W. P. HANSELL.
Car-Springs.

No. 210,027. Patented Nov. 19, 1878.

Fig 1

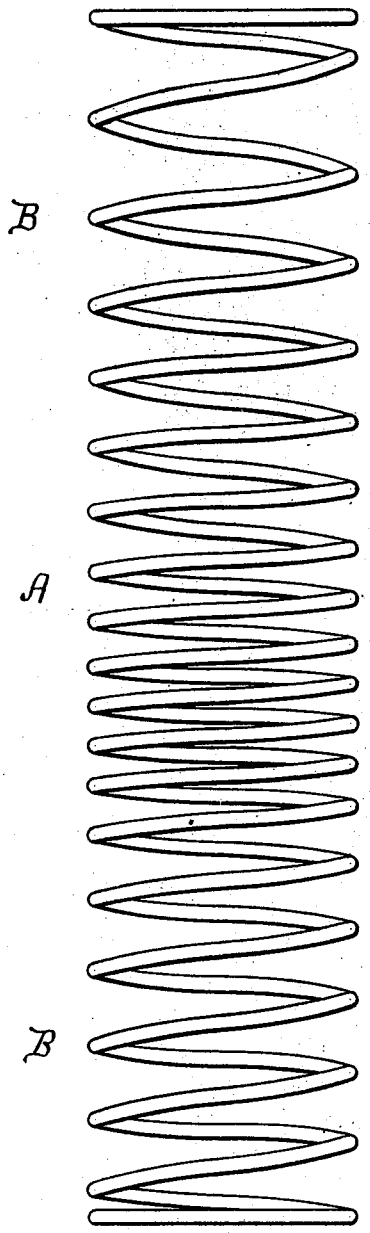
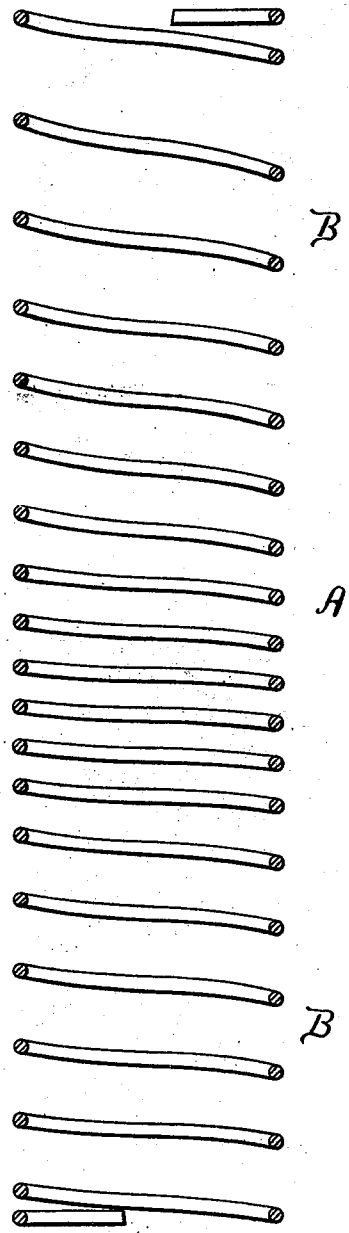


Fig 2



Witnesses
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UNITED STATES PATENT OFFICE.

WALTER P. HANSELL, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN CAR-SPRINGS.

Specification forming part of Letters Patent No. **210,027**, dated November 19, 1878; application filed June 4, 1878.

To all whom it may concern:

Be it known that I, WALTER P. HANSELL, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Springs; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to spiral springs in which the spirals have different pitches; and my improvement consists in increasing the distances between the coils from the center to the ends of the spring, as hereinafter set forth and claimed.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of my specification, Figure 1 is a side elevation of the spring. Fig. 2 is a longitudinal section of the same.

In constructing the spring represented in the accompanying drawings, which is but one form of spring—viz., a cylindrical spiral spring made from a rod of steel which is round when viewed in cross-section—the rod is, by means of suitable mechanism, wound upon a mandrel corresponding in form to the bore of the spring.

In coiling the spring I form the coils with a gradual increase of distance between the same from the center A to the ends B B of the spring, for the reason that the greater the distance between the coils the less will be the tension, while the closer the coils are together the greater the tension.

In the foregoing description I have described a cylindrical coil-spring; but I wish it understood that I do not confine my invention to a single form of spring, nor to the form of the material or kind of material used in its construction, as different forms may be used without departing from the principle of my invention.

Having thus described my improvement, what I claim is—

A coiled spring in which the distances between the coils gradually increase from the center to the ends of the spring, substantially as shown and specified.

WALTER P. HANSELL.

Witnesses:

A. C. JOHNSTON,

CHRIS. HAUCH.