

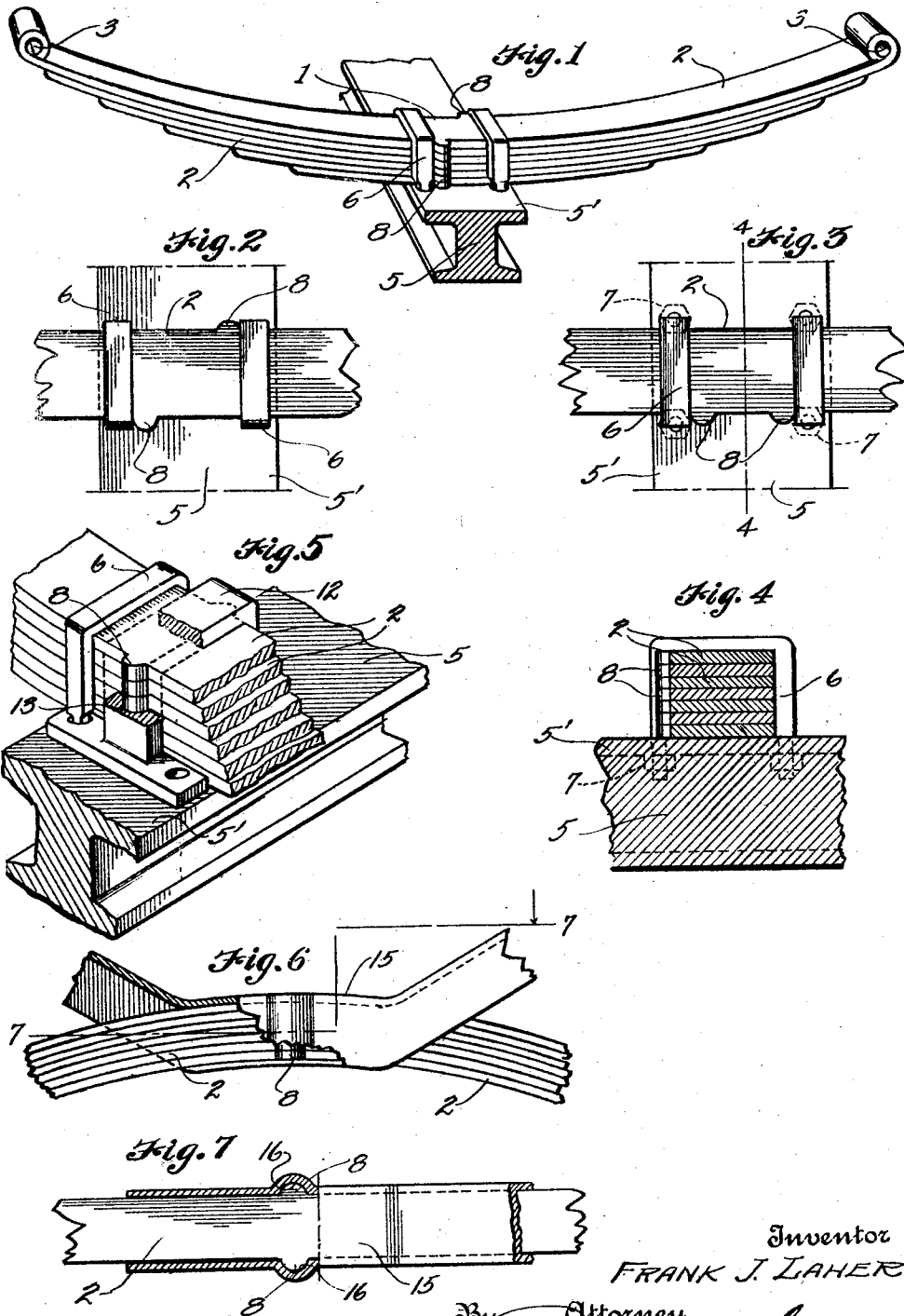
March 24, 1925.

1,530,729

F. J. LAHER

VEHICLE SPRING

Filed Jan. 26, 1922



Inventor

FRANK J. LAHER

By

Attorney

Richard J. Cook

UNITED STATES PATENT OFFICE.

FRANK J. LAHER, OF SEATTLE, WASHINGTON.

VEHICLE SPRING.

Application filed January 26, 1922. Serial No. 531,895.

To all whom it may concern:

Be it known that I, FRANK J. LAHER, a citizen of the United States, and a resident of the city of Seattle, county of King, and State of Washington, have invented certain new and useful Improvements in Vehicle Springs, of which the following is a specification.

My invention relates to laminated vehicle springs, and more particularly to improvements in springs of that type comprising a plurality of leaves arranged in superimposed relation; the principal object of the present invention being to provide means whereby the leaves may be retained, when assembled, against any longitudinal displacement and in proper functional relation to each other.

A further object of the invention is to provide lugs, or protuberances, on the side edges of the leaves of a spring which are so located that they will register in alignment and, when the spring is mounted, engage or cooperate with the mounting clips in such manner that relative longitudinal movement is prevented and the parts are held properly in position.

A still further object of the invention resides in the specific arrangement of the lugs on the leaves of springs for different purposes and with which it is desired to use different forms of mounting clips.

Another object of the invention is to provide as independent articles of manufacture, spring leaves equipped with protuberances at the edges thereof which may serve as means for retaining the spring with which the particular leaf is assembled against longitudinal displacement.

In accomplishing these and other objects of the invention, I have provided the improved details of construction, the preferred forms of which are illustrated in the accompanying drawings wherein—

Figure 1 is a perspective view of a vehicle spring constructed in accordance with the present invention.

Figure 2 is a plan view of a central portion of the spring, illustrating the location of the retaining lugs on opposite edges of its leaves and their functional relation with respect to the retaining clips.

Figure 3 is a similar view, wherein the lugs are located in spaced relation on the same side of the spring.

Figure 4 is a transverse, sectional view, taken on the line 4—4 in Figure 3.

Figure 5 is a perspective view of a portion of a spring wherein lugs are formed in two alined rows centrally on opposite sides of the spring in such manner as to receive a holding clip of a special character thereover.

Figure 6 is an elevation of a part of a spring, illustrating the combination with a spring of the present type of an inverted channeled body support which serves also as a means of retaining the spring leaves properly alined.

Figure 7 is a sectional view, taken substantially on the line 7—7 in Figure 6.

Referring more in detail to the drawings—

1 designates, as a whole, a vehicle spring constructed in accordance with the present invention. This comprises a plurality of leaves 2 arranged in superimposed relation; the lower leaf being relatively short and the others in their order of arrangement thereon gradually increasing in length, with the upper leaf provided at its ends with eyelets 3 for receiving shackle bolts, or the like, for supporting the body of the vehicle with which the spring is used.

The spring is centrally supported upon an axle 5 and, as shown in Figures 1, 2 and 3, is secured thereto by means of two U-shaped clips 6 which engage the spring in spaced relation and have their ends extended through the side flanges 5' of the axle, and provided with nuts 7 whereby they are drawn tight to hold the spring rigidly mounted.

To prevent possible creeping, or longitudinal movement, of the spring, or the leaves thereof, I have provided lugs, or protuberances, 8 on the opposite side edges of each leaf and these lugs are so located that they will register in alignment on opposite sides of the spring and will lie in abutment with the side portions of the spring clips 6, so that by such engagement, the leaves are prevented from possible longitudinal movement relative to each other or upon the supporting axle.

In Figures 1 and 2, I have illustrated these lugs as located on opposite side edges of the leaves, opposite from each other, transversely of the spring with the lugs at one side engaging with the inner edge of one clip while those at the other side engage the

opposite clip; while, in Figure 3, I have shown the two rows of lugs 8 located on the same side of the spring and engaging the two clips, this arrangement being preferable on some occasions and accomplishing the result as well as the former.

In Figure 5, I have shown the leaves of the spring equipped with lugs disposed at directly opposite points on the side edges of the leaves so as to form a sort of tongue on each side of the spring, and about the spring at this point, is mounted an inverted U-shaped clip 12 which has inwardly opening grooves 13 on the inner face of its leg portions which receive the alined lugs therein. This clip 12 is, in turn, anchored by clips 6 at opposite sides thereof to the axle similarly as shown in Figure 1.

Figures 6 and 7 illustrate the mounting of a body support upon a spring wherein the leaves are equipped with lugs arranged as is shown on the spring in Figure 5. In this construction, a body support 15 of a channel like character is fitted over the spring in a direction parallel therewith, and this has vertical grooves 16 in its side walls adapted to receive the alined lugs therein. This channeled support not only serves as a supporting means for a vehicle body but also retains the leaves of the spring alined and against possible displacement.

Springs constructed as described and il-

lustrated are not weakened by having bolt holes, or notches, therein as are the ordinary types of springs and are, therefore, not so liable to break under load or rebound. They may be more easily and quickly assembled and for different purposes, may be provided with lugs in the various locations illustrated.

It is further apparent that leaves for springs of this character could be manufactured and supplied to dealers to be kept in stock and that should a leaf of a spring, for any reason, become broken it could be removed and replaced from the dealer's stock without necessitating the purchase of an entire spring.

Having thus described my invention, what I claim as new therein and desire to secure by Letters-Patent, is:

In combination, a spring comprising a plurality of superimposed leaves with protuberances at opposite side edges arranged in vertical alinement, and a downwardly opening channeled body supporting member mounted upon the spring comprising side portions disposed along opposite sides of the spring, having grooves therein for receiving the protuberances whereby the leaves are retained in functional relation.

Signed at Seattle, Washington, this 21st day of January, 1922.

FRANK J. LAHER.