

No. 860,331.

PATENTED JULY 16, 1907.

W. B. RUECKERT.  
SPRING DEVICE.

APPLICATION FILED MAR. 28, 1906.

Fig. 1.

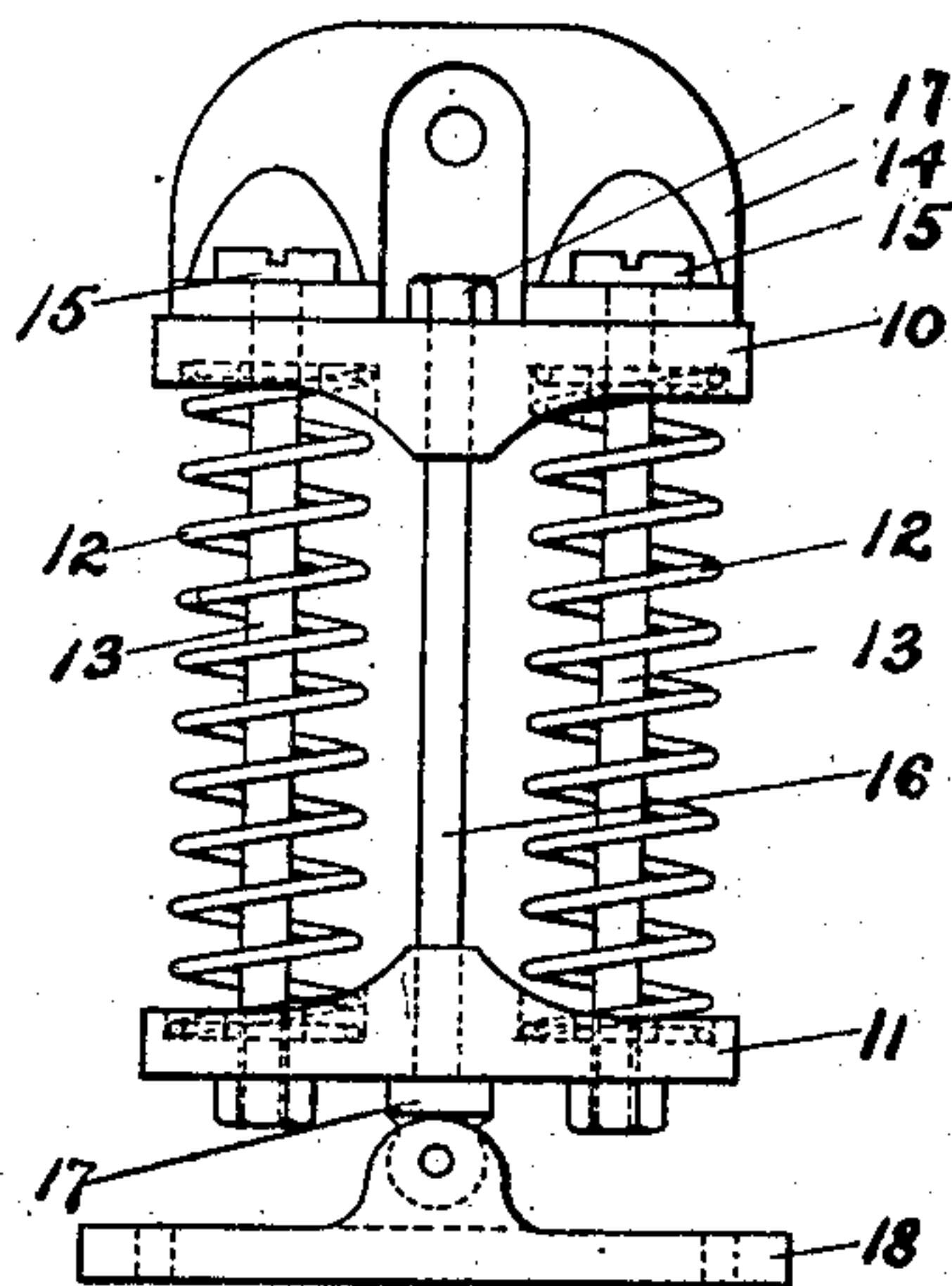


Fig. 2.

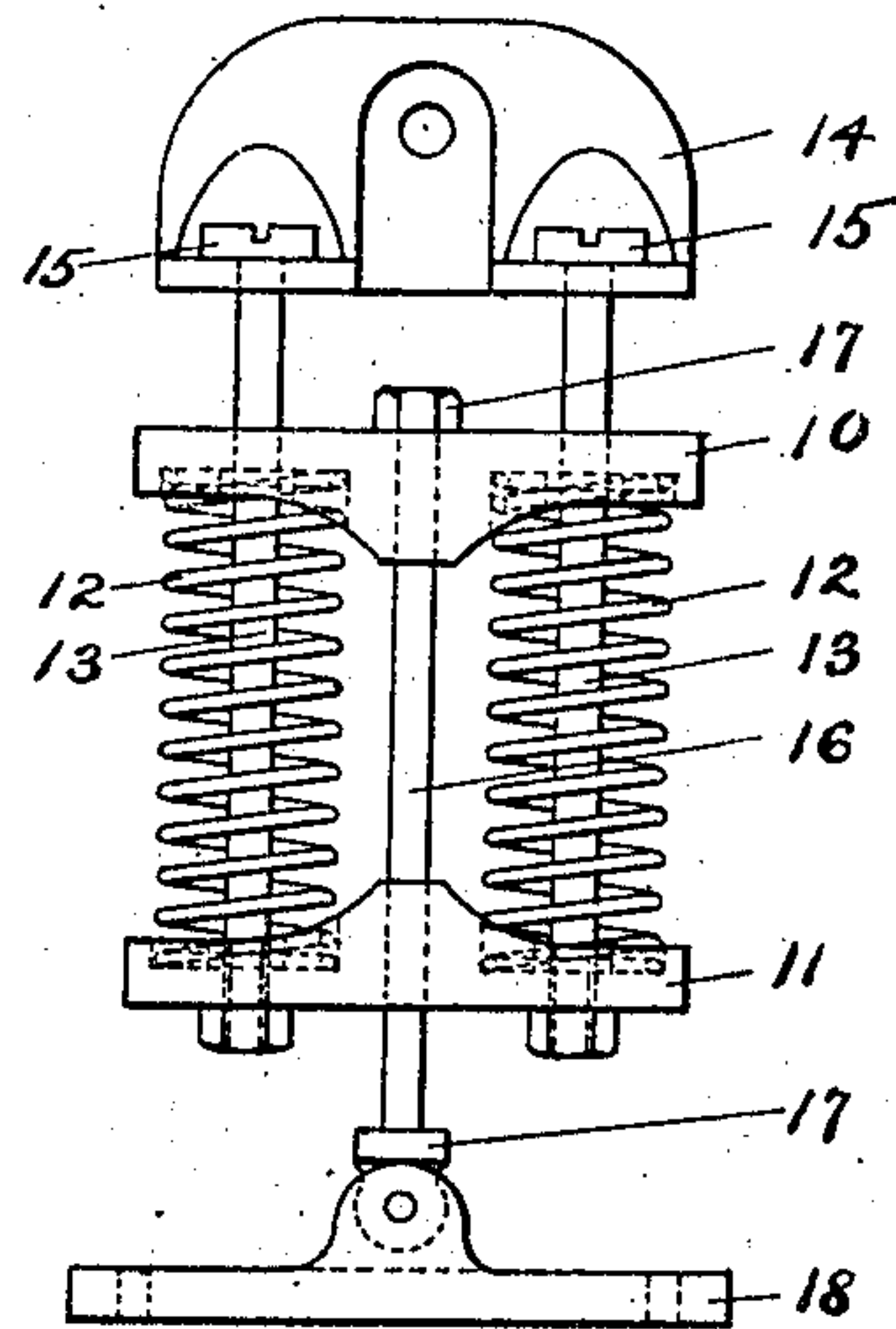


Fig. 3.

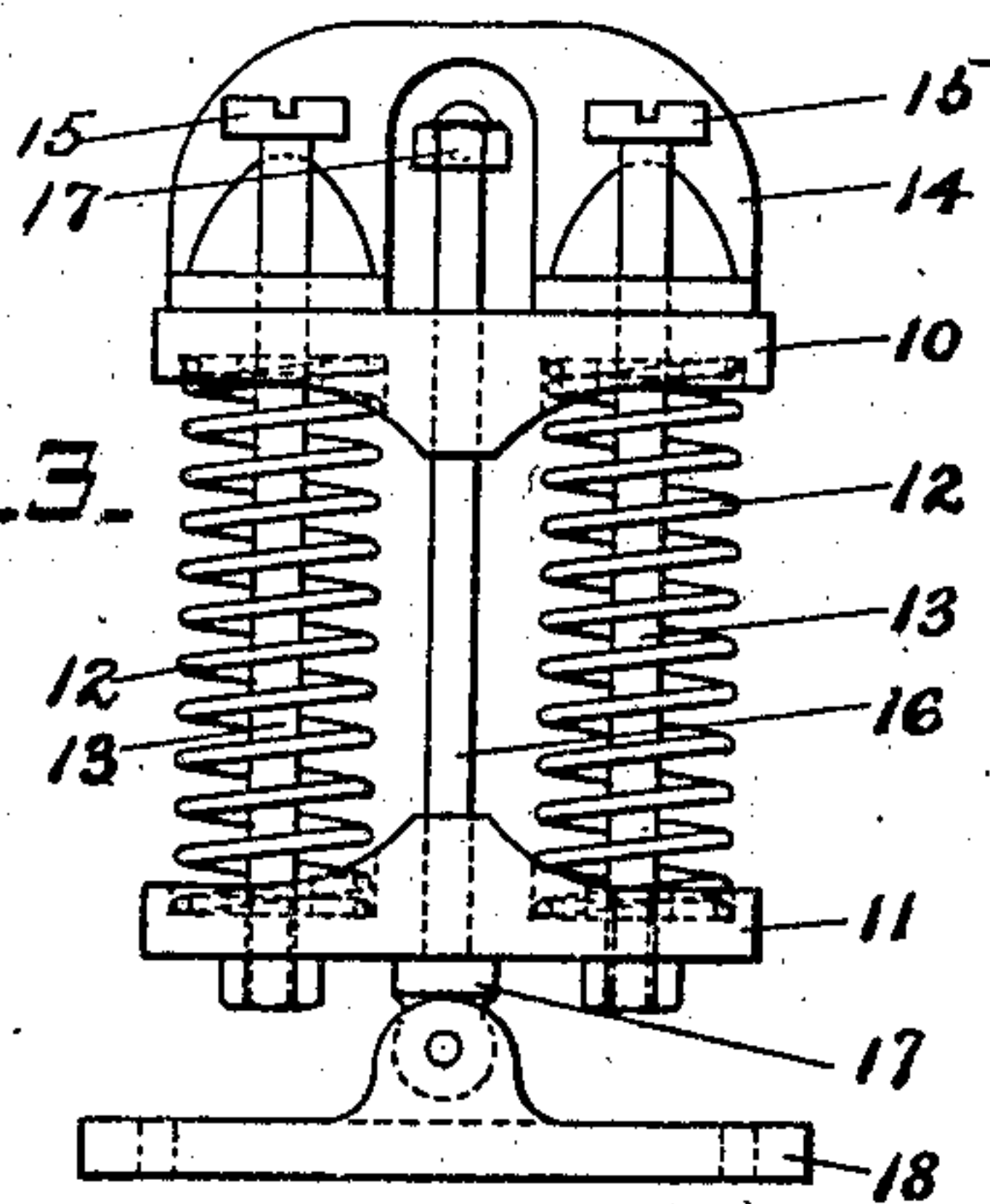


Fig. 5.

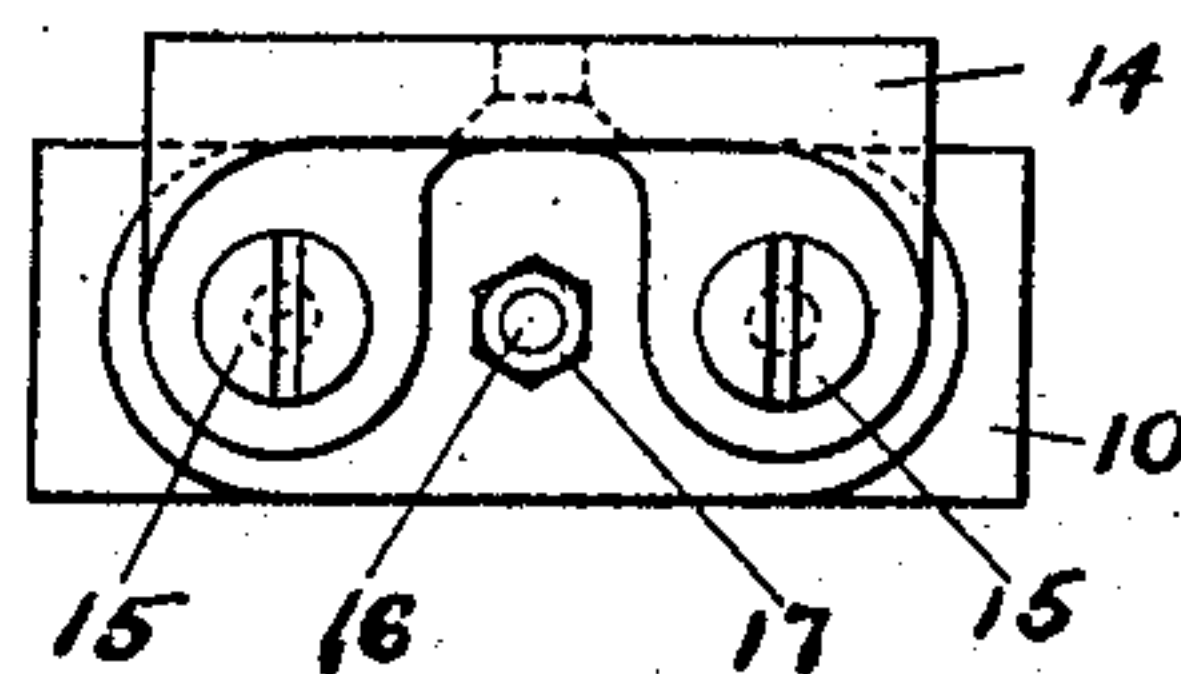


Fig. 4.

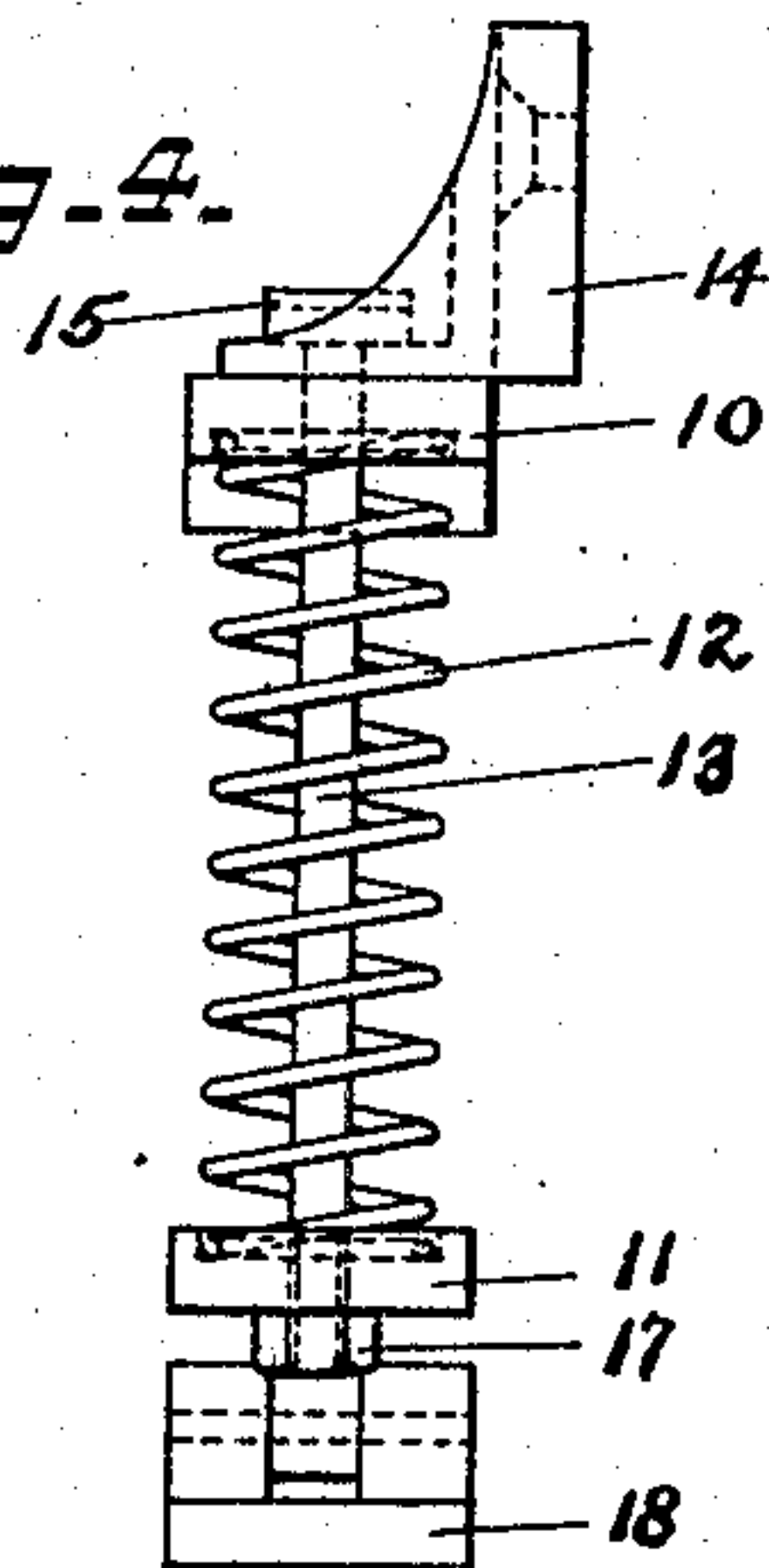
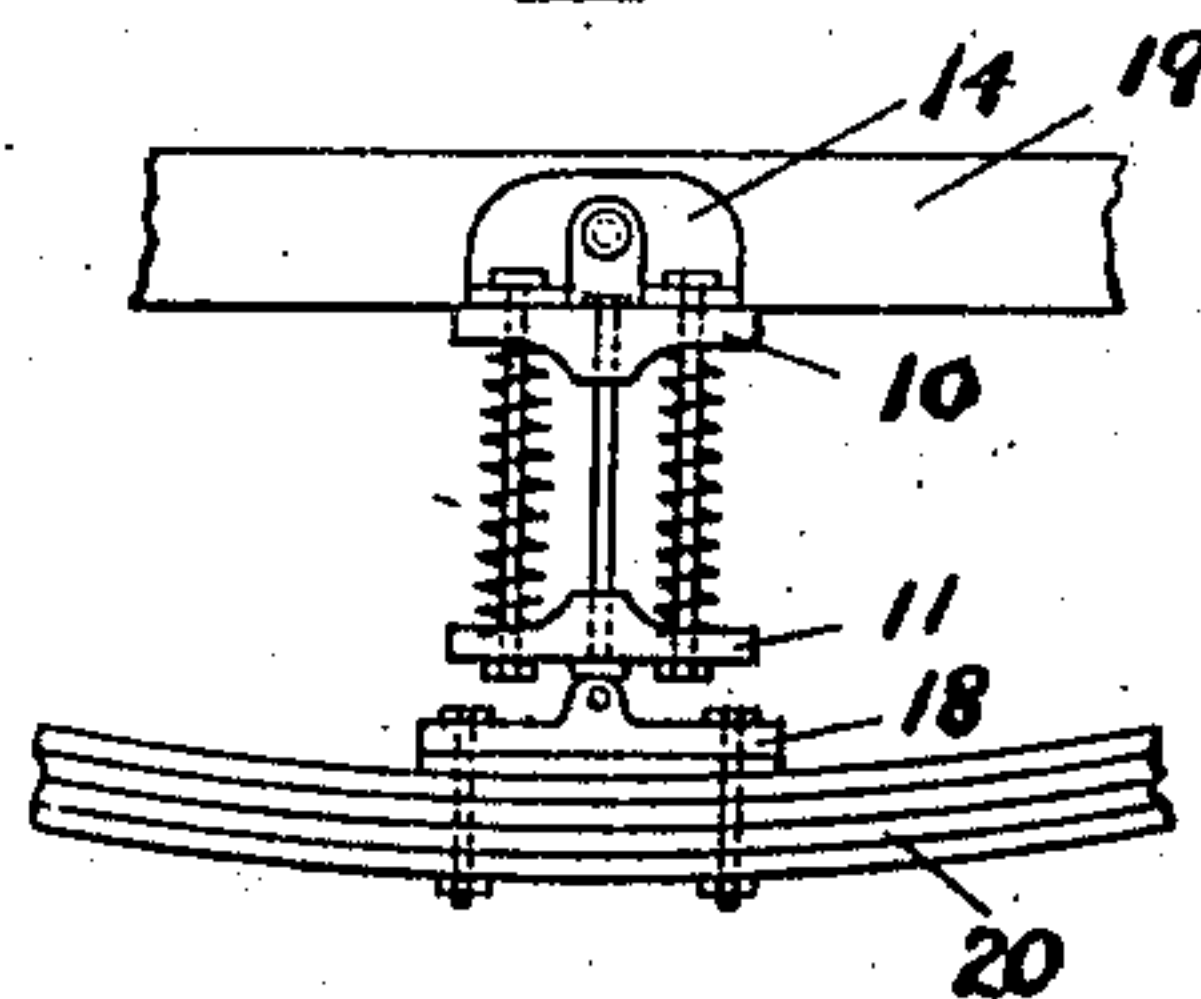


Fig. 6.



Witnesses  
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By *His Attorney, Redd & P. Schuck*



# UNITED STATES PATENT OFFICE.

WILLIAM B. RUECKERT, OF RIDGEFIELD, NEW JERSEY.

## SPRING DEVICE.

No. 860,331.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed March 28, 1906. Serial No. 308,585.

*To all whom it may concern:*

Be it known that I, WILLIAM B. RUECKERT, a citizen of the United States, and a resident of Ridgefield, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Spring Devices, of which the following is a specification.

My invention relates to spring devices such as the so-called shock absorbers applied to automobiles; and it has for its object to provide a spring device in which the springs shall be subject to compression whether the ends or heads be forced apart or towards each other, said springs in their normal condition, when not acted upon by external forces, being under a predetermined compression.

For this purpose my invention consists essentially in the arrangement of two movable spring heads; two spring guide bolts secured by their ends to one of the spring heads and extending freely through the opposite spring head and provided with stops; a spiral spring about each of said spring guide bolts and held between said spring heads; a guide bolt passing freely through both spring heads and provided with an upper and a lower stop; a lower connecting head secured to said guide bolt; and an upper connecting head held between the spring head and the stops of said spring guide bolts; whereby, both in forcing said connecting heads apart or towards each other, the said spiral springs are compressed.

The nature of my invention will be best understood when described in connection with the accompanying drawings in which—

Figure 1 is a front elevation showing the spring device in normal position. Fig. 2 is a front elevation showing the two opposite connecting heads forced apart. Fig. 3 is a similar view showing the two opposite connecting heads forced towards each other. Fig. 4 is a side elevation. Fig. 5 is a top view. Fig. 6 is a view illustrating my improved spring device applied to the spring and frame of a vehicle.

Similar characters of reference designate corresponding parts throughout the several views.

Referring now to the drawings, 10 and 11 are the upper and lower spring heads which consist of a cross bar provided with two recesses each adapted to receive a spiral spring 12. These springs are placed about two spring guide bolts 13, the lower ends of which are secured to the lower spring head 11 but whose upper ends pass freely through the upper spring head 10. The upper ends of these spring guide bolts 13 likewise pass freely through an upper securing or connecting head 14 by which the spring device is adapted to be fastened to a support. Stops as the bolt heads 15 are provided at the upper extremities of the bolts 13 and hold the said connecting head 14 to the upper spring head 10. The

initial compression placed upon the spring is obtained by screwing down the bolts 13 into the lower spring head 11. A guide bolt 16 passes between the two bolts 13 and freely through the upper and lower spring heads, and is provided with suitable upper and lower stops 17. To the lower end of this bolt is hinged a lower securing or connecting head 18 adapted to secure the spring device to a suitable support.

In Fig. 6 I have shown the above described spring device located between the frame 19 and the spring 20 of an automobile or similar vehicle, the upper head 14 being secured to the frame 19 and the lower head 18 to the spring 20. The spring device is thus in a neutral position under a predetermined compression, and during normal conditions does not come into action. During sudden shock, however, when the frame 19 and the spring 20 are either forced apart or toward each other the said inserted spring device comes into action compressing in either case, as shown in Figs. 2 and 3 respectively.

If the distance between the supports be increased as in Fig. 2 the upper spring head 10 is drawn down by the bolt 16 as shown, thereby compressing the springs 12 against the lower spring head 11 which is held to the upper connecting head 14 by the spring bolts 13. If the distance between the supports be decreased as in Fig. 3 the lower spring head 11 is forced up toward the upper spring head 10 which is held by the upper connecting head 14 as shown, thereby compressing the springs 12 as before. The springs 12 are therefore compressed in either case, and I have found that their life is greatly prolonged by causing them to act in one direction only.

Although I have used the terms upper and lower throughout the specification and claims in connection with the spring heads and connecting heads, it does not follow that in actual use the device may not be used in other positions, as my invention consists essentially of a spring device comprising two movable spring heads, guide bolts, a spring or springs held between said spring heads and an upper and a lower connecting head so arranged that the said spring or springs are subjected to compression whether the connecting heads be forced apart or brought together.

What I claim as new and desire to secure by Letters Patent of the United States is:—

1. In combination with a vehicle spring, a spring device secured to said vehicle spring and to the frame of said vehicle and comprising an upper and a lower movable connecting head, said heads being adapted to approach and recede from each other, a guide bolt, two spring heads movable relatively to said guide bolt and adapted to each approach and recede from the other, and a spring or springs between said spring heads.

2. A spring device comprising an upper and a lower movable spring head; two side spring guide bolts; two spiral springs about said spring guide bolts and between



said upper and lower spring heads; a guide bolt; an upper connecting head adapted to act against said spring guide bolts; and a lower connecting head hinged to said guide bolt.

- 5 3. A spring device comprising an upper and a lower movable spring head; two spring guide bolts secured by their ends to the lower spring head and extending freely through the upper spring head and provided with stops; a spiral spring about each of said spring guide bolts and  
10 held between the said upper and lower spring heads; a guide bolt passing freely through both of said spring

heads and provided with an upper and a lower stop; a lower connecting head secured to said guide bolt; and an upper connecting head held between the upper spring head and the stops of said spring guide bolts.

Signed at New York, in the county of New York and State of New York, this 23rd day of March, A. D. 1906. 15

WILLIAM B. RUECKERT,

Witnesses:

FREDK. F. SCHUETZ,  
SALLY O. YUDIZKY.