

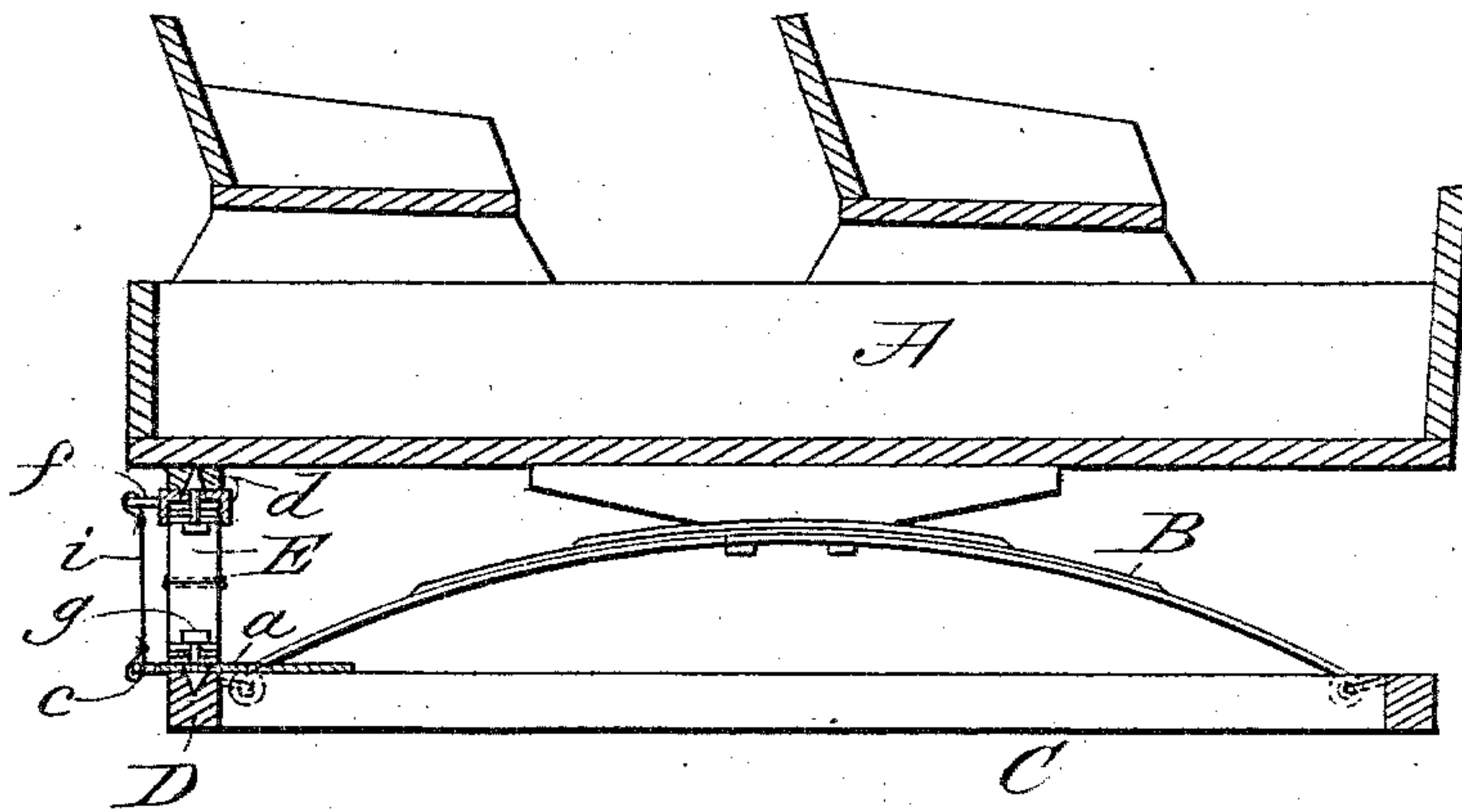
(No Model.)

C. FISH.  
SIDE SPRING VEHICLE.

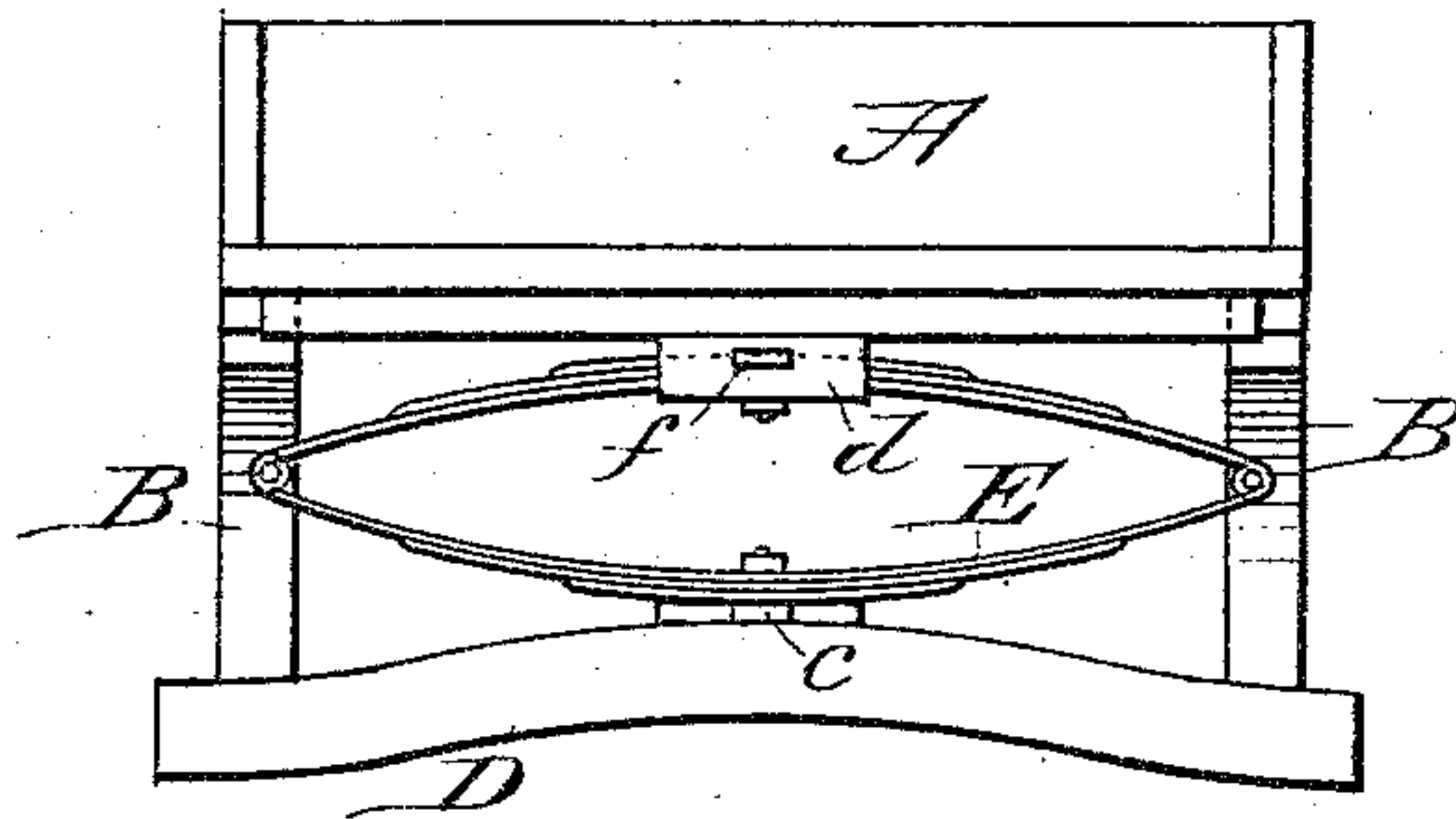
No. 287,918.

Patented Nov. 6, 1883.

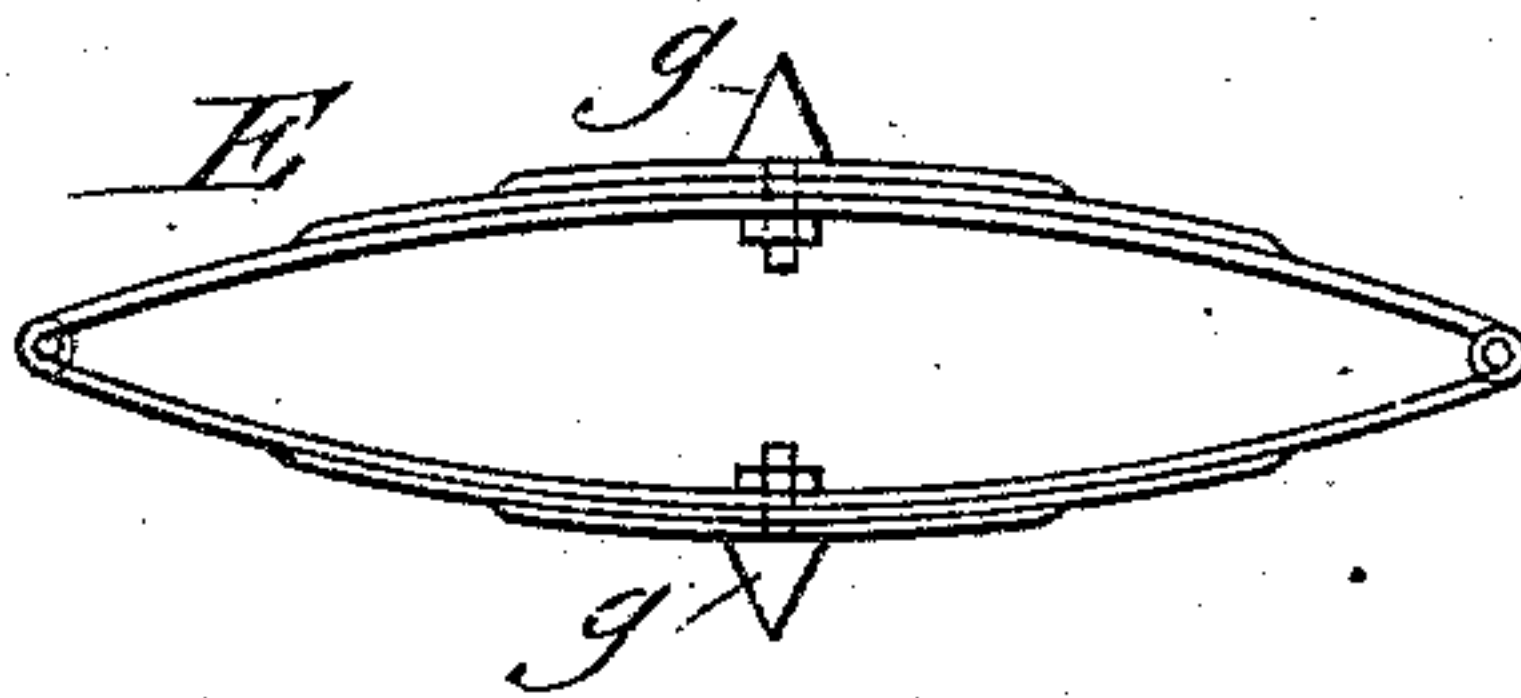
*Fig. 1.*



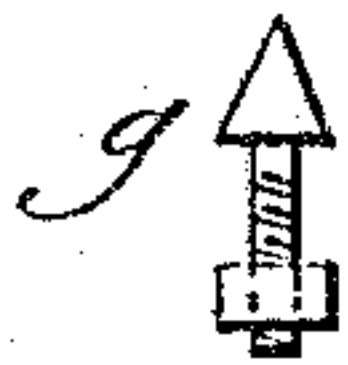
*Fig. 2.*



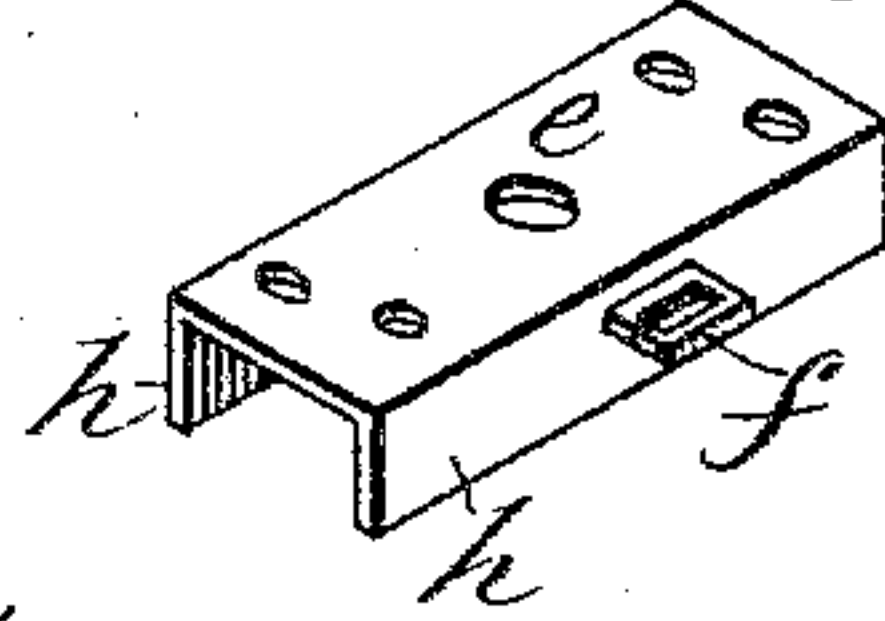
*Fig. 3.*



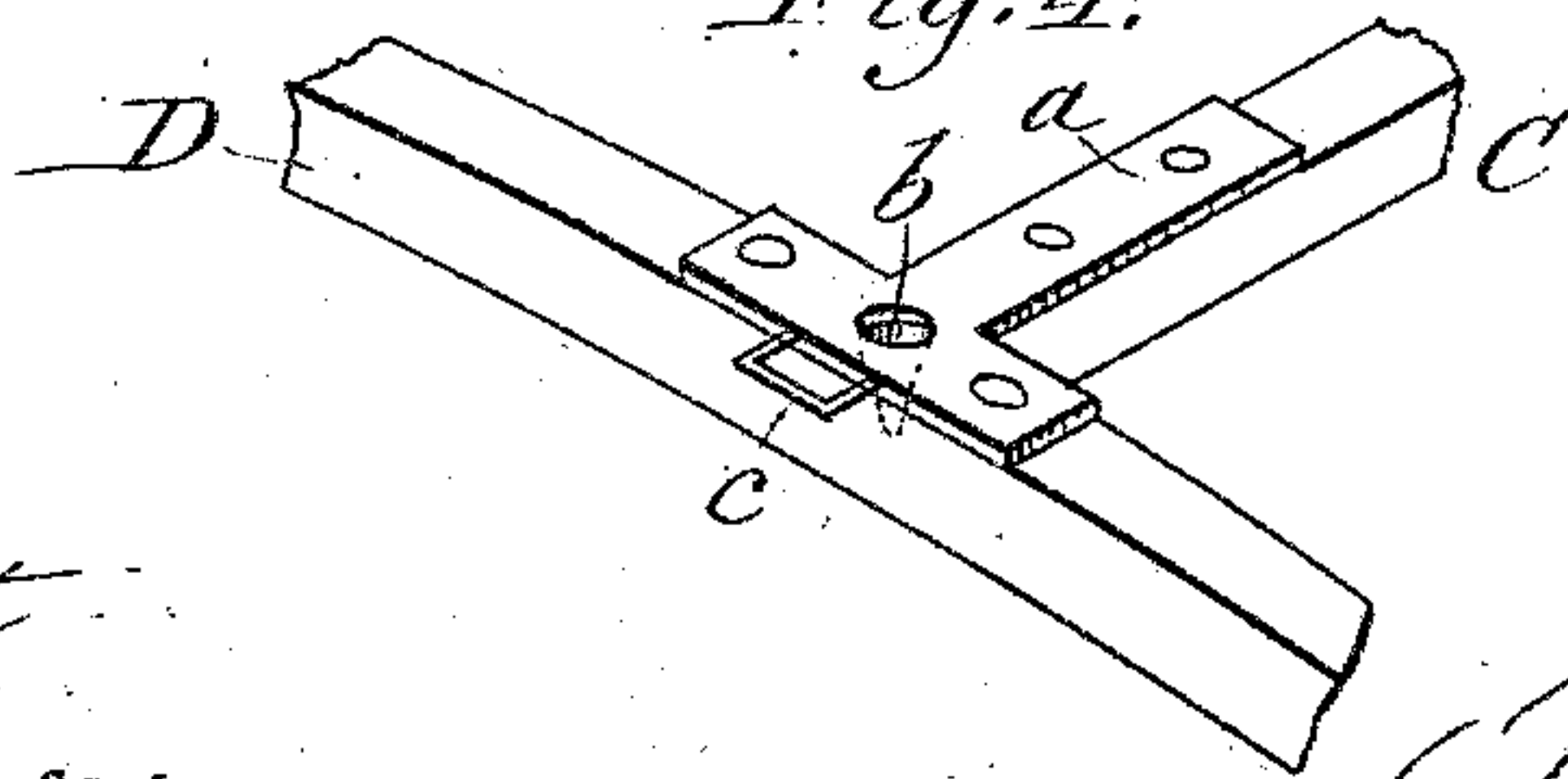
*Fig. 5.*



*Fig. 6.*



*Fig. 4.*



Attest:

J. H. Schott  
A. R. Brown.

Inventor:

Charles Fish  
per J. C. Dastewalt



# UNITED STATES PATENT OFFICE.

CHARLES FISH, OF MANCHESTER, NEW HAMPSHIRE.

## SIDE-SPRING VEHICLE.

SPECIFICATION forming part of Letters Patent No. 287,918, dated November 6, 1883.

Application filed August 18, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES FISH, a citizen of the United States, residing at Manchester, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Side-Spring Vehicles; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to side-spring vehicles; and it consists in the combination therewith of a detachable transverse spring, as hereinafter more fully described and claimed.

In the annexed drawings, illustrating my invention, Figure 1 is a longitudinal section through the body and platform of a side-spring vehicle, to the rear end of which is applied my detachable transverse spring. Fig. 2 is a rear elevation of the same. Fig. 3 is a view of the detachable transverse spring. Fig. 4 is a perspective view of portions of the reach and rear axle, with T-iron attached. Fig. 5 represents a spur-bolt for fastening the transverse spring. Fig. 6 is an angle-plate that is attached to the under side of the wagon-body for receiving the transverse spring.

Like letters designate like parts.

In side-spring vehicles as usually constructed the weight of the wagon-body and occupants must be brought to bear upon the central part of the springs, in order to prevent thumping of the wagon-body against the axle. As it is often desirable to carry additional weight—when the vehicle is provided, for example, with two seats—some means must be devised for distributing the weight equally, so as to avoid straining the springs, and also prevent the rear end of the wagon-body from bumping against the rear axle. This object I accomplish by the employment of a supplementary transverse spring that is detachably secured between the rear axle and the vehicle-body, so as to support a portion of the weight and relieve the side springs of undue strain.

A represents the vehicle-body. B B are side springs. C is the reach, and D is the rear axle.

To the reach C and rear axle, D, is secured a T-iron, *a*, having a perforation, *b*, and a slot or loop, *c*, as shown in Fig. 4. This T-iron affords a lower bearing for the transverse elliptic spring E, which has an upper bearing in an angle-plate, *d*, Fig. 6, that is secured to the under part of the wagon-body at its rear end, as shown in Figs. 1 and 2. The angle-plate *d* is provided with a perforation, *e*, and a slot or loop, *f*, similar to those formed in the T-iron *a*.

The supplementary transverse elliptic spring E is made with two or more leaves, as shown in Figs. 2 and 3, and is provided centrally, both at top and bottom, with spur-bolts *g g*, Fig. 5, which enter the perforations *b e* in the T-iron *a* and angle-plate *d*, respectively. This transverse elliptic spring E is placed in position by slightly raising the rear end of the wagon-body A, so that the spring may be arranged on the rear axle, D, with its lower bolt *g* in the perforation *b* of the T-iron *a*, and the spring being then pushed to a vertical position, the rear end of the wagon-body will be lowered, so as to permit the upper bolt *g* to enter the perforation *e* in the angle-plate *d*. This angle-plate *d* has flanges *h h*, that serve to prevent the spring E from being displaced by a jolting movement of the vehicle over a rough road, and further security may be attained by buckling a strap, *i*, Fig. 1, through the slots or loops *c f*, thereby limiting the up-and-down motion of the rear end of the wagon-body, and obviating all liability of displacing the transverse spring.

It will be seen that when the spring E is not required to support an additional weight in the rear end of the vehicle it can be readily detached.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a side-spring vehicle, of a transverse spring detachably secured between the wagon-body and rear axle, substantially as described.



2. The combination, with the wagon-body A, side springs, B B, and rear axle, D, of the transverse elliptic spring E, detachably secured between said wagon-body and axle, substantially as described.

3. The combination of the wagon-body A, having an angle-plate, *d*, provided with perforation *e*, loop *f*, and flanges *h h*, the reach C, rear axle, D, T-iron *a*, having perforation *b*

and loop *c*, the strap *i*, the side springs, B B, and the transverse elliptic spring E E, having bolts *g g*, substantially as shown and described.

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

CHARLES FISH.

Witnesses:

MICHAEL O'NEIL,

STEPHEN H. BATCHELDER.