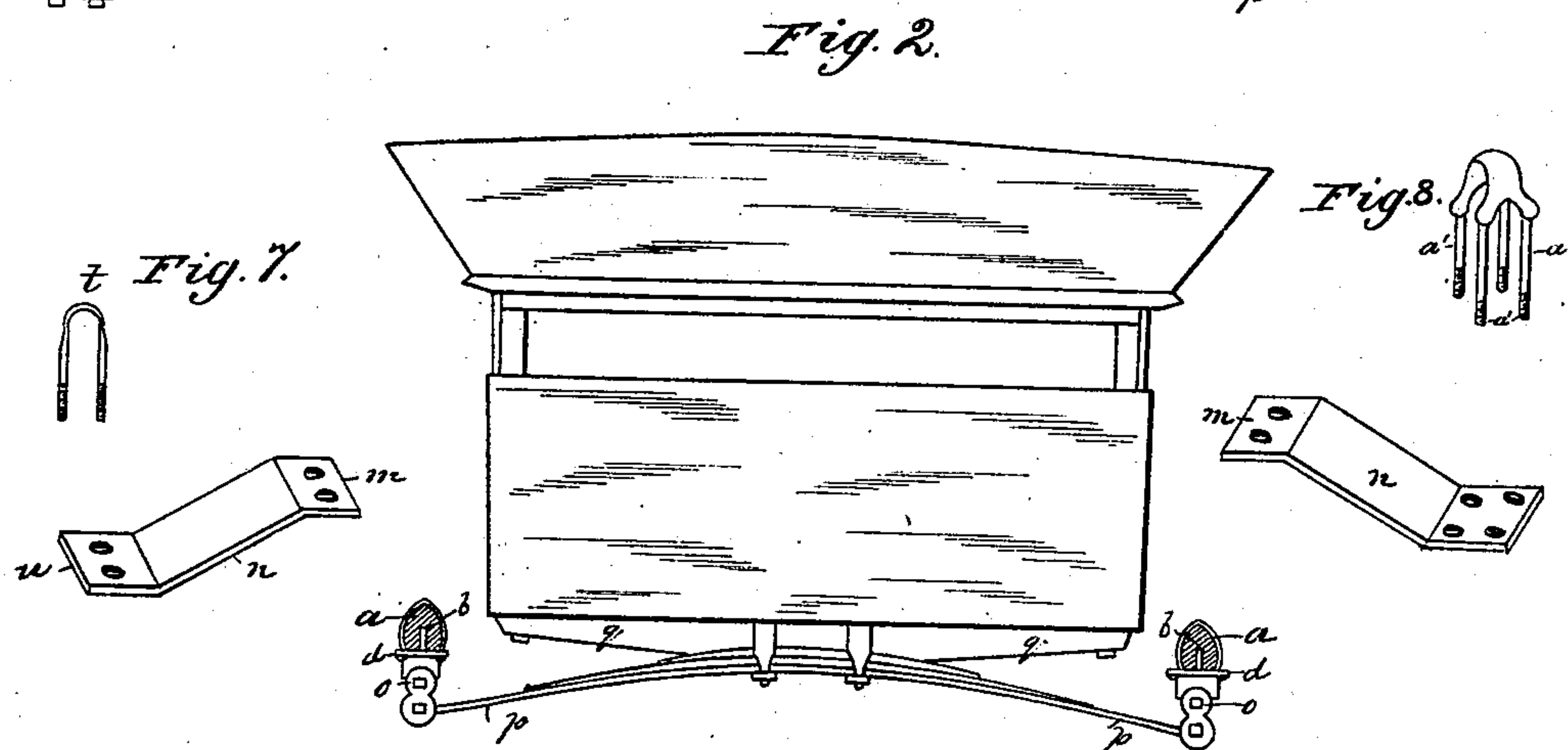
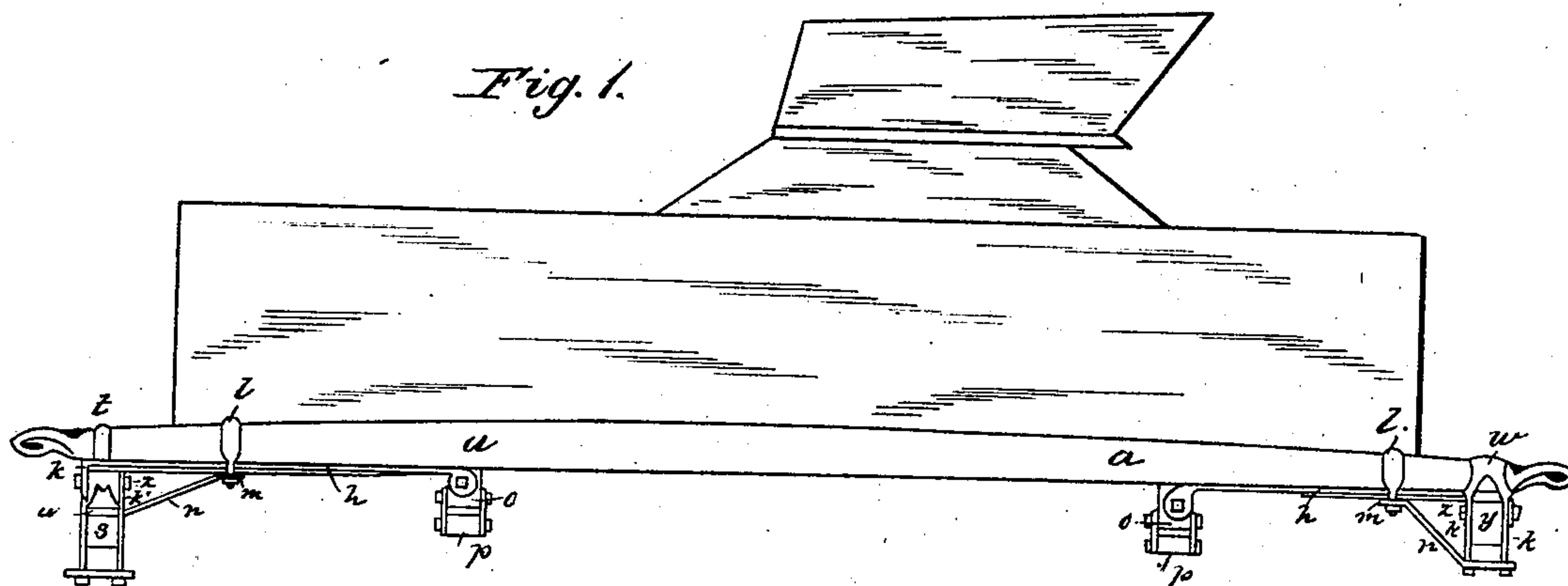


(No Model.)

C. E. LEE.
SIDE BAR VEHICLE.

No. 254,664.

Patented Mar. 7, 1882.



WITNESSES:

W. W. Hollingsworth
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BY

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UNITED STATES PATENT OFFICE.

CHARLES E. LEE, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO JAMES L. CLARK AND HERBERT M. CLARK, OF OSHKOSH, WISCONSIN.

SIDE-BAR VEHICLE.

SPECIFICATION forming part of Letters Patent No. 254,664, dated March 7, 1882.

Application filed December 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. LEE, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Side-Bar Vehicles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of my improved side-bar vehicle. Fig. 2 is a front elevation of the same. Figs. 3, 4, 5, 6, 7, and 8 are detail views of the several parts.

My invention relates to improvements in side-bar vehicles; and it consists in the peculiar construction and arrangement of the parts, as hereinafter more fully set forth.

In the accompanying drawings, *a a* represent the side bars of my improved vehicle, the under faces of which side bars are each provided with a longitudinal groove, *b*, extending the entire length of the side bar, and adapted to receive the tongues *c* of the corrugated or T-shaped metallic plates *d*, the bottom plates, *e*, of which are secured to the under face of each of the side bars by screws, bolts, or any othersuitable fastenings, thus greatly strengthening the side bars and increasing their rigidity.

h h represent springs, the upper leaf of each of which is provided with an ear, *k*, at its outer end, and the lower leaf is similarly constructed with an ear, *k'*, at its outer end. The springs *h* are each secured to the under face of the side bars, near their ends, by clips *l* embracing the side bars, the prongs or bolts of each clip *l* passing through holes in the upper plate, *m*, of braces *n*.

To the inner end or head of each spring *h* is journaled, by a cross-bolt, a coupling, *o*, to the lower end of which is journaled, by a longitudinal bolt, one end of a cross-spring, *p*, the opposite end of said cross-spring being journaled in an opposite coupling similarly constructed. *q q* represent wooden cross-bars, secured to the middle of the cross-springs *p* by clips in the usual manner, and to which the body of the vehicle is secured. By this construction, particularly adapted for light vehicles to carry passengers, it will be seen that the body of the

vehicle is adapted to be moved up or down by means of its spring-connections with the side bar.

s represents the front bolster or head-block connecting the front ends of the side bars, and secured to the under faces of the latter, near their ends, by clips *t*, which embrace the side bars and pass through the head-block or front bolster, the prongs of the clip *t* passing through holes in the lower plates, *u*, of the braces *n*, and secured thereto by nuts, the upper plate, *m*, of each brace *n* being secured to the side bar by the clip *l*, as before described. The ears *k k'* of the front side springs, *h*, are secured to the front and back faces of the head-block or front bolster, *s*, by bolts *z*, passing through the ears *k k'* and the bolster *s* and secured thereto by nuts.

The side bars, *a a*, are secured near their rear ends to the hind axle by clips *w w*, embracing the side bars near their ends, and each provided with four prongs, two of which lie immediately in front of and in contact with the front face of the rear axle and its axle-bed *y*, and the other two prongs of each clip are similarly arranged with regard to the rear face of the hind axle and its axle-bed *y*. The four prongs *a'* of each clip pass through four holes in the lower plate of each rear brace and are secured thereto by nuts. The ears *k k'* of the rear side springs, *h*, are secured to the axle-bed *y* of the rear axle by bolts *z*. By this construction it will be seen that the side springs are securely attached to the side bars, front bolster or head-block, and hind axle, and that the side bars are firmly secured to the front bolster and hind axle, forming a rigid frame, to which side and cross springs are attached, supporting a vehicle-body capable of being moved vertically. The front axle is pivoted to the head-block or front bolster in any ordinary manner.

The invention above described is designed for light vehicles carrying passengers.

I am aware that short spring-strips, each secured at one end to the under faces of the side bars of a vehicle, near their outer ends, and provided with clips binding the spring-strips to the side bars, and having transverse springs attached by couplings to the inner opposite

free ends of the spring-strips, to which transverse springs the carriage-body is secured, have heretofore been employed; and I therefore lay no claim broadly to such construction, my invention being confined to the peculiar construction and arrangement of the parts pointed out in the claims.

What I claim as my invention is—

1. The combination, with the side bars, *a*, of the side springs, *h*, secured thereto, near their ends, and provided with ears *k k'*, secured to the head-block or front bolster, *s*, and hind-axle bed, *y*, by bolts *z*, substantially as described, and for the purpose set forth.

2. The combination, with the side bars, *a*, and side springs, *h*, secured thereto near their ends,

and provided with ears *k k'*, secured to the front bolster and hind-axle bed, of the braces *n*, couplings *o*, and cross-springs *p*, substantially as described, and for the purpose set forth. 20

3. The combination, with the side bars, *a*, and rear side springs, *h*, secured thereto by the clips *l*, and provided with the ears *k k'*, secured to the axle-bed *y* of the hind axle by the bolts *z*, of the braces *n*, and clips *w*, provided with four prongs and straddling the hind axle, substantially as described, and for the purpose set forth. 25

CHARLES EDWIN LEE.

Witnesses:

JOSEPH CLEMENT,
JOHN M. FARRAR.