(No Model.)

F. HORN.

VEHICLE SPRING.

No. 323,335. Patented July 28, 1885.

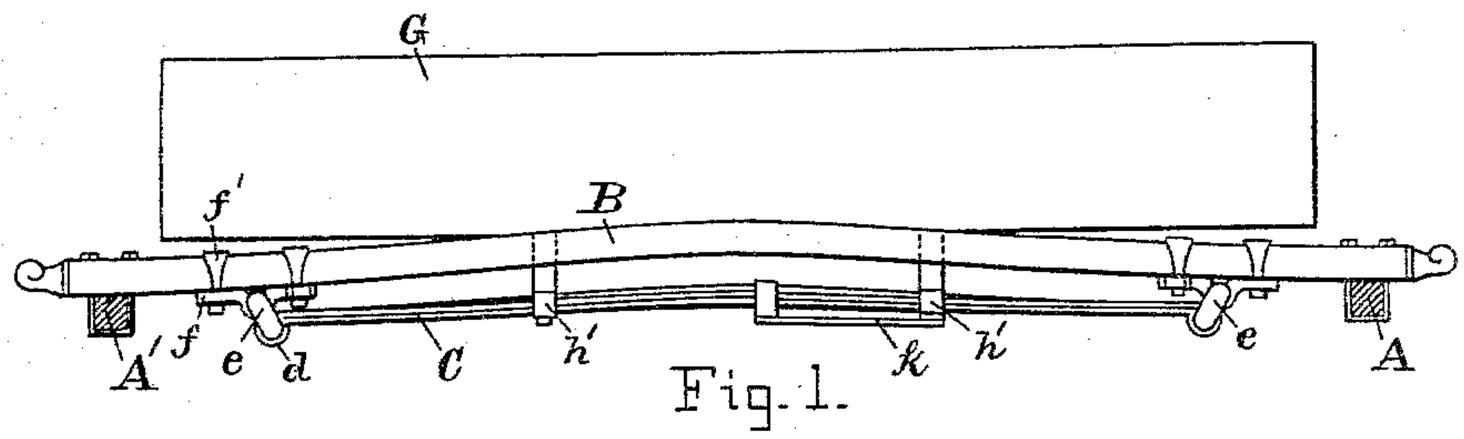

Fig. 1.

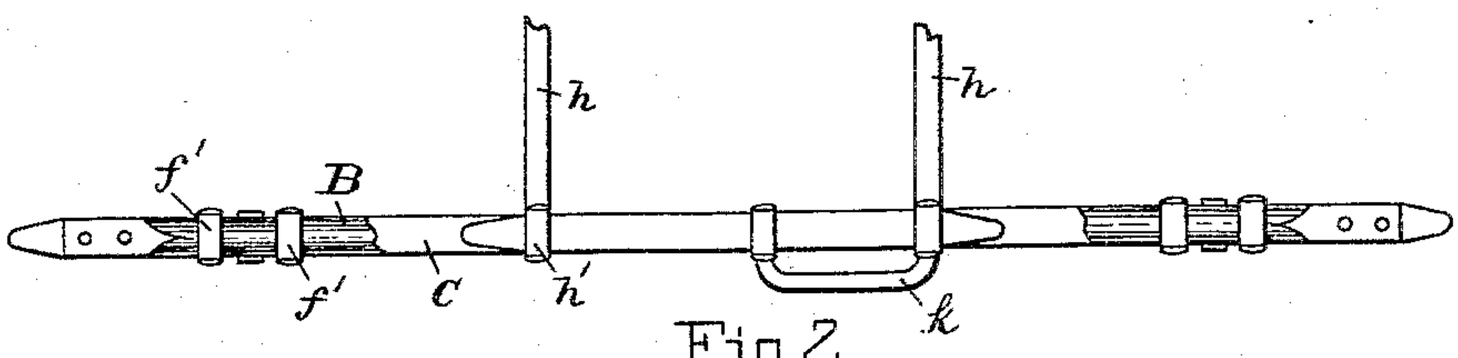

Fig. 2.

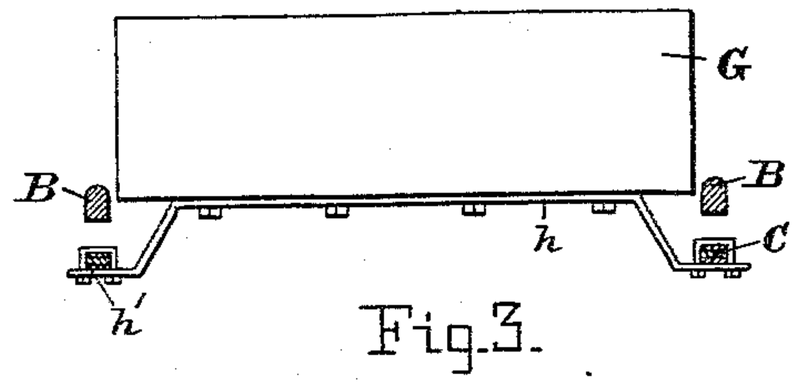

Fig. 3.

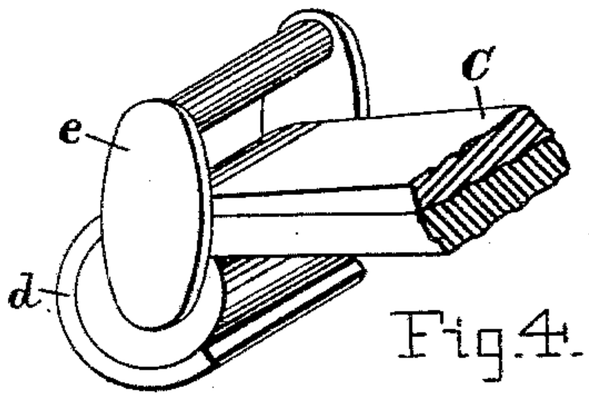

Fig. 4.

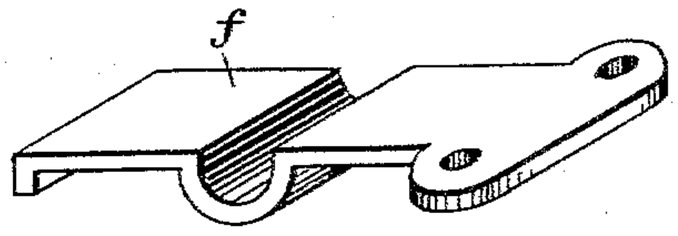

Fig. 5.

WITNESSES:

Edw. F. Boyden.

John E. Morris

INVENTOR:

Ferdinand Horn

By Chas B. Mann

Attorney.

UNITED STATES PATENT OFFICE.

FERDINAND HORN, OF COSHOCTON, OHIO, ASSIGNOR OF ONE-HALF TO HOUSTON HAY, OF SAME PLACE.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 323,335, dated July 28, 1885.

Application filed March 10, 1885. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND HORN, a citizen of the United States, residing at Coshocton, in the county of Coshocton and State of Ohio, have invented certain new and useful Improvements in Side-Bar Springs for Vehicles, of which the following is a specification.

My invention relates to an improved side-bar spring for vehicles.

The object of my invention is to provide a spring of this character which, among other advantages, will be free of rebound.

The drawings herewith illustrate the invention.

Figure 1 is a side view of the wood side bar and metal spring. Fig. 2 is a top view of one side bar and spring broken off, and one body-loop. Fig. 3 is a cross-section of the body, side bars, and springs, and showing the body-loop. Fig. 4 is a view of the end of the metal spring and link which couples it to the plate, clipped to the side bar. Fig. 5 is a view of the plate and clips.

The letter A designates the rear axle, A′ the bolster which rests on the front axle, and B the wood side bars, clipped in the ordinary way to these parts.

The metal spring C may consist of two, three, or more leaves, and has position underneath the side bar, extending lengthwise therewith nearly the entire length. The ends of the metal spring terminate in a curl or hook, *d*, which grasps a link, *e*, and the link is suspended from a plate, *f*, made fast below the side bar by two clips, *f′*. Two leaves of the metal spring C terminate at each end with a curl or hook, *d*, the hook of upper leaf inclosing that of the lower one. Both hooks at each end thereby are engaged with one of the suspended links *e*. This construction confines the upper leaf to the lower one, and prevents the leaves of the spring from separating or opening when the upward reaction takes place on the vehicle crossing an obstruction. It will thus be seen each end of the metal spring is coupled to the wood side bar, and while each metal spring is free to yield downward under the pressure of a load it cannot rebound or raise above its normal position, because the leaves of the spring are confined by the end hooks.

The body G of the vehicle is supported on two body-loops, *h*, which extend across from the metal spring C on one side to the other. The ends *h′* of these body-loops are clipped on the under side of the springs C, and between the clipped ends *h′* the body-loops preferably are more or less raised or bowed up, as shown at *i* in Fig. 3, and the body G of the vehicle rests on the center raised part, to which it is bolted. The body-loop may, however, be straight across, instead of raised or bowed up.

A plate, *k*, is attached to each metal spring for the front wheel to rub against when turning the vehicle around.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

A spring for vehicles, having in combination a wood side bar, B, a link, *e*, near each end and suspended below said side bar, and a metal leaf-spring, C, underneath and extending lengthwise of the side bar, and having each end of both the upper and lower leaves terminated with a hook, *d*, and both hooks engaged with one of the suspended links, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FERDINAND HORN.

Witnesses:
THEO. AGNEW,
C. E. RANSOM.