 are arranged to constitute means for preventing movement of the upper plate forwardly and rearwardly independently of the lower plate, and said projections and said side walls of said slots also constitute means for preventing rotary movement in a horizontal plane of the upper plate independently of the lower plate.

Each guiding member 10 has a rearwardly and forwardly facing flange 16 which extends endwise and preferably from end to end of said guiding member, and the flanges 16 of the members of each pair of guiding members are arranged the one next forward of the other. In the seat illustrated the forward side of the upper portion of the flange 16 of each guiding member of the lower plate is overlapped, centrally between the plates, by the rearward side of the flange 16 of the adjacent guiding member of the upper plate, and the flanges of each pair of guiding members project inwardly so that the flanges of the members of one of the pairs of guiding members are arranged to prevent rotary movement in a horizontal plane of the upper plate independently of the lower plate in one direction, and the flanges of the members of the other pair of guiding members are arranged to prevent rotary movement in said plane of the upper plate independently of the lower plate in the opposite direction.

Each member of each pair of guiding members 10 is provided next the plate carrying it with end flanges 17 abutting against said plate and removably secured by screws 18 to said plate, and the screws that secure one of said guiding members to the lower plate correspond and are alined vertically with the screws securing the other of said guiding members to the upper plate, so as to render said guiding members interchangeable and thereby materially simplify and facilitate the assemblage of the parts.

What I claim is—

1. In a spring-seat, the combination, with two vertically spaced and oppositely arranged substantially horizontal plates the lower of which is adapted to be carried by a supporting member, said plates being relatively movable to reduce the distance between them, and springs supporting the upper plate from the lower plate, of a pair of coöperating guiding members which are secured the one to the upper plate and the other to the lower plate, the guiding member secured to the upper plate projecting vertically downwardly from said upper plate, the guiding member secured to the lower plate projecting vertically upwardly from said lower plate, said guiding members having their free end portions arranged side by side and being movable endwise independently of each other and provided between said plates with means adapted to prevent rotary movement in a horizontal plane as well as forward and rearward movement of the upper plate independently of the lower plate.

2. In a spring-seat, the combination, with two vertically spaced and oppositely arranged substantially horizontal plates the lower of which is adapted to be carried by a supporting member, said plates being relatively movable to reduce the distance between them, and springs supporting the upper plate from the lower plate, of a pair of substantially vertical coöperating guiding members which are secured the one to the upper plate and the other to the lower plate, said guiding members being movable endwise independently of each other and provided between said plates with means adapted to prevent forward and rearward movement of the guiding members independently of each other, and each guiding member having one side of its free end portion overlapping one side of the free end portion of the other guiding member centrally between said plates.

3. In a spring-seat, the combination, with two vertically spaced and oppositely arranged substantially horizontal plates the lower of which is adapted to be carried by a supporting member, said plates being relatively movable to reduce the distance between them, and springs supporting the upper plate from the lower plate, of a pair of substantially vertical coöperating guiding members which are secured the one to the

upper plate and the other to the lower plate and have their free end portions arranged side by side, said guiding members being movable endwise independently of each other, and each guiding member having a rearwardly and forwardly facing flange which extends endwise of said guiding member and has one side thereof overlapping one side of the free end portion of the corresponding flange of the other guiding member.

4. In a spring-seat, the combination, with two vertically spaced and oppositely arranged substantially horizontal plates the lower of which is adapted to be carried by a supporting member, said plates being relatively movable to reduce the distance between them, and springs supporting the upper plate from the lower plate, of two spaced pairs of substantially vertical coöperating guiding members, the members of each pair of guiding members being movable endwise independently of each other and secured the one to the upper plate and the other to the lower plate, each pair of guiding members being provided between said plates with means adapted to prevent said plates from moving relatively to increase the distance between the plates, each guiding member having a flange which extends endwise of said guiding member, the flanges of the members of one of the pairs of guiding members being arranged to prevent rotary movement in a horizontal plane of the upper plate independently of the lower plate in one direction, and the flanges of the other guiding members being arranged to prevent rotary movement in said plane of the upper plate independently of the lower plate in the opposite direction.

5. In a spring-seat, the combination, with two vertically spaced substantially horizontal plates the lower of which is adapted to be carried by a supporting member, said plates being relatively movable to reduce the distance between them, and springs supporting the upper plate from the lower plate, of a pair of guiding members which are secured the one to the upper plate and the other to the lower plate, each guiding member projecting from the plate to which it is secured toward and being spaced from the other plate, said guiding members being provided, the one with a vertically extending slot having an end wall facing said plate, and the other with a projection abutting against said wall, and said slot being arranged to permit movement of the upper plate toward the lower plate.

6. In a spring-seat, the combination, with two vertically spaced substantially horizontal plates the lower of which is adapted to be carried by a supporting member, said plates being relatively movable to reduce the distance between them, and springs supporting the upper plate from the lower plate, of a pair of guiding members which are secured the one to the upper plate and the other to the lower plate, each guiding member projecting vertically from the plate to which it is secured toward and being spaced from the other plate, said guiding members being provided, the one with a vertically extending slot having side walls, and the other with a projection extending into said slot, said slot and said projection being arranged to permit movement of the upper plate toward the lower plate, and the side walls of said slot and said projection being arranged to prevent movement of the upper plate forwardly and rearwardly independently of the lower plate.

7. In a spring-seat, the combination, with two vertically spaced substantially horizontal plates the lower of which is adapted to be carried by a supporting member, said plates being relatively movable to reduce the distance between them, and springs supporting the upper plate from the lower plate, of a pair of guiding members which are secured the one to the upper plate and the other to the lower plate, each guiding member projecting from the plate to which it is secured toward and being spaced from the other plate, the free end portions of said guiding members overlapping each other, one of said guiding members being provided between its free end and the plate carrying it with a slot having side walls and an end wall which faces said plate, the other of said guiding members having a projection which extends into said slot and abuts against said end wall, and said slot extending substantially vertically from said projection in the direction in which said end wall faces.

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

HATTIE E. GYNN.

Witnesses:
A. W. Massey,
Helen M. Doree.