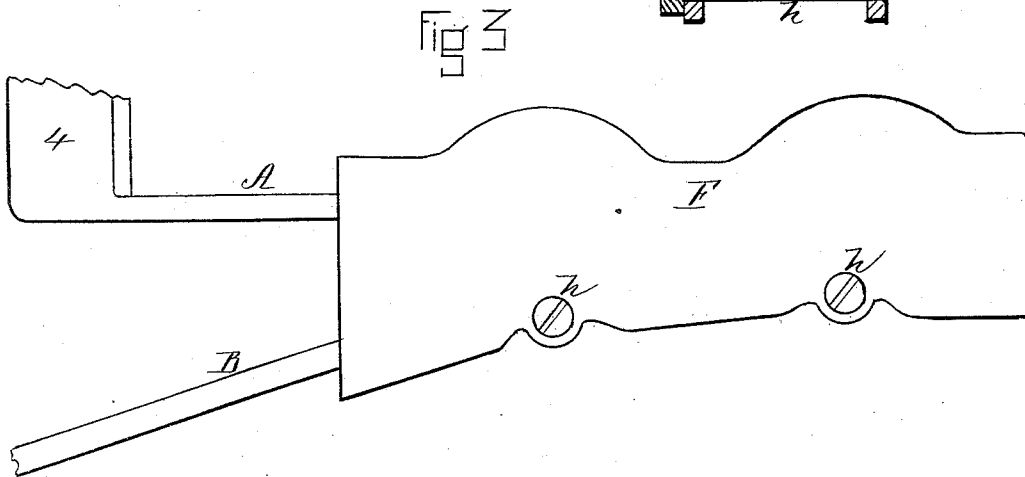
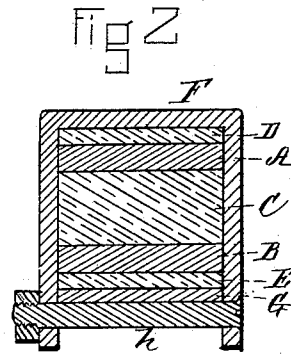
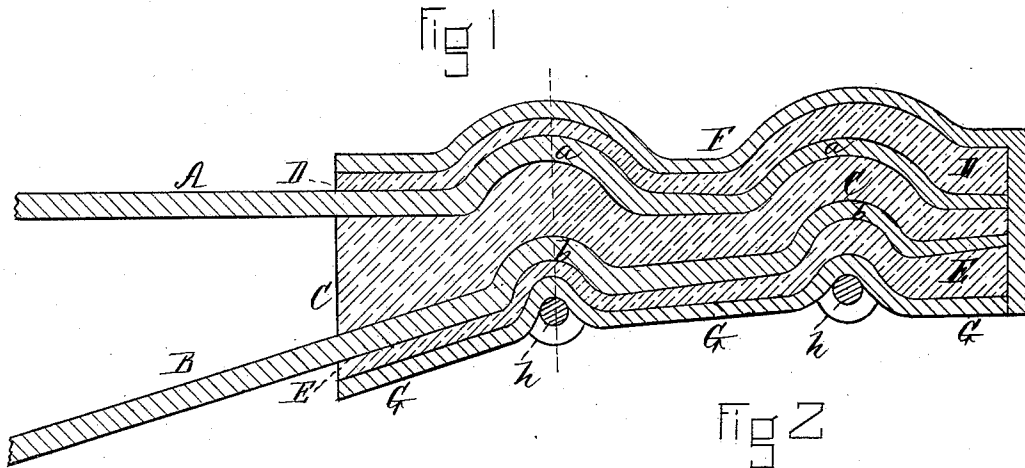


(No Model.)

F. O. ROGERS.
ELASTIC SPRING COUPLING.

No. 336,593.

Patented Feb. 23, 1886.



WITNESSES
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ELASTIC SPRING-COUPLING.

SPECIFICATION forming part of Letters Patent No. 336,593, dated February 23, 1886.

Application filed September 9, 1885. Serial No. 176,642. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK O. ROGERS, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement for Elastic Spring-Packing and Outer Connections or Coupling between the Upper and Lower Leaf-Springs of Carriages, of which the following is a clear, full, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a view representing a complete packing connection or coupling in section. Fig. 2 is a sectional view of the inside end of said packing-connection, and Fig. 3 is an outside sketch of the packing-box with the continuation of the outer ends of the upper and lower springs of the carriage.

My improved packing connection or coupling of the upper and lower parts of a carriage-spring consists of the packing-box F, made of cast-iron, brass, or other suitable material, which is a solid shell forming the top, two sides, and outside end, of which Fig. 1 represents a full-sized one for small carriage, with one side left out to show the packing of the ends of the upper and lower springs, A and B, bent, the upper over the two bolts with the two longer curves, *a a*, and the lower with the two shorter curves, *b b*.

C represents the elastic inside packing between the upper and lower springs, made of molded rubber or other suitable material about five times as thick at the inside end toward the carriage-body as at the other end toward the carriage-wheel, and the full width of the springs.

D represents the elastic inside packing on top of the upper spring, A, and below the top of the packing-box F, and E represents the elastic inside packing under side of the lower spring, B, both of which last-named elastic packings are about three times as thick at their outer ends as at their inner ends, and are the full width of the springs.

G represents a steel or metal bearing under the lower elastic packing, of full width of the springs, and of the length of the inside of the packing-box F, with the two shorter curves therein over the two bolts *h h*, that pass through the lower edge of the packing-box from side to side to hold the springs and packings compactly in their places, respectively. By this arrangement a neat, compact, and strong coupling of the springs is made that is water-proof and very durable, and thereby, also, the elasticity and strength of the springs themselves are greatly increased by giving them each a double-action leverage against the elastic packings. The outer ends of the upper and lower elastic packings, D and E, being made thicker than their inside ends, enables them to contract more as the loaded springs spread apart at their outer ends, while at the same time the middle elastic packing, C, being much thicker at the inside end (toward the carriage-body) than at its outer end, (toward the carriage-wheel,) enables it to contract more under pressure of the springs when loaded.

In Fig. 1, A and B represent sections of outer ends of elliptical springs, and in Fig. 3 A represents a section of the outer end of a spring which is bent at right angles edgewise at 4, passing under and fastened to the carriage-body by bolts or other suitable means.

What I claim as my invention and improvement, and desire to secure by Letters Patent, is—

The packing-box F, together with elastic packings C, D, and E and the metal bearing G, with curves in it and in the springs and packings to match, all fastened compactly together by the bolts *h h*, constructed substantially as shown and described, and for the purposes set forth.

FREDERICK O. ROGERS.

Witnesses:

JOHN MAY,

W. J. CAMBRIDGE.