

(No Model.)

D. M. & T. H. PARRY.  
VEHICLE SPRING.

No. 447,005.

Patented Feb. 24, 1891.

Fig: 1.

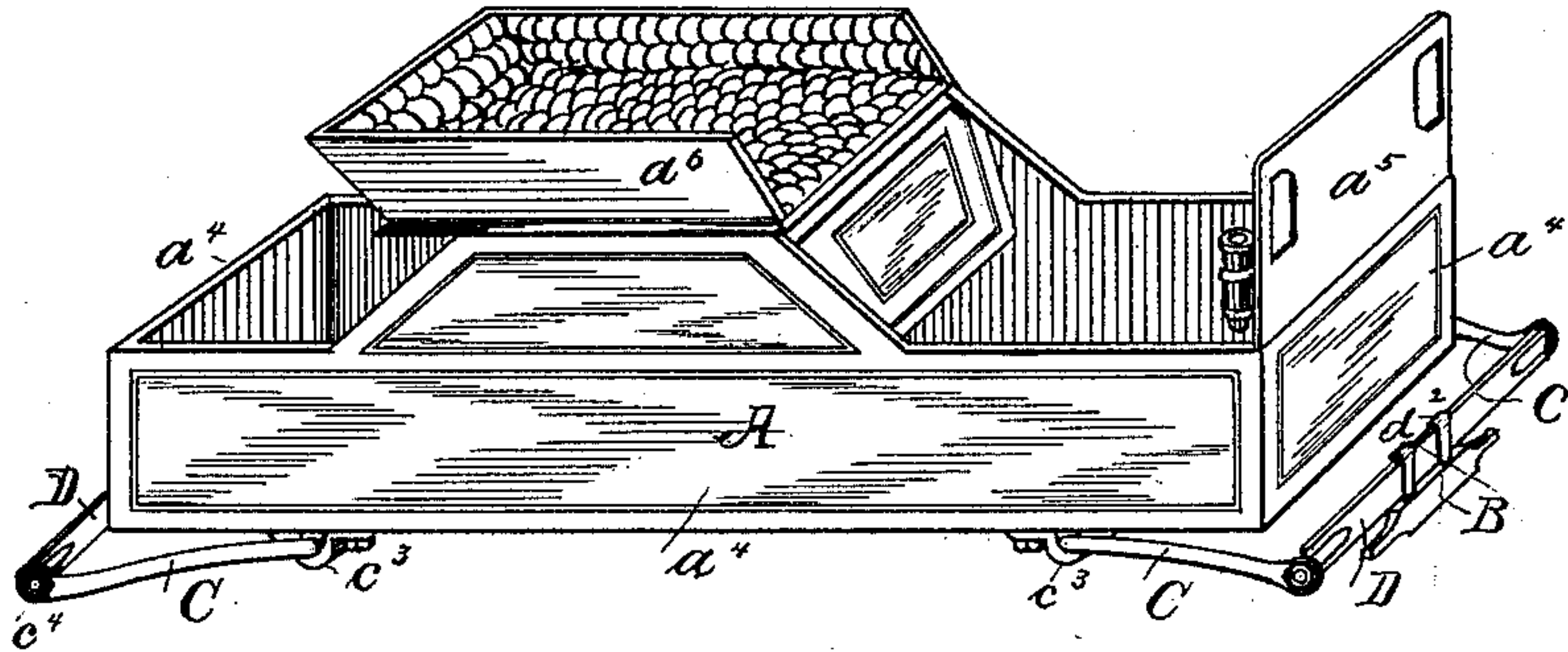


Fig: 2.

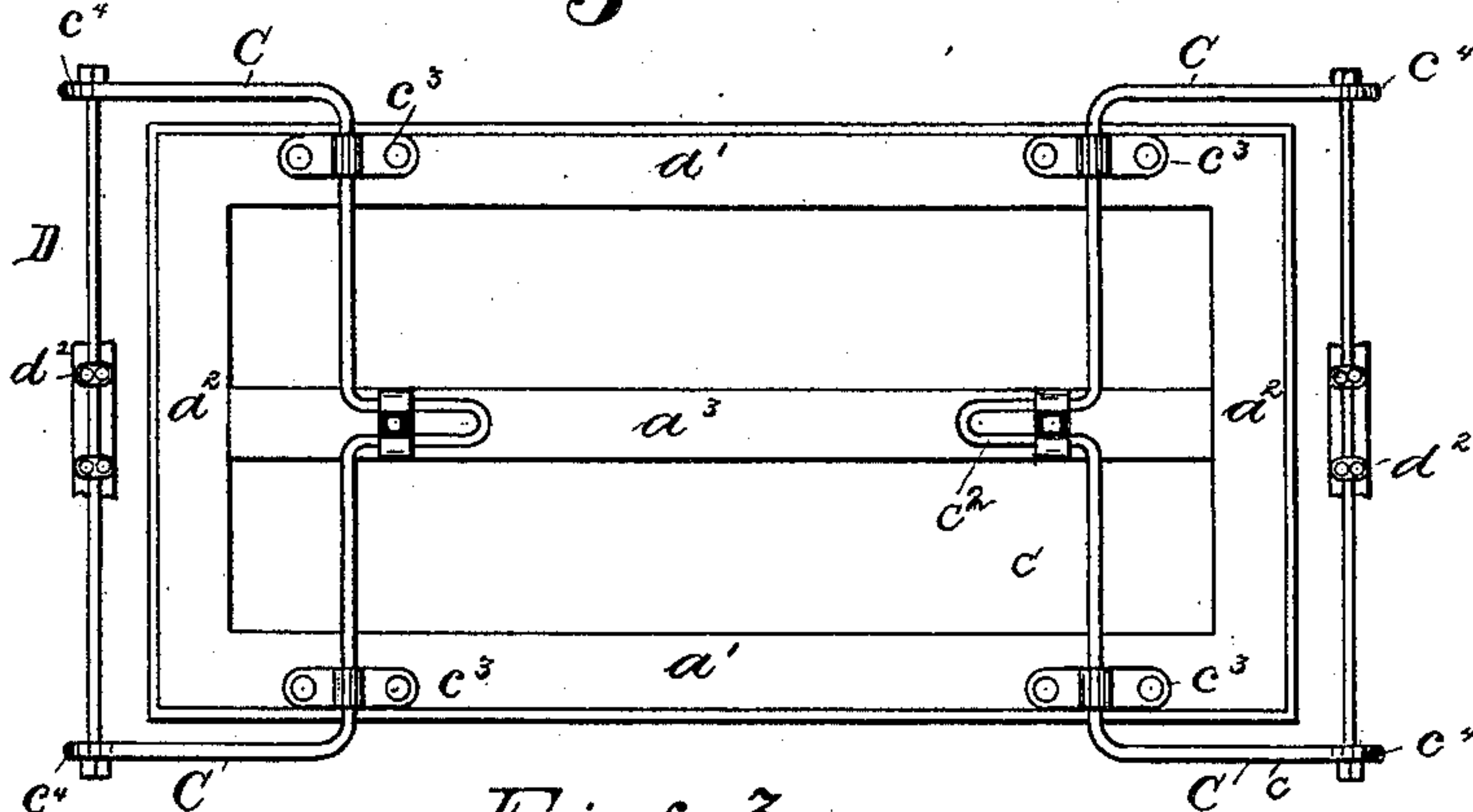


Fig: 3.

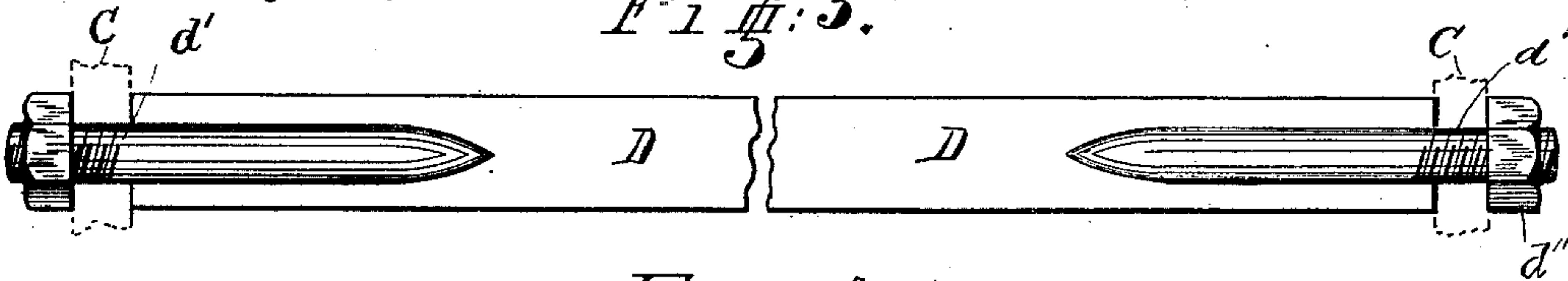
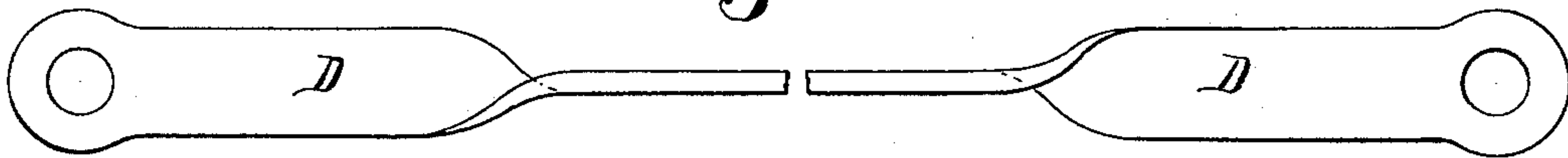


Fig: 4.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## VEHICLE-SPRING.

**SPECIFICATION** forming part of Letters Patent No. 447,005, dated February 24, 1891.

Application filed April 25, 1889. Serial No. 308,608. (No model.)

*To all whom it may concern:*

Be it known that we, DAVID M. PARRY and THOMAS H. PARRY, citizens of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Vehicle-Springs; and we 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 appertains to make and use the same.

This invention appertains to vehicle-springs, and especially relates to that class known as "torsion-springs," the object of the invention being to provide a cheap, simple, and durable torsion-spring and to provide a supplemental spring to compensate for longitudinal expansion and contraction and automatically adjust itself to the varying positions of the torsion-spring, as will be hereinafter clearly pointed out.

The invention consists in certain peculiarities in the construction, arrangement, and combination of the several parts, substantially as hereinafter described, and particularly pointed out in the subjoined claims.

Figure 1 represents in perspective the body and part of the running-gear of a wagon as provided with our improved springs; Fig. 2, an under side plan view of the same; Fig. 3, a front view of the compensating spring, and Fig. 4 a like view of a modified form of compensating spring.

In the drawings, A represents the body of the vehicle, which may be of any desired construction, it being herein shown as comprising the side sills  $a'$ , end sills  $a^2$ , center sill  $a^3$ , sides and ends  $a^4$ , dash  $a^5$ , and seat  $a^6$ , and B represents the head-block.

The torsion-springs C, which may be of any suitable construction, but preferably of the construction shown in the drawings—that is to say, with the outer side portions  $c$ , the portions  $c'$ , extending inward toward each other from the inner ends of said portions  $c$ , and the longitudinally-extending bent portions  $c^2$ , connecting the ends of said portions  $c'$ —are journaled in boxes  $c^3$ , secured to the under side of the side sills  $a'$  and center sill  $a^3$ , their free ends extending beyond the end sills  $a^2$ , as shown. The ends of the torsion-springs will preferably each have an eye  $c^4$  therein to

receive the round end  $d'$  of a flat sheet-metal spring D, which is secured by straps or bolts  $d^2$  to the head-block B, said spring being secured with its flat side in a vertical plane, as clearly shown in Figs. 1, 2, and 3, this construction and arrangement allowing the spring D to bend or yield in the direction of the length of the vehicle to compensate for longitudinal movement or expansion or contraction of the torsion-springs C, which are pivotally connected therewith.

In the drawings are shown two different constructions of compensating spring D, the one shown in Figs. 1, 2, and 3 being shown as flat at the central portion and round or tubular at its ends, and the one shown in Fig. 4 being flat and twisted, so that its end portions are at right angles to its central portion. The one illustrated in Figs. 1, 2, and 3 will be secured with its central portion edgewise upon the head-block, its ends being extended into eyes in the ends of the torsion-spring, as before stated, this compensating spring when so applied yielding only in the direction of the length of the vehicle, while the one illustrated in Fig. 4 lies with its central portion flat upon the head-block and is capable of vertical as well as horizontal movement. If the twisted spring is used, its ends, instead of having eyes formed therein, as shown, might be forged round, as are the ends of the spring shown in Fig. 3.

We do not desire to limit ourselves to the exact construction of compensating spring illustrated, as the form might be varied somewhat, if desired. By this construction and arrangement of springs it will be seen that strain occasioned from jolting, &c., is uniformly distributed, and that any variation in the position of the torsion-spring caused by expansion, contraction, or variable movements is compensated for by the spring C and the vehicle rendered easy-riding; and it will also be seen that by providing the horizontally-yielding compensating spring the backward and forward jolting and jerking of the vehicle occasioned by striking obstacles is in a great measure overcome, as the springs C will yield in the direction of travel and allow the vehicle-body to move freely forward and backward above the running-gear.

We claim—

1. In a vehicle, the combination, with a torsion or other spring C, secured directly or indirectly to the body, of the supporting and compensating spring D, having a horizontally-  
5 flat portion at its center, whereby it is secured to the head-block or axle, and vertically-flat end portions secured to the ends of the spring or springs C, all constructed and arranged whereby said spring D may yield vertically  
10 at its center and horizontally at its ends, substantially as described.

2. In a vehicle, the vehicle-body and vertically-yielding springs secured thereto, in com-

bination with vertically and horizontally resilient springs secured at their central portions to a part of the running-gear of the vehicle and at their ends to said vertically-yielding springs.

In testimony whereof we affix our signatures in presence of two witnesses.

DAVID M. PARRY.  
THOMAS H. PARRY.

Witnesses:

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N. E. C. WHITNEY.