

T. K. BIRGESS.
Car-Trucks.

No. 151,267.

Patented May 26, 1874.

Fig. 1

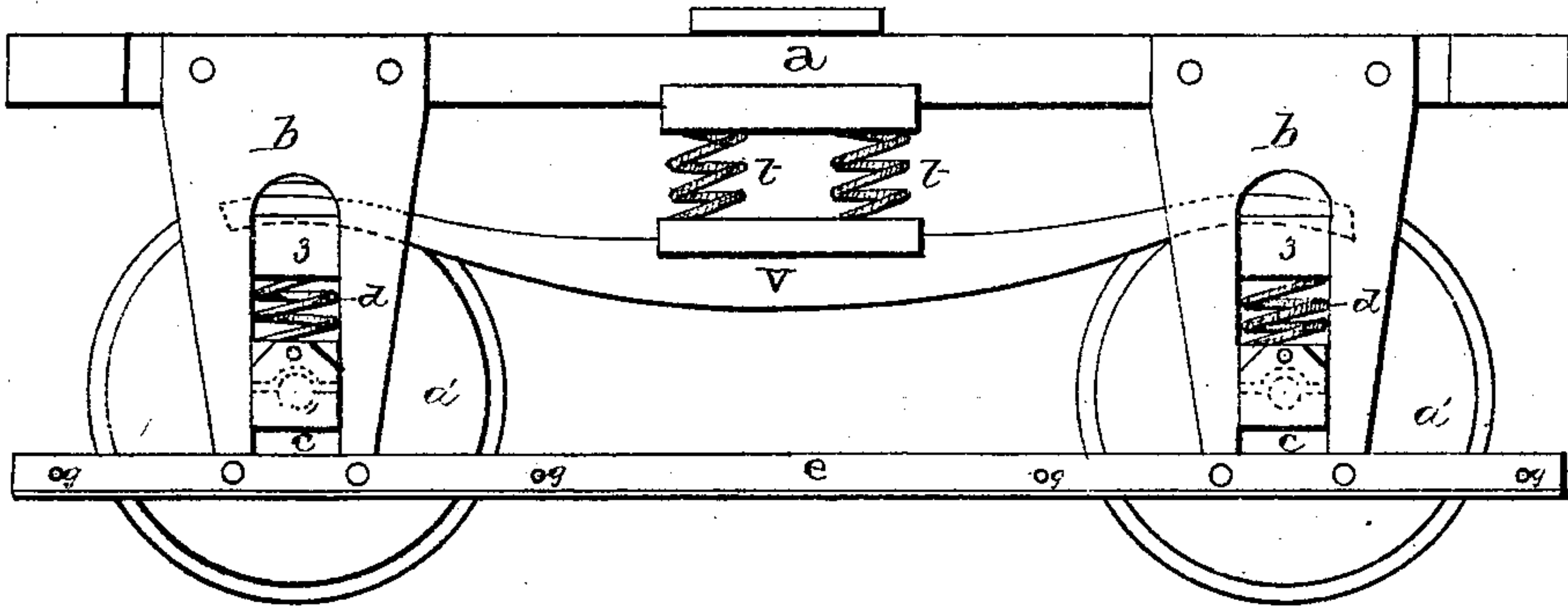


Fig. 2

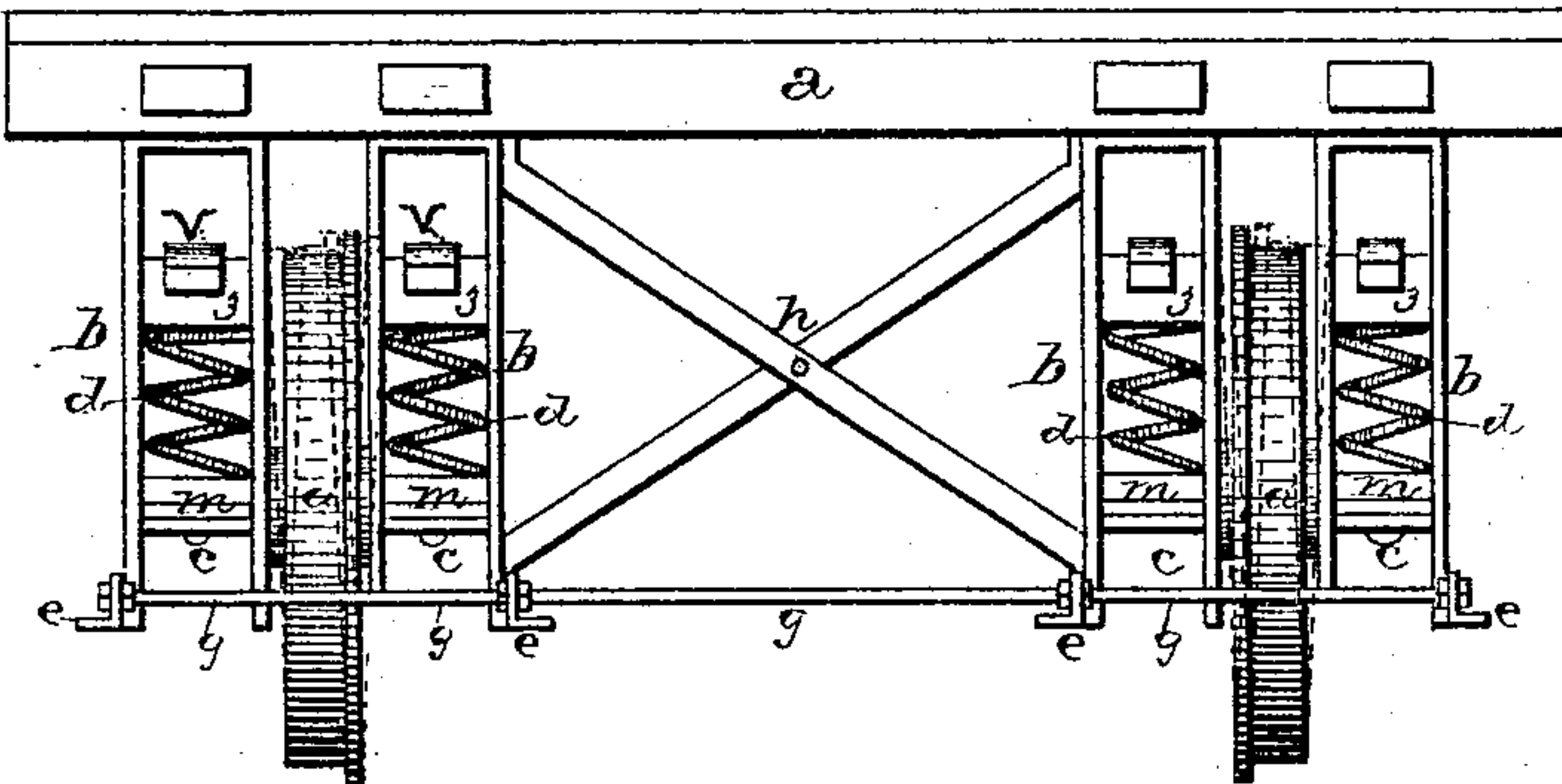


Fig. 3

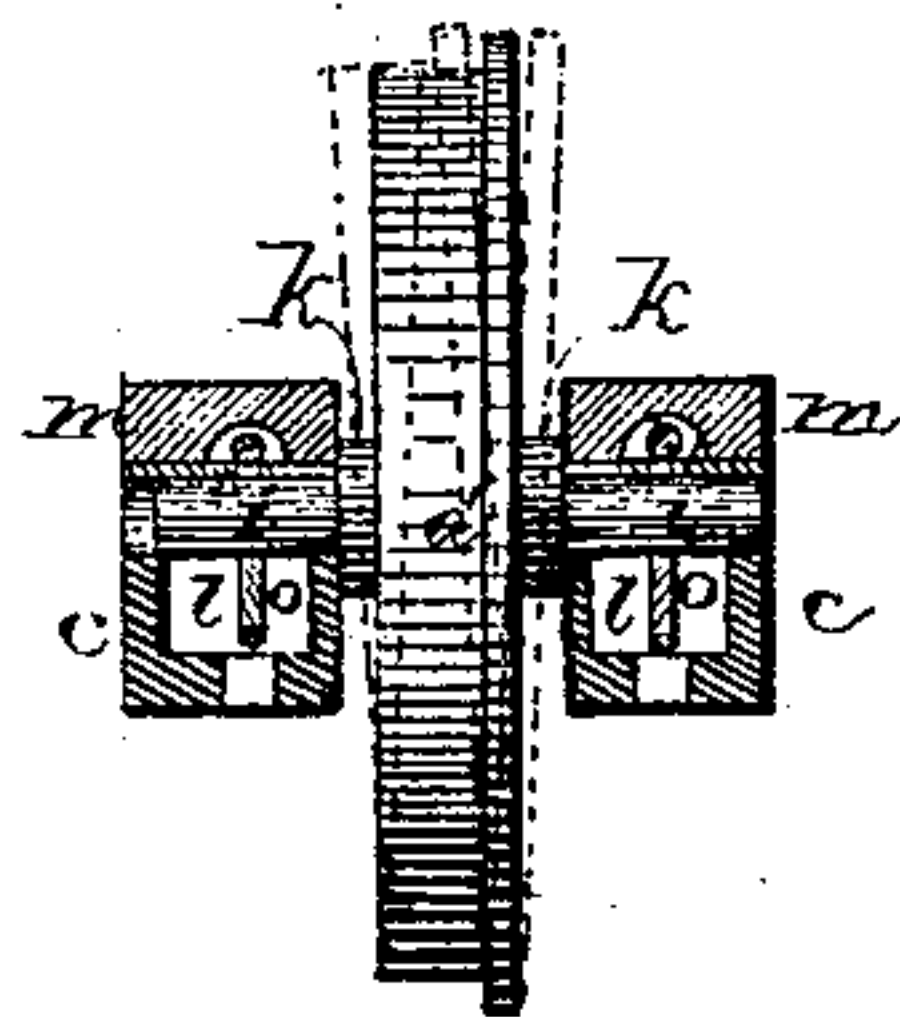


Fig. 4

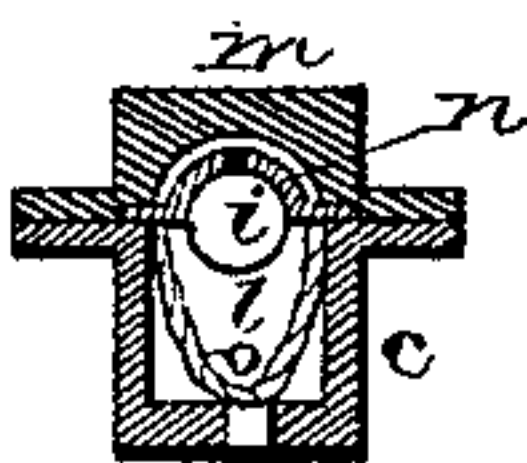


Fig. 5



WITNESSES,
W. W. J. Murphy,
Thos. M. Hale

INVENTOR.
Thos. K. Birgess
per
Drake & Co., attys.

UNITED STATES PATENT OFFICE.

THOMAS K. BIRGESS, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN CAR-TRUCKS.

Specification forming part of Letters Patent No. **151,267**, dated May 26, 1874; application filed January 13, 1874.

To all whom it may concern:

Be it known that I, THOMAS K. BIRGESS, of the city of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Car-Trucks; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

The nature of my invention relates to an improvement in car-trucks; and it consists in providing each wheel with separate and independent axles and journal-boxes, so that the wheels in turning curves can rock slightly to one side or the other. It also consists in the equalizing-bars placed upon each side of the wheels, so as to equalize the weight upon the truck. It also consists in the arrangement and combination of devices, which will be more fully described hereafter.

Figure 1 is a side elevation of my truck. Fig. 2 is an end view of the same. Figs. 3, 4, and 5 are detail views of the same.

a represents an ordinary truck-frame, which is supported upon the wheels *a'*. From each side of the frame, near the end, there are two hangers or pedestals, *b*, each one of which has four prongs, which extend down upon each side of the wheel, as shown in Fig. 2. The lower ends of these prongs are connected together by the angle-rods *e*, closing the opening between the ends of the prongs, and which form bearings for the boxes *c*. Each of the wheels is provided with a short axle, *i*, without shoulders, which project from each side, and have their hubs, *k*, so formed as to bear against the sides of the boxes, *c*, placed upon each side. These boxes, while the car is upon a straight track, serve to keep the wheels in a vertical position; but as soon as the wheels strike a curve in the road, the boxes allow them to tip slightly to one side, owing to the short axles and the spring above them, as shown in dotted lines, so as to prevent the great strain and wear that takes place upon both rail and wheels when the wheels are rigid. The angle-rods *e*, which support the boxes, are connected together by the braces *g*, so as to be held rig-

idly in position; and in between hangers, *b*, at each end are placed the diagonal braces *h*, which serve to keep the wheels always at a uniform gage. The boxes *c*, which are supported between the prongs of the hangers, are made in two parts—the oil-chamber *l* and cover *m*. The under side of the cover is recessed, so as to receive the curved plate *n*, and has also a groove cut in its under side, which runs at a right angle with the axle, and in which rests the wick *o*, which feeds the axle with oil from the chamber below, through the opening in the plate *n*. The plate *n* also has a groove, *2*, cut in its under side, which runs parallel with the axle, as shown in Fig. 5, so as to always retain a quantity of oil in contact with the axle. The center of the truck-frame rests upon a number of coiled or rubber springs, *t*, which are supported upon the equalizing-bars *v*. These bars, arranged upon each side of the wheels, have their ends supported upon the top of the blocks *3*, which rest upon the rubber or other springs, *d*, placed upon the tops of the boxes *c*.

By this arrangement of bars and springs any weight placed upon any part of the frame is distributed as evenly as possible over the whole truck, and the boxes are allowed to play upward and downward to a slight degree.

I do not claim the use of a single equalizing-bar on each side of the car, as such an arrangement is not new and will not accomplish the object I have in view, it being necessary for the proper distribution of weight to the trucks, and especially for the proper play of the journals, that there should be an equalizing-bar on each side of the wheels.

Having thus described my invention, I claim—

1. A car-truck having wheels with independent axles, shouldered at their inner ends only, said axles having their bearings in boxes which have a vertical play, so that the wheels can tilt from side to side in passing around curves, all combined substantially as set forth.

2. The boxes *c*, composed of the chamber *l* and cover *m*, having a recess in its under side to receive the perforated grooved plate *n*, and a groove to hold the wick *o*, substantially as shown.

3. The pronged hangers *b* and angle-bars *e*, combined as set forth, to support the boxes *c*, substantially as specified.

4. The boxes *c*, springs *d*, and the equalizing-bars *v*, arranged on each side of the wheels, in combination with the short axles *i*, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of January, 1874.

THOMAS K. BIRGESS.

Witnesses:

OLIVER DRAKE,
DAVID COLLINS.