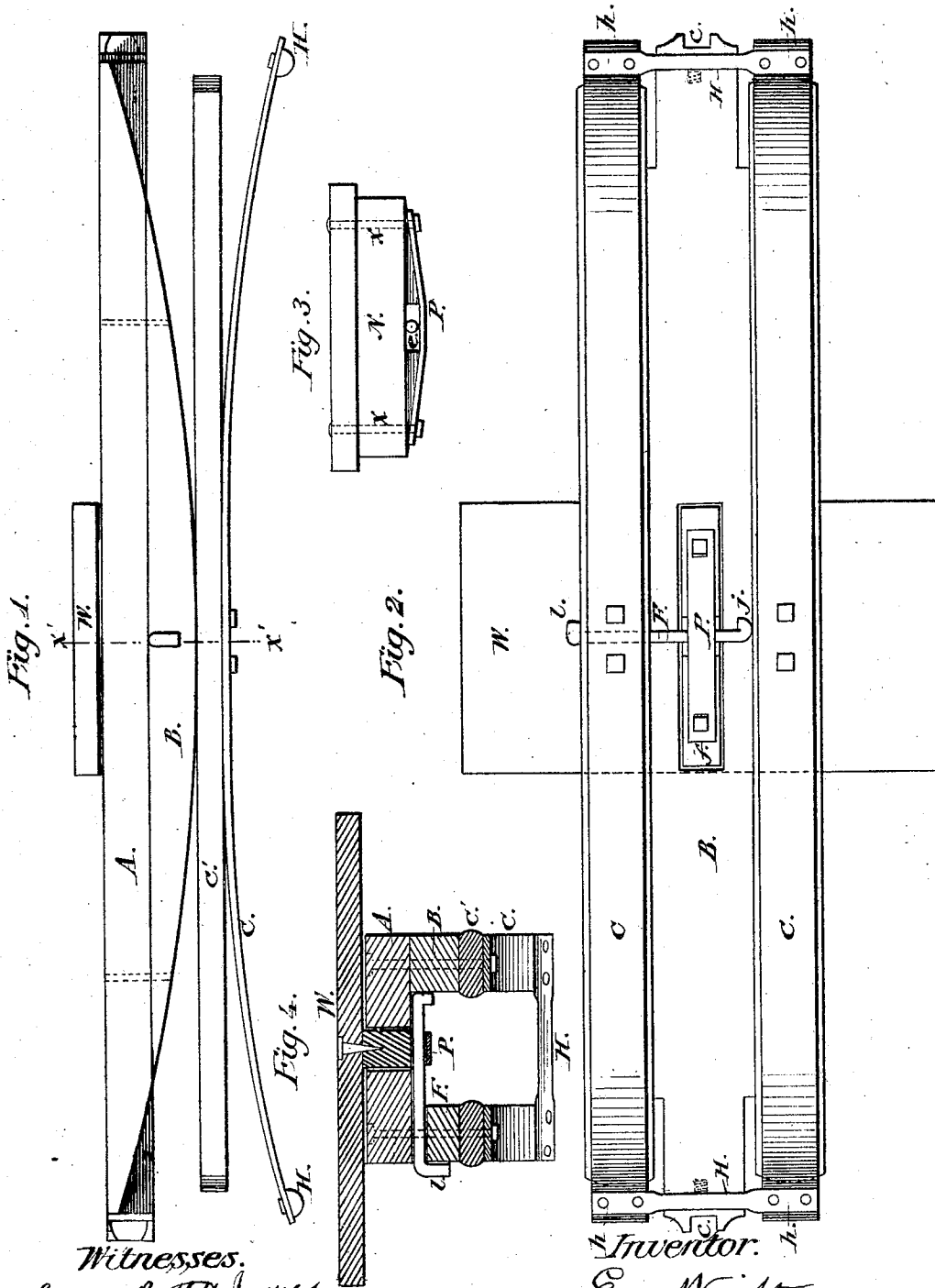


E. WRIGHT.
Carriage-Springs.

No. 147,087.

Patented Feb. 3, 1874.



Witnesses.
Edwin Bartholomew James,
Ambrogio Holland

Inventor.
E. Wright

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Fig. 5.

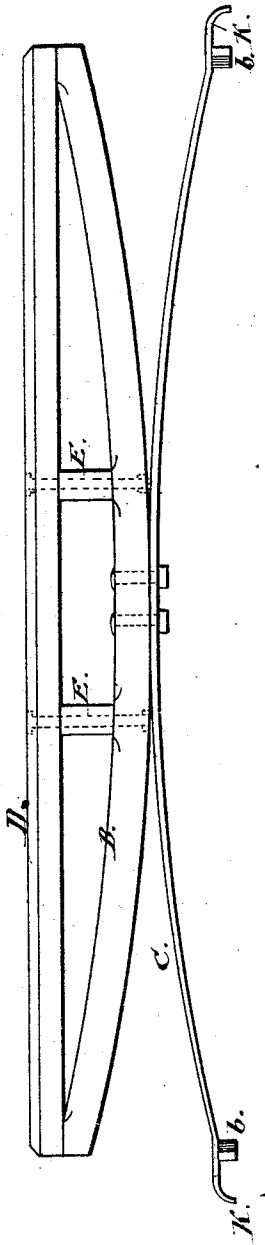
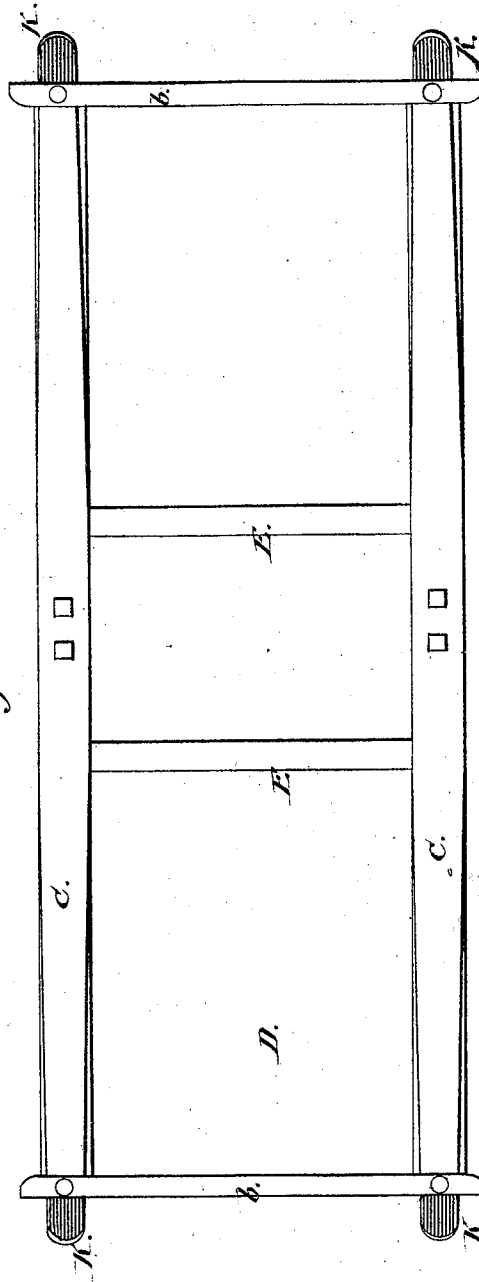


Fig. 6.



Witnesses:
Edwin Bartlett James,
Ambrose Holland

Inventor.
E. Wright

UNITED STATES PATENT OFFICE.

ENOS WRIGHT, OF DENMARK, IOWA.

IMPROVEMENT IN CARRIAGE-SPRINGS.

Specification forming part of Letters Patent No. 147,987, dated February 3, 1874; application filed November 15, 1873.

To all whom it may concern:

Be it known that I, ENOS WRIGHT, of Denmark, county of Lee, State of Iowa, have invented a certain new and useful Improvement in Springs for Vehicles, of which the following is a full and clear description, reference being made to the accompanying drawings, in which—

Figure 1 is a side view of my improved spring. Fig. 2 is a view of the under side of the spring, showing the mode of attaching the same to the body of the vehicle. Fig. 3 is a side view of the attachment block. Fig. 4 is a sectional view through the spring and block on the lines of $x' x'$. Figs. 5 and 6 are modifications of my improved spring as applied to the seats of the vehicle.

My invention relates to that class of springs for which I received Letters Patent numbered 109,095, dated November 8, 1870; and consists, first, in a combination-spring, by which a double self-adjustment is obtained, making an easy spring for any weight; second, in connecting two springs in such a manner that they practically make one spring for one end of a wagon; the object of this being to occupy space each side of the bolster for the working of the spring, instead of over it, to obtain a greater degree of elasticity, and to lessen the liability of breakage; third, in an attachment block and fastening-rod, whereby the wagon-body may be instantly attached to or detached from the springs.

In the drawing, A is the cap upon which the wagon-body rests, and which forms part of the bearer. B is that part of the bearer not formed by the cap, and is securely fastened to it by proper means. C C' are the spring, which consists of the combination of two bars, one of which is straight, and the other curved, both being secured to the bearer by bolts. The curved bar is steel. The straight one may be either wood or steel, but must be stiffer than the curved one, which works against it by straightening, thus obtaining a longer bearing, and consequently increasing stiffness. As the space between the curved and straight bars decreases, they both work together around the bearer, giving additional strength and elasticity.

I prefer to use two of these combination-springs at each end of the vehicle; and for that purpose I make the cap wide enough to admit of the two springs being attached, and to allow space for the bolster to come between them when they are depressed. I also join the ends of the curved bars by the holder-irons H H, which rest on the ends of the bolster.

The attachment block N is of wood, of suitable size, to which a plate, P, is secured by bolts, which also hold the block to the bottom of the wagon-body W. A mortise, f , is made in the cap, into which the attachment block fits, where it is easily secured by means of the fastening-rod F passing through the slot. The rod F is a piece of round iron with its end j turned over on itself, so that when the bent end l is in the position shown in Fig. 4 it cannot be drawn out, but will catch against the plate P. The wagon-body can thus be easily and securely attached to the springs. I also provide the cap A with cast-iron lugs $c c$, made as shown, through which the bolster-stakes pass, and serve to keep the springs in place.

In Figs. 5 and 6 is shown a modification of my invention as applied to the seat of a wagon. D is the seat-body; B, the bearer; C, the spring. E E are cross-pieces, of sufficient length to reach from side to side of the seat, and serve to strengthen the same, and support the bearer. K K are hooks formed on the ends of the spring, which rest on the edges of the wagon-body, and, with the cleats $b b$, hold the seat in position.

Having thus fully described my invention, what I claim is—

1. The combination of the spring-bars C and C' with the bearer B, forming a combination-spring, as and for the purposes described.

2. The cap A, provided with the lugs $c c$, in combination with the bearer B, spring-bars C and C', and holding-irons H H, as and for the purposes set forth.

3. The attachment block N, provided with the plate P, in combination with the cap A, as and for the purpose set forth.

ENOS WRIGHT.

Witnesses:

EDWIN BARTLETT JAMES,
AMBROSE HOLLAND.