No. 655,210. Patented Aug. 7, 1900.

C. I. DUPONT.

ELLIPTIC SPRING.

(Application filed Mar. 22, 1900.)

(No Model.)

FIG. 1.

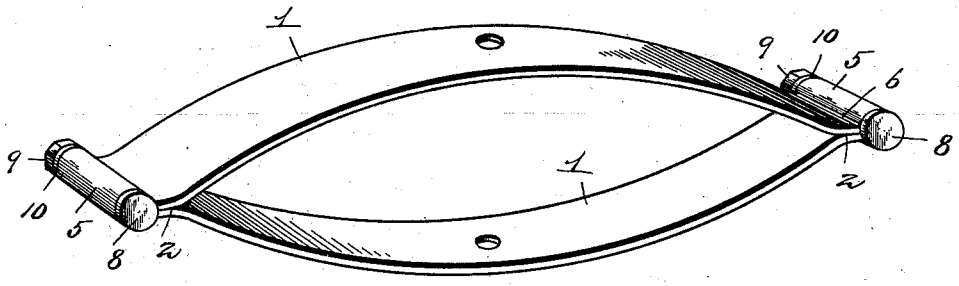


FIG. 2.

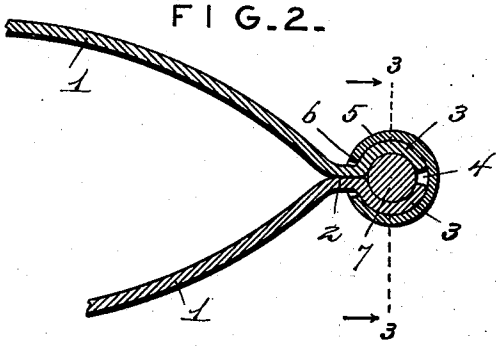


FIG. 3.

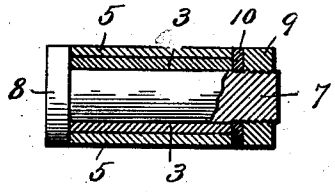


FIG. 4.

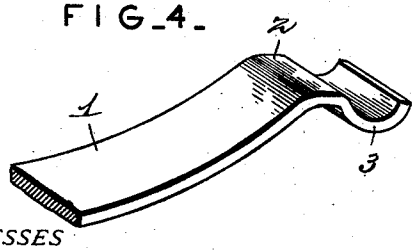
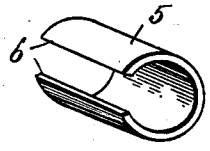


FIG. 5.



WITNESSES

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ELLIPTIC SPRING.

SPECIFICATION forming part of Letters Patent No. 655,210, dated August 7, 1900.

Application filed March 22, 1900. Serial No. 9,713. (No model.)

To all whom it may concern:

Be it known that I, CHARLES I. DUPONT, a citizen of the United States, residing at Plaquemine, in the parish of Iberville and State of Louisiana, have invented a certain new and useful Elliptic Spring, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to elliptic springs; and the object in view is to provide simple and effective means for connecting the extremities of the leaves of an elliptic spring in a manner which will securely couple the same together and at the same time prevent any wear from coming upon the bolts which unite the leaves at their extremities. By removing wear from the securing-bolts the life and durability of the spring as a whole are greatly increased. This result is accomplished without detracting in any way from the appearance of the completed spring.

The detailed objects and advantages of the invention will appear in the course of the ensuing description.

The invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and incorporated in the claim.

In the accompanying drawings, Figure 1 is a perspective view of an elliptic spring constructed in accordance with the present invention. Fig. 2 is an enlarged detail vertical longitudinal section through one end of the spring, taken transversely of one of the end bolts. Fig. 3 is a transverse section taken through the spring longitudinally of one of the bolts, showing the bolt in elevation. Fig. 4 is a detail perspective view of the terminal portion of one of the leaves. Fig. 5 is a similar view of the headless ferrule.

Similar numerals of reference are employed to indicate corresponding parts in all the figures of the drawings.

The spring contemplated in this invention comprises a pair of leaves 1, curved reversely to each other, as clearly shown in Fig. 1, and resting in contact with each other at the points 2, these contacting-points forming rocker-bearings for the spring sections or leaves. Beyond the bearing-points 2 the extremities of the leaves are reversely curled or rolled to form half-sleeves 3, which together form a split cylindrical sleeve, a space 4 being left between the extreme edges of the half-sleeves, so as to insure the leaves coming in contact with each other at the points 2. Embracing the half-sleeves 3 is a ferrule 5 in the form of a split or incomplete cylinder, the internal diameter of which is approximately the same or slightly greater than the external diameter of the half-sleeves 3, the edges 6 of the ferrule being spaced apart sufficiently to admit the rocker-bearing portion of the leaves at the points 2. The ferrule 5 is coextensive in length with the half-sleeves 3, so that the corresponding edges of the half-sleeves and ferrule lie flush with each other. A retaining-bolt 7 passes through the opening formed by the half-sleeves 3 and is provided with a head 8 of the same diameter as the ferrule 5 and adapted to bear against the adjacent edges of the ferrule and half-sleeves. The bolt is screw-threaded at its opposite end to receive a nut 9, which may be screwed up against the adjacent edges of the half-sleeves and ferrule, or, if preferred, a washer 10, of any suitable material, may be interposed between the nut 9 and half-sleeves 3 and ferrule 5. Preferably the nut 9 and washer 10 do not exceed in diameter the diameter of the ferrule 5, thus obviating any projection.

From the foregoing description it will be seen that the terminal portions of the leaves 1 lie in rocking contact with each other between the terminal bolts 7, the half-sleeves 3 being located beyond the bearing-points 2. On this account as the leaves are pressed toward each other the tendency is to move the half-sleeves 3 in opposite directions or away from each other and away from the connecting-bolts 7. All strain and wear are thus removed from the connecting-bolts 7 and are taken by the ferrule 5, which is held in place by the head of the bolt and the nut or washer thereon. The durability of the spring as a whole is thus materially increased, and at the same time a neat terminal point for the spring is provided.

Having thus described the invention, what is claimed as new is—

An elliptic spring comprising leaves, the

extremities of which are reversely curled or rolled to form half-sleeves which bear against each other at their point of junction with the leaves proper, a cylindrical and headless split ferrule removably fitted upon the half-sleeves and coextensive therewith, a headed bolt passing through the half-sleeves, and a retaining-nut thereon, the bolt-head and nut bearing against the open ends of the ferrule and half-sleeves, substantially as specified.

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

CHARLES I. DUPONT.

Witnesses:
I. M. WILLIAMS,
T. E. HUBBARD.