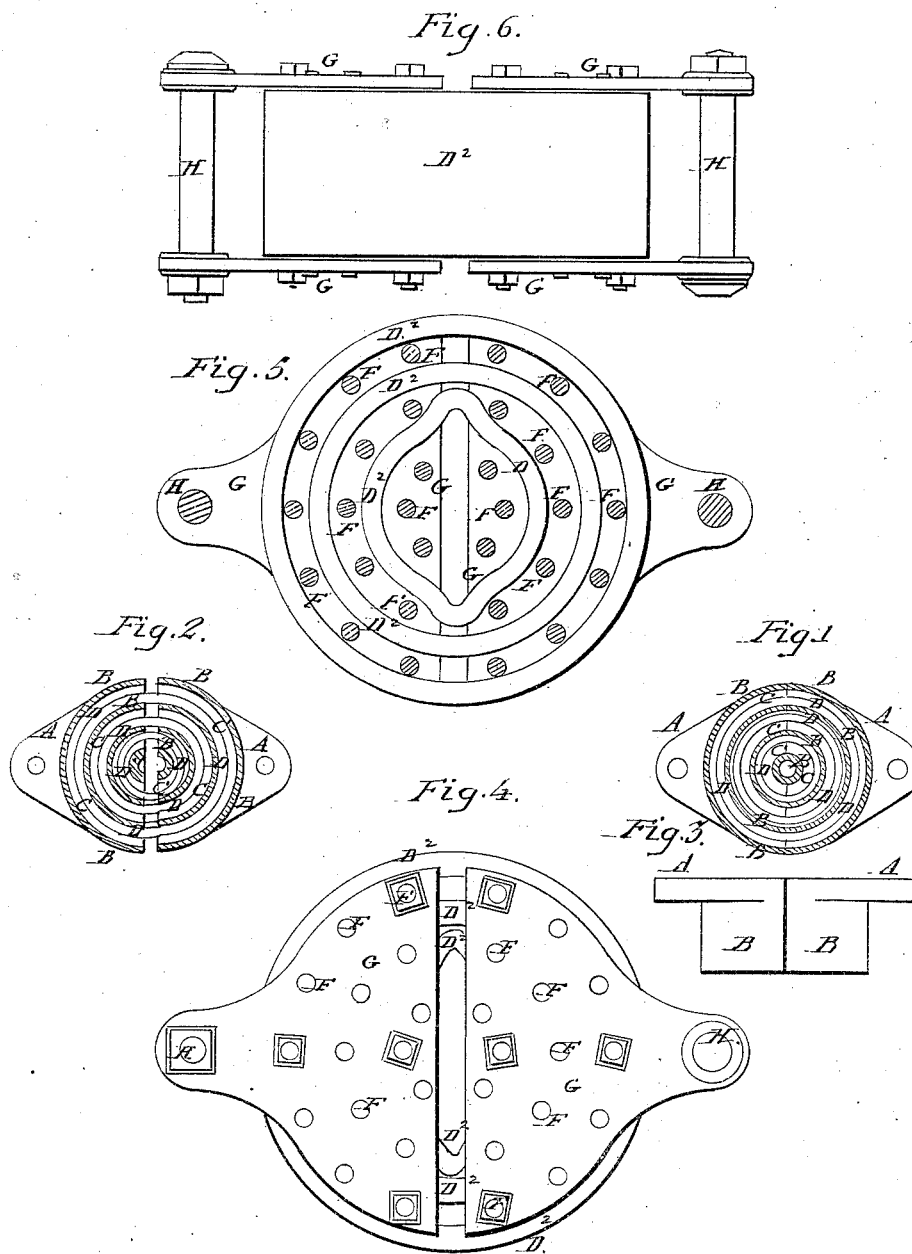


D. R. PRATT.
Carriage-Spring.

No. 6,215.

Patented Mar. 20, 1849.



UNITED STATES PATENT OFFICE.

DANIEL R. PRATT, OF WORCESTER, MASSACHUSETTS.

SPRING FOR CARRIAGES, &c.

Specification of Letters Patent No. 6,215, dated March 20, 1849.

To all whom it may concern:

Be it known that I, DANIEL R. PRATT, of the town of Worcester, in the county of Worcester and State of Massachusetts, have
5 invented a new and useful Mode of Constructing Carriage-Springs, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

10 Figure 1, is an elevation showing two segment plates and semicircular rims and concentric endless elastic belts the ends of the segment plates being in contact and one belt only being in action as when a light
15 load is in the body of the vehicle. Fig. 2 is also an elevation showing the segment plates separated and four of the segment rims in contact with two of the endless belts. Fig. 3 is an edge view of ditto. Fig. 4 is an elevation showing a modification of the plan in which pins are used instead of curved
20 plates. Fig. 5 is a vertical section of ditto. Fig. 6 is an edge view of ditto.

Similar letters in the several figures refer
25 to corresponding parts.

My invention and improvement consists in attaching to, or casting on, the face of plates A A a series of semi-circular or semi-oval rings B, B, B, which, when the plates
30 A are brought together edgewise will form concentric circles, or ovals and chambers, or channels, C, C, C, of the same form as the rings in which are placed endless belts D D D of vulcanized india rubber of varying
35 diameters so that when the edges of the plates are near together and but little weight is in the carriage the outer or larger belt will embrace the outer or larger rim and touch every portion of its surface and
40 bear all the weight—one of said pair of plates being attached to the body of the carriage and the other to the running gear by goose necks, poppets, brackets, or any suitable and tasteful support, in any convenient
45 and suitable position and manner—there being a pair of said plates and series of concentric belts of india rubber at each of the four corners of the body of the carriage substituted for the usual metallic or other
50 springs.

When the edges of the plates touch, none of the belts touch the rings over which they are placed, except the largest, which is always in contact with the ring around which
55 it is placed, as seen in Fig. 1. When more weight is placed in the carriage the plates

will separate from each other causing the largest belt to extend itself until relieved by the next largest belt which will then be extended by the segmental rims around
60 which it is conveyed, causing this and the first named belt to assume the form of ellipses as seen in Fig. 2. A still greater weight being added to the body of the carriage the next smaller belt will be made to
65 act in supporting a portion of the weight and thereby relieving the strain on the larger belts before mentioned. And in this manner the smallest belt is also made to sustain its share of the load and to relieve
70 the others of a portion of the strain when the load is increased to such degree as to cause the larger belts to extend or stretch to such extent as will cause the outer periphery of the smallest ring to touch the
75 inner periphery of the smallest belt.

Concentric circles or ellipses of pins F inserted into the parallel plates G may be substituted for the rings as represented in
80 Figs. 4 and 5—the endless belt D² of vulcanized india rubber being passed around these pins instead of the rings. In this arrangement two pairs of parallel plates into which the pins are inserted will be required instead
85 of the single pair to which the rings are attached. These plates between which the belts and pins are arranged are attached to the body and running gear of the carriage by bolts H passed through the plates to which the connecting links are attached.
90 They are connected to the carriage body in any convenient position or manner and by any suitable means.

The rings B may be let into corresponding grooves in the plates A or they may be
95 attached to them in any convenient way; or they may be cast with the plates as above mentioned. The plates may be of a semi-elliptical or other form and of such form as to admit of openings for the connecting
100 links.

From the foregoing description it will be seen that these springs or elastic rings or belts may be made to act in succession or simultaneously according to the weight of
105 the body and load and when the elastic belts act separately and successively they form adjustable springs and when they act simultaneously they relieve each other.

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

The before described mode of making

india rubber springs for carriages and other
purposes by which the several endless elas-
tic belts are successively brought into action
as the load is increased, by means of the
5 combination of the concentric endless elastic
belts and concentric rows of pins, or their
equivalents, the concentric segment rings be-
ing connected to the plates attached to the
body and running gear of carriages—the

several parts being constructed and ar- 10
ranged substantially as above described.

In testimony whereof I have hereunto
signed my name before two witnesses.

DANIEL R. PRATT.

Witnesses:

WM. P. ELLIOT,
LUND WASHINGTON, Sr.