

(No Model.)

G. T. GLOVER.

METHOD OF MAKING SPRINGS FOR VEHICLES.

No. 555,153.

Patented Feb. 25, 1896.

Fig. 1.

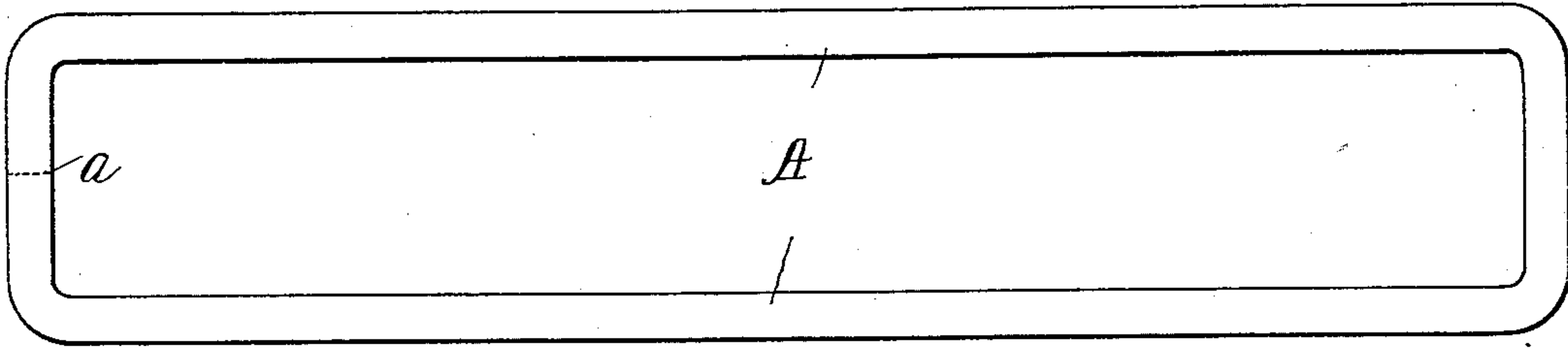


Fig. 2.

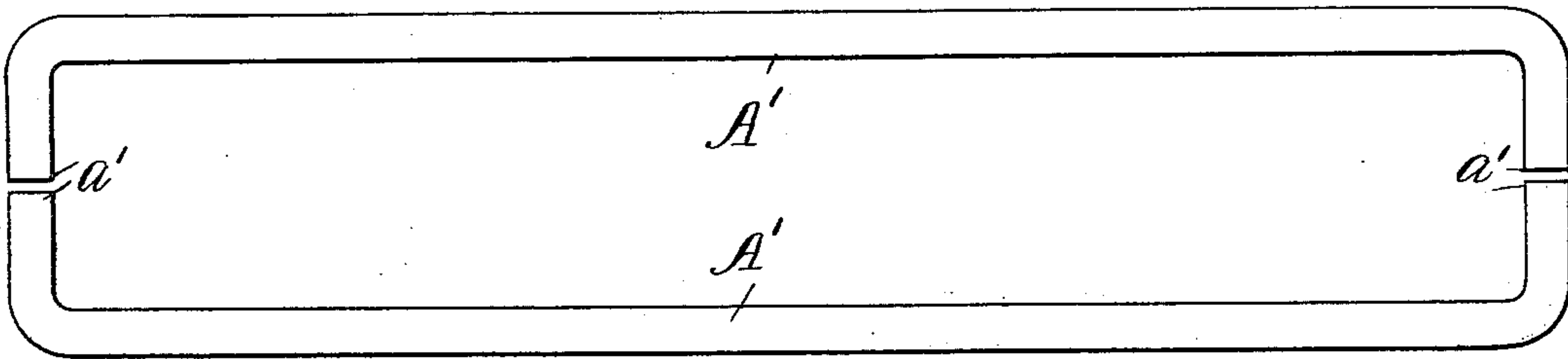


Fig. 3.

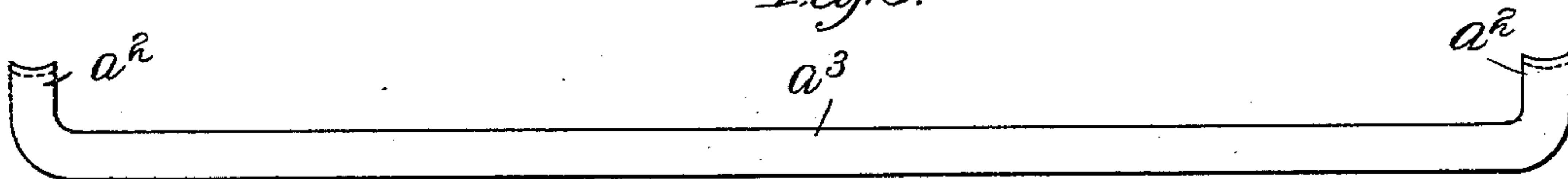


Fig. 4.

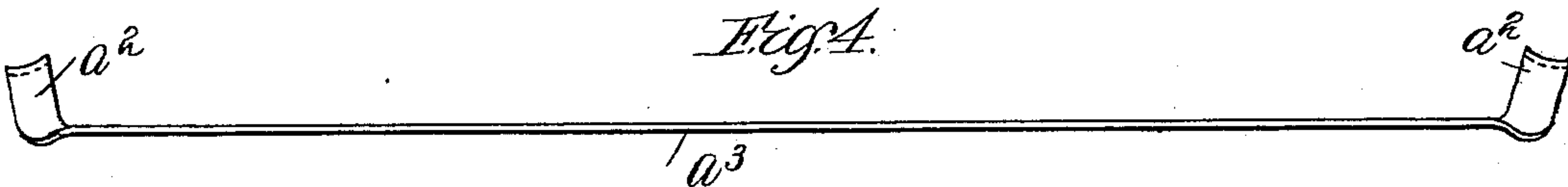


Fig. 5.

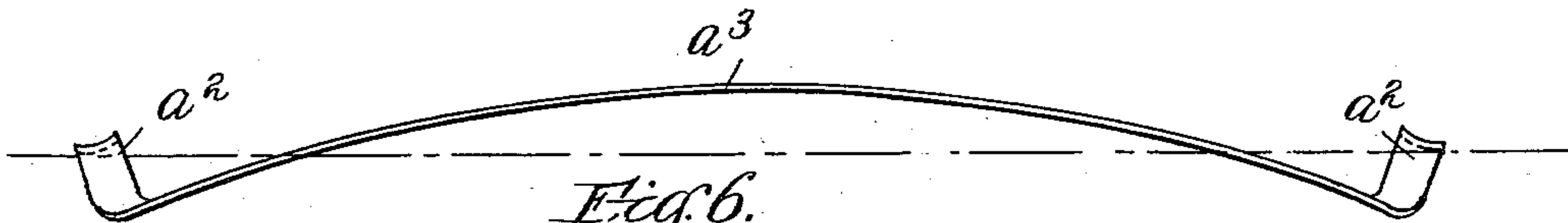
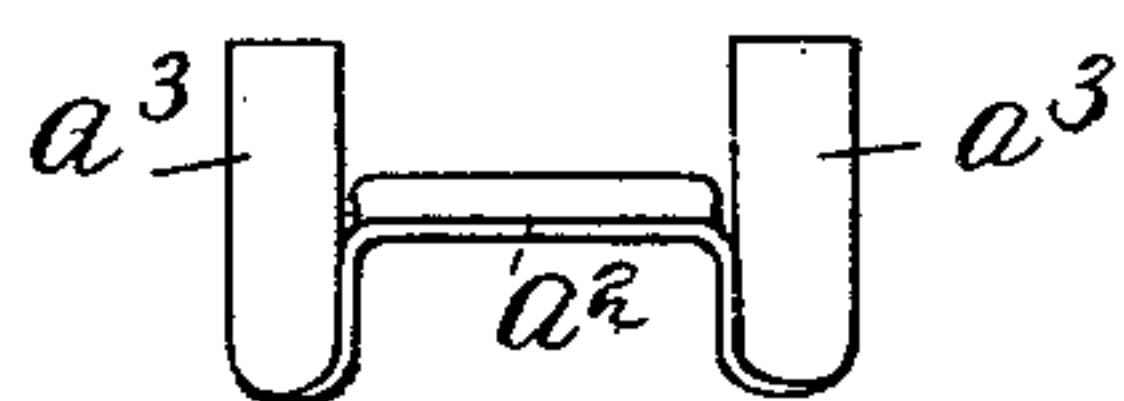


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE T. GLOVER, OF CHICAGO, ILLINOIS.

METHOD OF MAKING SPRINGS FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 555,153, dated February 25, 1896.

Original application filed September 28, 1893, Serial No. 486,715. Divided and this application filed January 24, 1894. Renewed September 26, 1895. Serial No. 563,801. (No model.)

To all whom it may concern:

Be it known that I, GEORGE T. GLOVER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Methods of Making Springs for Vehicles, of which the following is a specification.

This application is made as a division of my application for Letters Patent, filed September 28, 1893, Serial No. 486,715, and is designed to cover the method or process of making the spring described in my said application.

The spring in question is provided with hook-shaped end portions adapted for engaging upon an appropriate portion of the vehicle and made inclined or curved, so that they shall rock upon their allotted support during the action of the spring under a load.

In the accompanying drawings, Figure 1 represents a blank from which I form a double bow-spring having bearing ends or double hooks adapted for rocking upon the support which they engage. Fig. 2 represents a couple of flat bars having laterally-bent ends and adapted for forming either two separate springs having rocking hook or bearing ends or for forming the blank of Fig. 1. Fig. 3 shows the blank of Fig. 1 bent along its longitudinal middle so as to form double hooks or clips at its ends. Fig. 4 illustrates a further step in bending the blank, and Fig. 5 illustrates the step which completes the spring. Fig. 6 is an end view of the spring.

The rectangular blank A (shown in Fig. 1) can be produced by bending a flat metal bar laterally with relation to its edges and then welding the two ends of the bar at dotted line *a*, or at any other suitable point where it may be desired said ends shall meet. The blank A may, however, be formed from a couple of bars A', Fig. 2, having their ends bent laterally with relation to their edges, in which case the ends *a'* of the bars can be welded together to form the blank A, or each bar can be bent to form a single bow-spring substantially in accordance with the steps hereinafter described for forming a double bow-spring of the blank A.

After forming the blank A it is bent along

its longitudinal middle so as to form clips or double hooks *a*² integral with the side portions *a*³ of the blank, as in Fig. 3, and it is then bent so as to throw outwardly its side portions *a*³, as in Fig. 4, after which said side portions are bent so that each shall form a bow-spring, as in Fig. 5.

It will be seen that in the completed structure each spring will in effect have a laterally-extending end portion forming a hook for engaging upon a support, and that by forming such two springs from the blank A the hooks of one spring will unite with the hooks of the other spring so as to form clips or bearings. These clips or bearings have their top portions, which rest upon the support, such as an axle, made somewhat inclined or, if preferred, curved, as fully explained in my said application, whereby under a load the end hooks or bearing ends of the springs will rock upon their allotted support or supports. It is also understood that the bars shown in Fig. 2 can be used for forming the single seat-springs described in my application, filed September 28, 1893, Serial No. 486,716, in which the principle of the spring is the same as that of the double spring herein described. Springs thus made are economical and durable and avoid the use of shackles, and at the same time attain the range of resilient action and automatic adaptation incident to the use of shackles. I also regard the step of laterally bending a flat spring-bar, so as to provide a bow-spring with a hook-shaped bearing end having a broad bearing-surface, as a feature of novelty.

What I claim as my invention is—

The method of forming vehicle-springs which consists in bending a flat metal bar or bars to a rectangular shape, then uniting the ends, then bending the end portions of the blank thus formed downward to form hook-shaped supports arranged centrally of the sides, then bending the stock on each side of the supports outward at right angles thereto, and finally bending the sides upward to form bow-springs, substantially as described.

GEORGE T. GLOVER.

Witnesses:

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ARTHUR F. DURAND.