

(No Model.)

S. H. WOOLDRIDGE.

VEHICLE SPRING.

No. 284,582

Patented Sept. 4, 1883.

Fig 1.

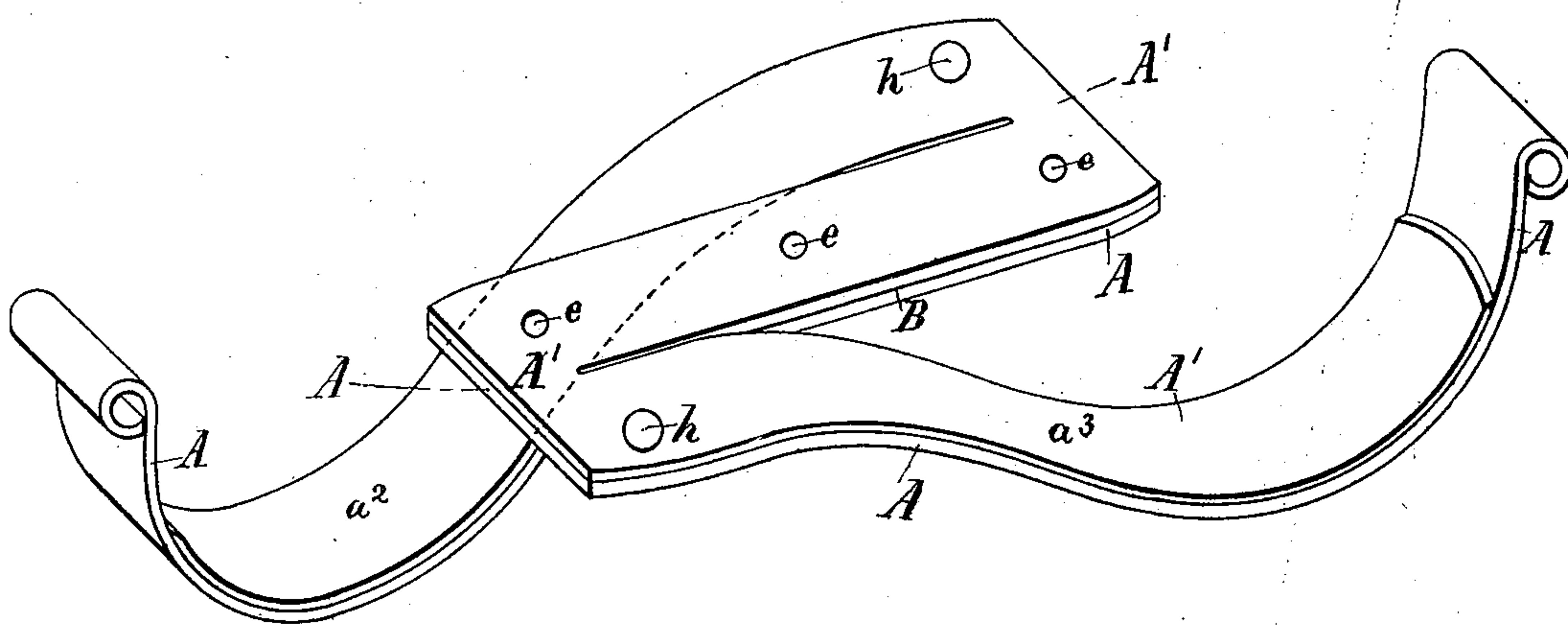
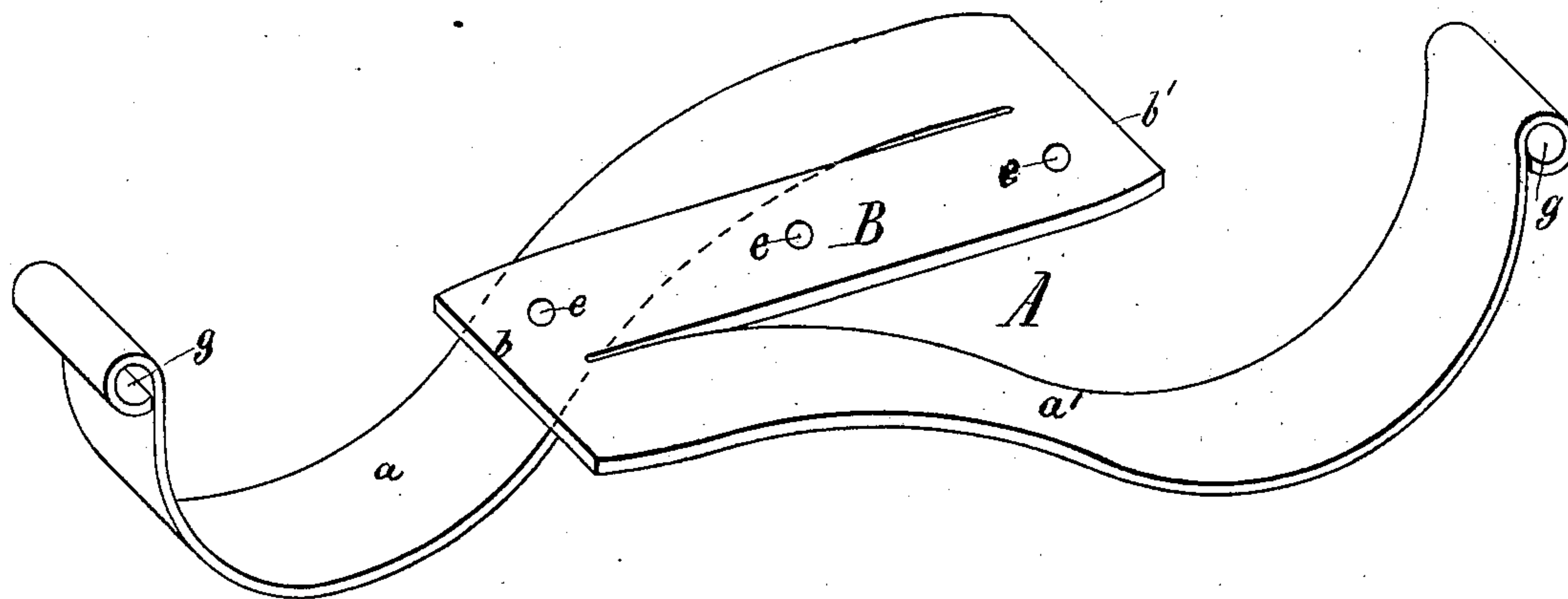


Fig 2.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 284,582, dated September 4, 1883.

Application filed June 14, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, SILAS H. WOOLDRIDGE, a citizen of the United States, residing at Venice, in the county of Madison and State of Illinois, have invented a new and useful Improvement in Side-Bar Buggy Springs; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings and letters of reference marked thereon, forming a part of this my specification of said invention, which drawings show in perspective view my said improvement.

The object of my invention is the production of a side-bar buggy spring which, when in use, shall present between the ordinary side bars of a buggy or other similar vehicle great length of springs, thereby securing great elasticity of motion, while at the same time a portion of the spring shall serve as a "sleeper," upon which the body of the buggy can rest and be firmly held in position, which spring, by reason of its peculiar form and construction, shall also possess great durability and be readily and cheaply manufactured.

In Figure 1, A indicates one of my improved springs for vehicles, the same being made of finely-tempered steel, and shown as re-enforced by a cap leaf portion, A', of the same general form and made of the same material.

Fig. 2 represents my improved spring A as it appears before re-enforcing the same with the cap leaf portion A'. (Shown in Fig. 1.)

Having reference to Fig. 2, it will be seen that the spring is formed with two limbs, as  $a$  and  $a'$ , having an interposed body portion, B, between said limbs, as shown, which portion B, when the spring is applied to the usual side bars of a vehicle, will occupy a horizontal position and serve as a level support or sleeper upon which to place the buggy-box, and secure the same thereto by bolts passed through the bolt-holes  $e e e$  thereof. It will further be seen that to the opposite ends,  $b b'$ , of the sleeper B the inner ends of the limbs  $a$  and  $a'$  are connected, and from such ends project laterally in opposite directions, as shown, so that when the spring is pivoted or hinged

in the usual manner to the side bars of a buggy, by the use of clips having their bolts passed through the eyes  $g g$  of the limbs  $a a'$ , the effective length of the spring-limbs  $a$  and  $a'$  can be made to extend nearly the whole width of the vehicle to which the spring may be applied, and on both sides of the support or sleeper B, thereby conjointly affording great length or volume of spring action between the side bars of the buggy to which the spring may be applied.

My improved spring, as indicated in Fig. 2, is made of a single piece of material—to wit, of properly-tempered steel—and is so formed, as represented in the figures, as to constitute limbs  $a$  and  $a'$ , which are springs having their inner ends, respectively, connected at the opposite ends,  $b b'$ , of the interposed horizontal support B, as shown, to which support the vehicle-body is to be secured. By making the spring A of a single piece of metal the blank for the same, in the process of its manufacture, can readily be cut from a sheet of steel by the use of a proper die, thereby greatly facilitating the construction of the spring and with a reduction of expense in its production.

As shown in Fig. 1, A' is a re-enforce or cap portion, secured to the spring A by bolts  $h h$ , passed through both A and A', and firmly secured in any proper manner. In this re-enforce portion A',  $a^2 a^3$  are spring-limbs, made to conform to the spring-limbs  $a a'$  of the spring A, (shown in Fig. 1,) said limbs  $a^2 a^3$  being free to move upon the limbs  $a a'$  of the spring A under pressure when in use.

I also am aware that two springs extending in opposite directions from side bars of a carriage-truck, and each riveted to a separate plate or bolster-piece, as shown in the Patent No. 255,903, have been used, and therefore I do not claim the same; but

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

The single-leaf or double-leaved side-bar spring herein described, as a new and improved article of manufacture, the same consisting of a spring plate or plates split in vertical planes and comprising the end portions,



*b b'*, body portion B, and side portions, *a a'*,  
all formed from the split plate or plates by  
bending the side portions downward and shap-  
ing said portions to form springs *a a'* on oppo-  
5 site sides of the body portion or portions, the  
said springs being held attached to the body  
portion or portions by the unsplit end por-

tions, *b* and *b'*, of the spring plate or plates, as  
shown.

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Witnesses:

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