J. R. HAMILTON.

SPRING.

APPLICATION FILED JAN. 22, 1913.

1,156,859. Patented Oct. 12, 1915.

Fig. 1.

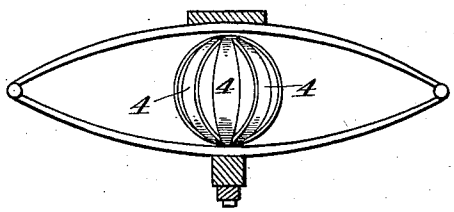


Fig. 2.

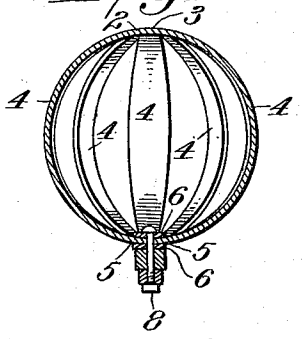


Fig. 3.

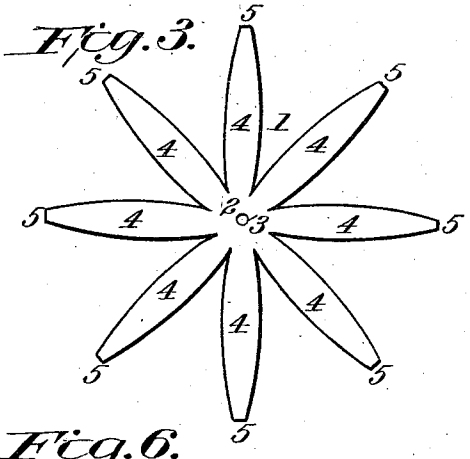


Fig. 4.

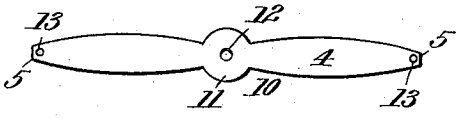


Fig. 5.

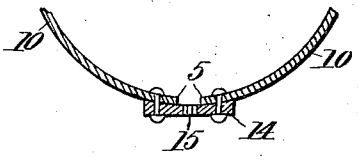


Fig. 6.

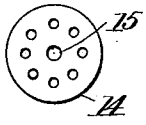


Fig. 8.

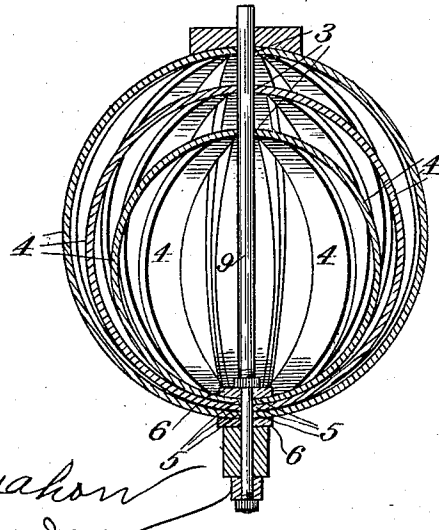
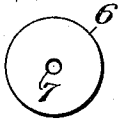


Fig. 7.



Witnesses

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SPRING.

1,156,859. Specification of Letters Patent. Patented Oct. 12, 1915.

Application filed January 22, 1913. Serial No. 743,493.

To all whom it may concern:

Be it known that I, JOHN R. HAMILTON, a citizen of the United States, residing at St. John, New Brunswick, Canada, have invented certain new and useful Improvements in Springs, of which the following is a specification.

This invention relates to a new and useful improvement in elastic media in the form of a spring to be interposed to relieve pressure which may be exerted upon the object to which the spring is attached and relates more particularly to that class of springs which will absorb both slight and great pressure.

The object of the invention is to produce a spring of such construction that in whatever direction the thrust may come upon it the structure will resist this thrust in the same way and with the same resistance.

The invention consists of a spring globular in shape with separated curved arms as hereinafter set forth.

In the annexed drawings: Figure 1 shows one way of applying the invention to the ordinary elliptic spring of a vehicle. Fig. 2 is a diametric section, through the arrangement of springs. Fig. 3 indicates one form of blank from which the form shown in Fig. 1 may be made. Fig. 4 indicates a form of blank of one member of an arrangement of springs similar to the arrangement shown in Fig. 1. Fig. 5 is a sectional detail of a way of securing the ends of the blank shown in Fig. 3. Fig. 6 is a view of the circular plate to which the ends of the blank shown in Fig. 3 are to be secured as indicated in Fig. 4. Fig. 7 is a plan view of one of the clamping plates for the form shown in Fig. 2. Fig. 8 is a vertical section of a modification of the form shown in Fig. 1.

In the drawings: In Fig. 3 is shown a blank 1. This has a central hub 2 which may have a hole 3 therethrough. From this hub 2 and integral therewith radiate arms 4. These arms 4 are arranged in pairs, the two arms of each pair being in the same diameter. This blank 1 is given the globular shape, shown in Fig. 2. The ends 5 of the arms 4 are placed between two clamping plates 6, having the holes 7. A bolt 8 is placed through these holes 7 and may also be the means of securing the springs in their operative positions. By means of this bolt 8 the clamping plates 6 are bound against the ends 5 of the arms 4, securely holding these in place. As shown the arms 4 are made wider in the middle and tapering toward their ends both ways. But this is not necessary though desirable for greater elasticity and strength.

As shown in Fig. 8, several such blanks as shown in Fig. 3 and of different sizes may be "nested" and used. Also the guide rod 9 may be used in this form passing loosely through the holes 3 and secured at the loose ends 5 of the arms 4. Instead of the single blank 1 being used, the globular spring may be built up of a number of plates such as shown in Fig. 4. This plate 10 has the hub 11 with the hole 12 and has the holes 13 in its ends 5. This plate 10 is substantially two of the arms 4 with the hub 11 to connect them. To form a globular spring, these plates 10 are curved each upon itself and the ends 5 are riveted to a plate 14, having the hole 15. As many as desired of these plates 10 may be secured to the plate 14.

This invention as described in the several forms, may be used in any place where shocks are to be absorbed. Specifically this spring is especially adapted to vehicles. But it is adapted to and may be used with various articles, such as automobiles, furniture of different kinds and other devices.

Having described the invention what I claim is:

1. A globular spring having separated curved arms.

2. A globular spring having separated curved arms with their ends secured together.

3. A globular spring consisting of separated curved arms, a hub to which these arms are attached at one end, the outer ends of the arms being secured together.

4. The combination of several globular springs, consisting of several members each in one homogeneous piece and arranged to support one another on the line of resistance to pressure.

5. The combination of several globular springs, consisting of several members each in one homogeneous piece and arranged to support one another on the line of resistance to pressure, with a rod secured at one end to the springs and at the other end passing loosely through holes in the springs.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN R. HAMILTON.

Witnesses:
C. A. NEALE,
OGLE R. SINLEETON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."