G. F. GARRITY.

SPRING.

APPLICATION FILED OCT. 26, 1914.

1,140,455.

Patented May 25, 1915.

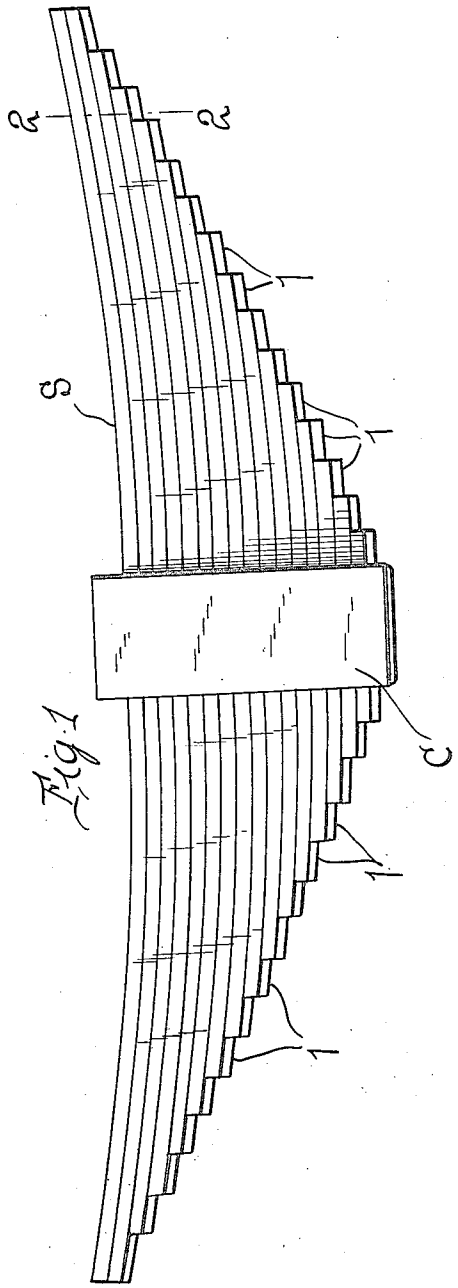



Fig. 1

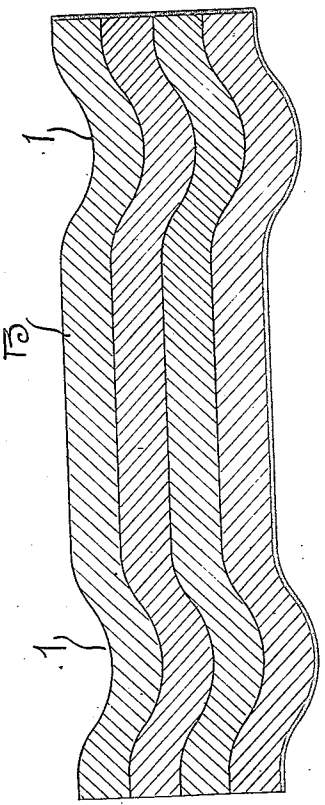



Fig. 2

Witnesses
Robert M. Lutzbeck
A. L. Hinkle

Inventor
G. F. GARRITY

By Watson E. Coleman
Attorney

# UNITED STATES PATENT OFFICE.

GEORGE F. GARRITY, OF SCRANTON, PENNSYLVANIA.

## SPRING.

1,140,455. Specification of Letters Patent. Patented May 25, 1915.

Application filed October 26, 1914. Serial No. 868,712.

*To all whom it may concern:*

Be it known that I, GEORGE F. GARRITY, a citizen of the United States, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Springs, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in springs and has relation more particularly to a spring especially designed and adapted for use in connection with railroad rolling stock; and an object of the invention is to provide a device of this general character of novel and improved construction whereby a maximum of tension is possessed is a spring produced from a minimum of material.

Furthermore, it is an object of my invention to provide a novel and improved spring of this general character which may be produced with a minimum of cost and comprising a plurality of superimposed blades, the adjacent faces of which being in contact one with the other and wherein the means for increasing the tension of each of the blades of the spring also serves as a medium for preventing the blades from moving laterally one independently of the other whereby the balance of the spring would be materially affected.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved spring whereby certain important advantages are attained and the device is rendered simpler, less expensive and otherwise more convenient and advantageous for use, all as will be hereinafter more fully set forth.

The novel features of the invention will be carefully defined in the appended claims.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein—

Figure 1 is a side elevational view of a spring constructed in accordance with an embodiment of my invention; and Fig. 2 is a sectional view taken substantially on the line 2—2 of Fig. 1.

As disclosed in the accompanying drawings, S denotes a spring constructed in accordance with an embodiment of my invention and which is especially adapted to be employed in connection with railroad rolling stock and particularly locomotives and, as herein set forth, said spring comprises a plurality of superimposed blades B tied at substantially their longitudinal centers by a clamp C of conventional construction.

As herein disclosed, the blades B are of identical transverse diameter and each of said blades has produced in its longitudinal marginal portions and equidistantly spaced relative to the transverse center thereof the shallow depressions 1 which are preferably produced in the blade by roller pressure whereby it is assured that the opposite surfaces of the blade are each in absolute continuity and no abrupt or angular portions are afforded which would obstruct such surfaces, as it will be at once apparent that should the surfaces of said springs be provided with any angular portions the flexure of the blade, when in use, would have a tendency to occur at such points and which in practice has been found to materially reduce the efficiency of the spring. It is also to be observed that each of the depressions in cross section is disposed on the same curvature whereby the depths of the depressions and their transverse diameters will be identical. The thickness of each of the blades B is identical at all points whereby the proper balance of the spring is further assured. It is also essential to the successful operation of my invention, as herein embodied, that the depressions 1 be disposed in parallelism with the longitudinal edges of each of the blades and with each other and directed entirely along the blade and that the portion of the blade intermediate the depressions should be straight in cross section. It will also be readily observed that the balance of the spring is further materially enhanced by having the depressions 1 equidistantly spaced relative to the transverse center of the blades. It is also to be observed that when the blades B are in applied position one relative to the other, the opposed faces thereof are in contact at all points and that the depressions 1 also effectively serve to hold said blades against any relative transverse movement which would offset the balance of the springs and thus affect in a large degree the efficiency of the device.

From the foregoing description, it is thought to be obvious that a spring constructed in accordance with my invention is of an extremely simple and comparatively

inexpensive nature and is particularly well adapted for use by reason of the convenience and facility with which it may be assembled, and it will also be obvious that my invention is susceptible of some change and modification without material departure from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice.

I claim:

1. A spring of the character described comprising an elongated member having longitudinal depressions disposed therein and extending entirely therealong, said depressions being adjacent the longitudinal marginal portions of the member and equidistantly spaced relative to the transverse center thereof, the opposed faces of the member being in continuity and being free and unobstructed, said member being of the same thickness at all points, the portion of the member intermediate the depressions being straight in cross section.

2. A spring of the character described comprising a plurality of superimposed blades, each of said blades being provided adjacent its longitudinal marginal portions with depressions therein disposed longitudinally thereof and entirely therealong, said depressions being parallel with the longitudinal edges of the blades and with each other and equidistantly spaced from the transverse center of the blade, the portion of the member intermediate the depressions being straight in cross section.

3. A spring of the character described comprising a plurality of superimposed blades, each of said blades being provided adjacent its longitudinal marginal portions with depressions therein disposed longitudinally thereof and entirely therealong, said depressions being parallel with the longitudinal edges of the blades and with each other and equidistantly spaced from the transverse center of the blade, the portion of the member intermediate the depressions being straight in cross section, the opposed faces of the blades being in contact one with the other at all points, the interlocking of the depressions of the blades serving to hold such blades against relative transverse movement, and means at substantially the longitudinal center of the blades for holding the same in assembled relation.

4. A spring of the character described comprising an elongated member having longitudinal depressions disposed therein and extending entirely therealong, said depressions being adjacent the longitudinal marginal portions of the member and equidistantly spaced relative to the transverse center thereof, the opposed faces of the member being in continuity and being free and unobstructed, said member being of the same thickness at all points, said depressions being disposed on the same curvatures whereby the depths and transverse diameters thereof are identical, the portion of the member intermediate the depressions being straight in cross section.

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

GEORGE F. GARRITY.

Witnesses:
W. E. LAWSON,
D. W. GALL.