R. E. WALKER.

Carriage Spring.

No. 106,005. Patented Aug. 2, 1870.

FIG. 1

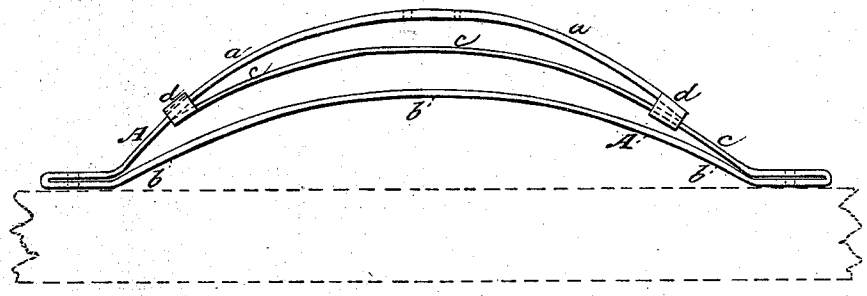
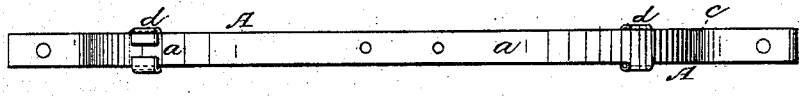


FIG. 2



WITNESSES:
L. S. Maber
Alex F. Roberts.

INVENTOR:
R. E. Walker
PER Munn & Co
attorneys.

United States Patent Office.

ROBERT E. WALKER, OF DRESDEN, MISSOURI.

Letters Patent No. 106,005, *dated August* 2, 1870.

IMPROVEMENT IN CARRIAGE-SPRINGS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ROBERT E. WALKER, of Dresden, in the county of Pettis and State of Missouri, have invented a new and improved Carriage-Spring; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 represents a side view of my improved carriage-spring.

Figure 2 is a top view of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to construct springs for carriages, wagons, and other wheeled vehicles, so that the same may be of equal service for heavy and light loads.

The invention consists in forming a spring of one continuous piece of steel in three layers, the layers being so formed as to constitute, to a certain extent, separate, independent springs.

The spring A is bent into three arms, *a*, *b*, and *c*.

The outer arm *a* is curved, and is at one end flattened, and a sharp bend formed where the arm *b* joins it.

The arm *b* forms the lower layer of the spring, and is joined to the middle layer or arm *c* in the same manner as to *a*.

The arm *c* is interposed between *a* and *b*, as shown.

Ears, *d d*, are formed at the ends of the spring, to lap over and embrace the arms *a c*, respectively.

The several arms or layers of the spring are bent on different curves, the lower one being of the largest, the upper one of the smallest, diameter.

A light load will only rest upon the upper layer *a*, and will be elastically supported by the same.

When the load is heavy enough to flatten the arm *a* to the curve of *c*, it will be supported by both these arms, while the heaviest load bends both arms, *a c*, upon the lower one *b*, to be acted upon by the entire spring.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The carriage-spring, formed of one piece, arranged in three layers, *a b* and *c*, substantially as shown and described.

ROBERT E. WALKER.

Witnesses:

A. L. ENTREKIN,

P. A. BUTTERFIELD.