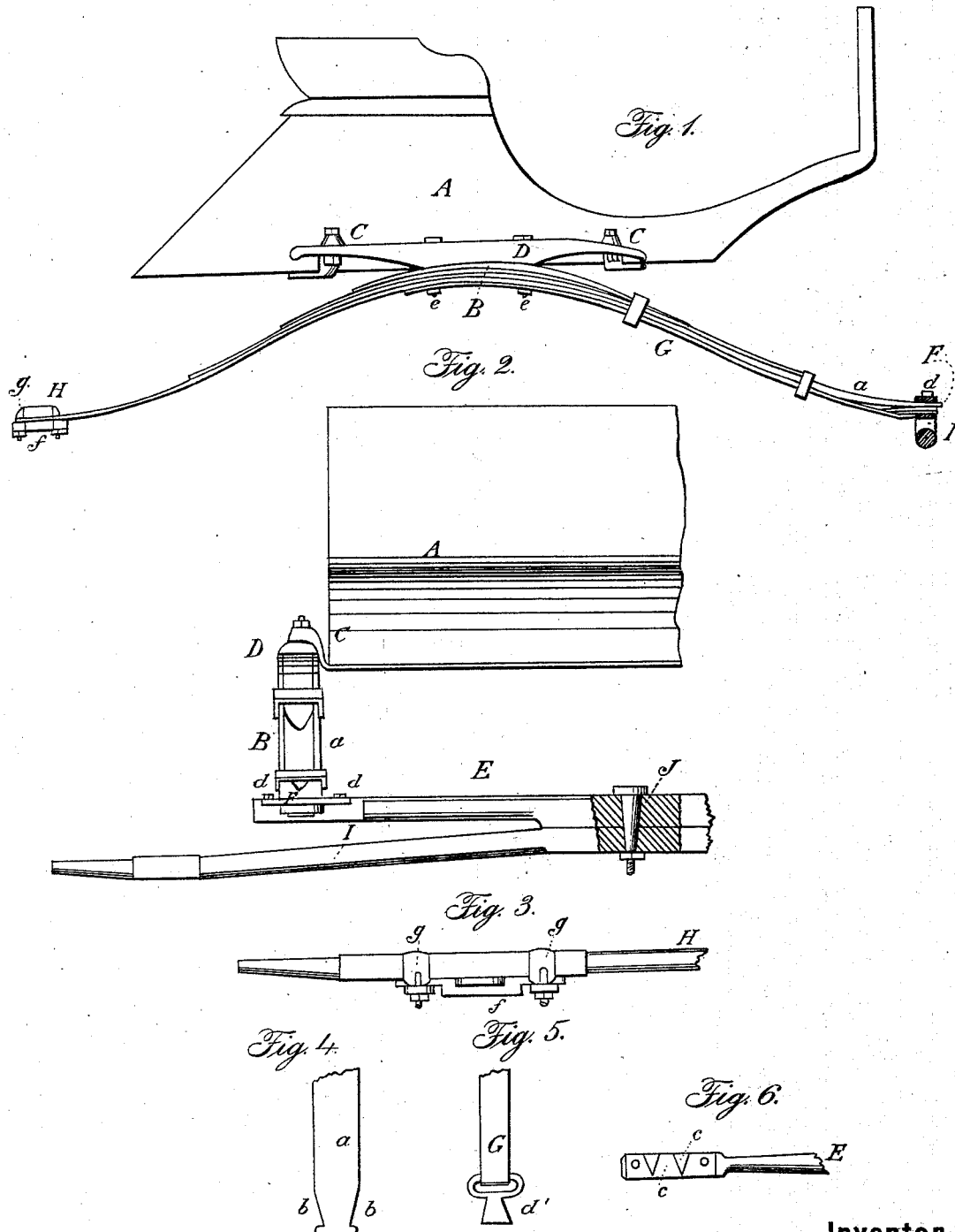


H. L. ISHAM.

Wagon-Spring.

No. 49,112.

Patented Aug. 1, 1865.



Witnesses:

Fluo Tusch  
Wm Greivin

Inventor.

H. L. Isham  
By *[Signature]*  
Att'y

# UNITED STATES PATENT OFFICE.

H. L. ISHAM, OF PLATTSBURG, NEW YORK.

## IMPROVEMENT IN LIGHT WAGONS.

Specification forming part of Letters Patent No. 49,112, dated August 1, 1865.

*To all whom it may concern:*

Be it known that I, H. L. ISHAM, of Plattsburg, in the county of Clinton and State of New York, have invented a new and useful Improvement in Light Wagons; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of my invention; Fig. 2, a front view of a portion of the same; Fig. 3, a view of a portion of the rear axle of the same; Fig. 4, a detached view of one end of a spring pertaining to the same; Fig. 5, a view of one end of a safety-strap pertaining to the same; Fig. 6, a plan or top view of a portion of the front bolster pertaining to the same.

Similar letters of reference indicate like parts.

This invention relates to a new and useful improvement in the construction of that class of wagons which are provided with side springs.

The object of the invention is to obtain a more durable wagon of the kind specified than usual, and one which may be manufactured at a less expense.

A represents the body of the wagon, which may be of any proper style or shape, and B B are two side springs, which are placed one at each side of the body, longitudinally therewith. These springs are composed of several leaves placed one over the other, but the lowest or main leaf, *a*, is the widest, and is the one which is connected to the rear axle and the bolster on the front axle of the wagon.

The body A may be attached by body-loops C to blocks B, which rest upon the springs, or spring-bars may be used instead of blocks. The ends of the lower leaves, *a*, are notched, as shown at *b* in Fig. 4, and these notched ends are fitted in recesses *c* in the bolster E, and secured therein by caps F and bolts *d*. The bottoms of the recesses *c* are also notched in dovetail form, as shown at *c'*, to receive dovetail plates *d'*, to which the ends of straps

G are secured. (See Figs. 5 and 6.) The straps G may extend the whole length of the springs B, or only half-way. The front half of the springs will be sufficiently far for them to extend, as shown in Fig. 1. These straps are secured at their rear ends to the springs by the bolts *e*, which secure the blocks D to the springs. The rear ends of the lower plates, *a*, of the springs are attached to the rear axle, H, in a similar manner, the rear ends of the lower plates, *a*, being notched and fitted in plates *f*, which are secured by clips *g* to the axle H, as shown clearly in Fig. 3. By this simple means the springs will be firmly secured to the bolster and axle. The safety-straps prevent accidents by sustaining the body A in case of the breaking of a spring. By having the lower or under leaf, *a*, of the springs made wider or broader than the upper ones the strength of the springs is materially increased.

The bolster E is of iron, and is attached centrally to the front axle, I, by means of a central king-bolt, J, of conical form, as shown in Fig. 2. This conical form of the bolt admits of its being fitted snugly in the bolster and axle, so as to avoid unnecessary play and rattling.

It will be seen that I avoid the use of a reach or perch, and all wood-work pertaining to the running-gear, with the exception of the wheels, and consequently effect a considerable saving in the manufacture, and at the same time produce a strong and desirable article.

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

1. The securing of the ends of the leaves *a* of the springs to the bolster and axle, in the manner substantially as herein set forth.

2. In combination with the leaves *a*, secured as hereinbefore specified, the safety-straps G, attached to the bolster by dovetail plates *d'* and grooves *c'*, in the manner described.

H. L. ISHAM.

Witnesses:

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