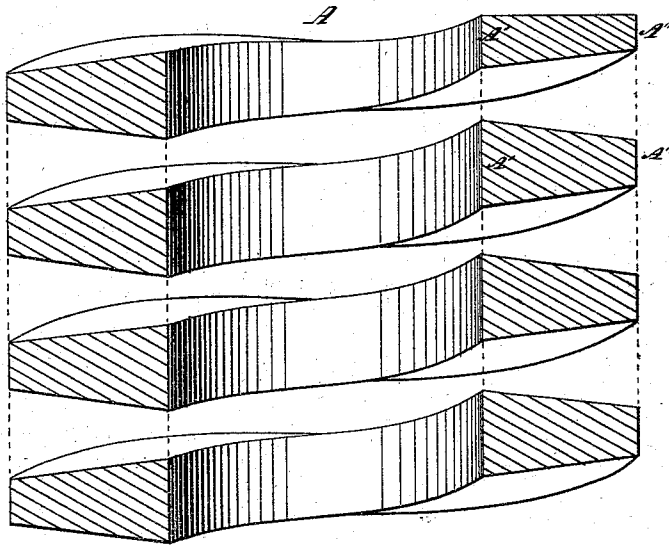


J. C. PICKELS.
Car-Springs.

No. 152,864.

Patented July 7, 1874.



Witnesses
J. B. Connolly
Anthony Connolly

By

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Inventor

Attorney

UNITED STATES PATENT OFFICE.

JAMES C. PICKELS, OF WILMINGTON, DELAWARE, ASSIGNOR OF ONE-HALF
TO JAMES P. HAYES, OF SAME PLACE.

IMPROVEMENT IN CAR-SPRINGS.

Specification forming part of Letters Patent No. **152,864**, dated July 7, 1874; application filed
May 6, 1874.

To all whom it may concern:

Be it known that I, JAMES C. PICKELS, of Wilmington, in the county of New Castle and State of Delaware, have invented a certain new and useful Railroad Car Spring; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which the figure shown is a vertical central section of my invention.

My invention has for its object to provide a draw-spring which shall combine, in an eminent degree, the qualities of lightness, strength, and elasticity.

The invention consists in forming an edge-rolled draw-spring, the inner edge of the coil of which shall be of greater vertical diameter or thickness than the outer edge, substantially as hereinafter shown and described.

In forming this spring I take a steel plate or bar of the requisite thickness, and this I roll into the form of a coil around a mandrel.

Referring to the accompanying drawing, A shows the spring, the inner edge of which, A', is of greater vertical depth or thickness than the outer edge, A''.

A spring thus constructed will be found to combine all the requisites of a first-class spring.

As is well known, the smaller the diameter of the coil into which a bar may be formed, the greater the strength; hence by increasing the thickness of the coiled bar at the smaller diameter of the coil, a larger bearing-capacity will be obtained with but a slight addition in weight of metal.

I am well aware that the idea, broadly, of an edge-rolled spring is not new, and that prior to the date of my invention springs embodying this principle under various forms were in use. I therefore base my claim to novelty on the special construction shown—that is, a coiled edge-rolled spring, the upper and lower surfaces of which converge toward the outside, so as to give a greater vertical depth or thickness to the inner than the outer edge.

What I claim as my invention is—

A coiled edge-rolled spring, the inner edge of which is of greater vertical thickness than the outer edge, substantially as and for the purpose shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of April, 1874.

JAMES C. PICKELS.

Witnesses:

EUGÈNE P. EADSON,
JNO. A. BELL.