

WARREN & BRANGWIN.

Dray.

No. 76,856.

Patented April 14, 1868.

Fig. 1.

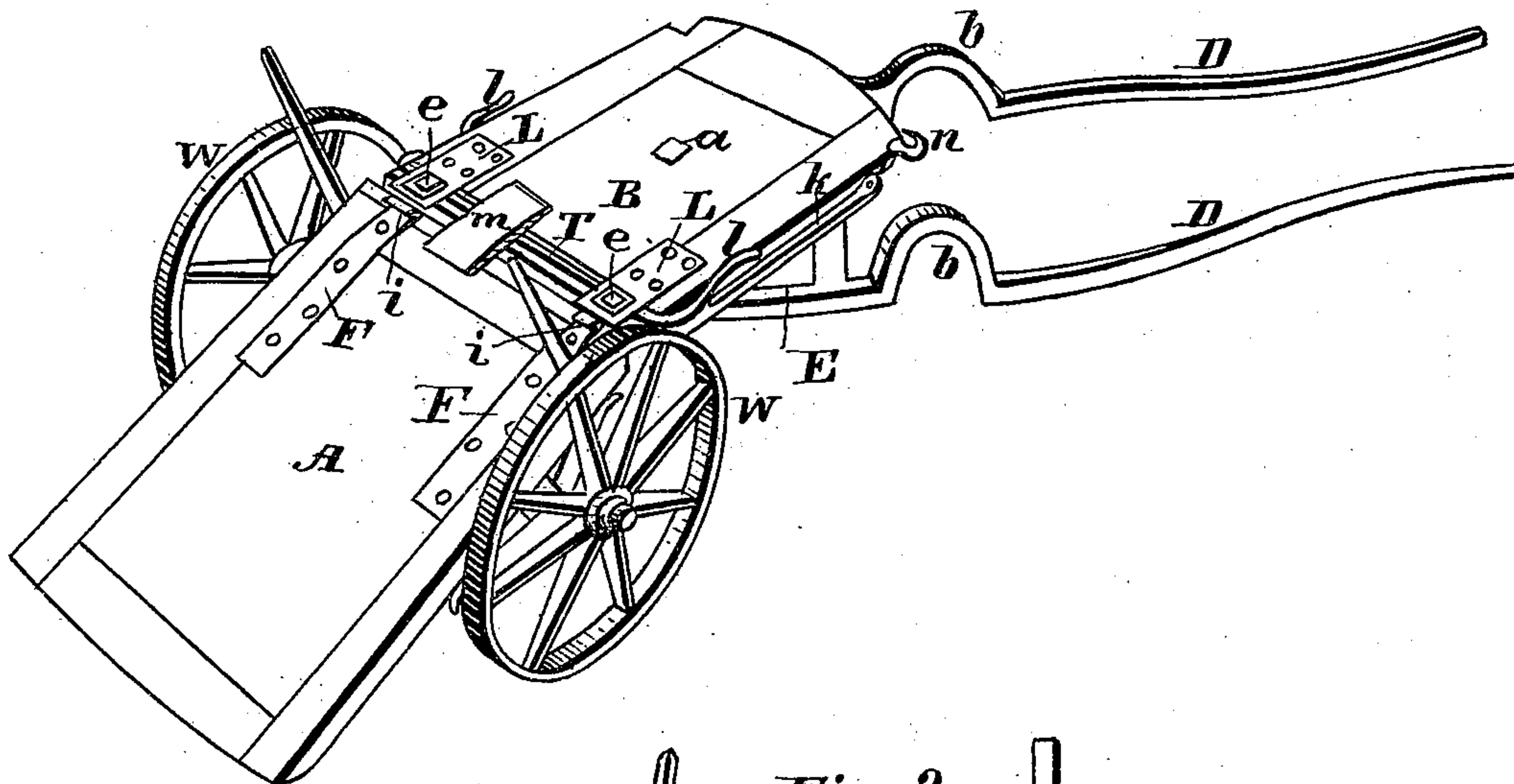
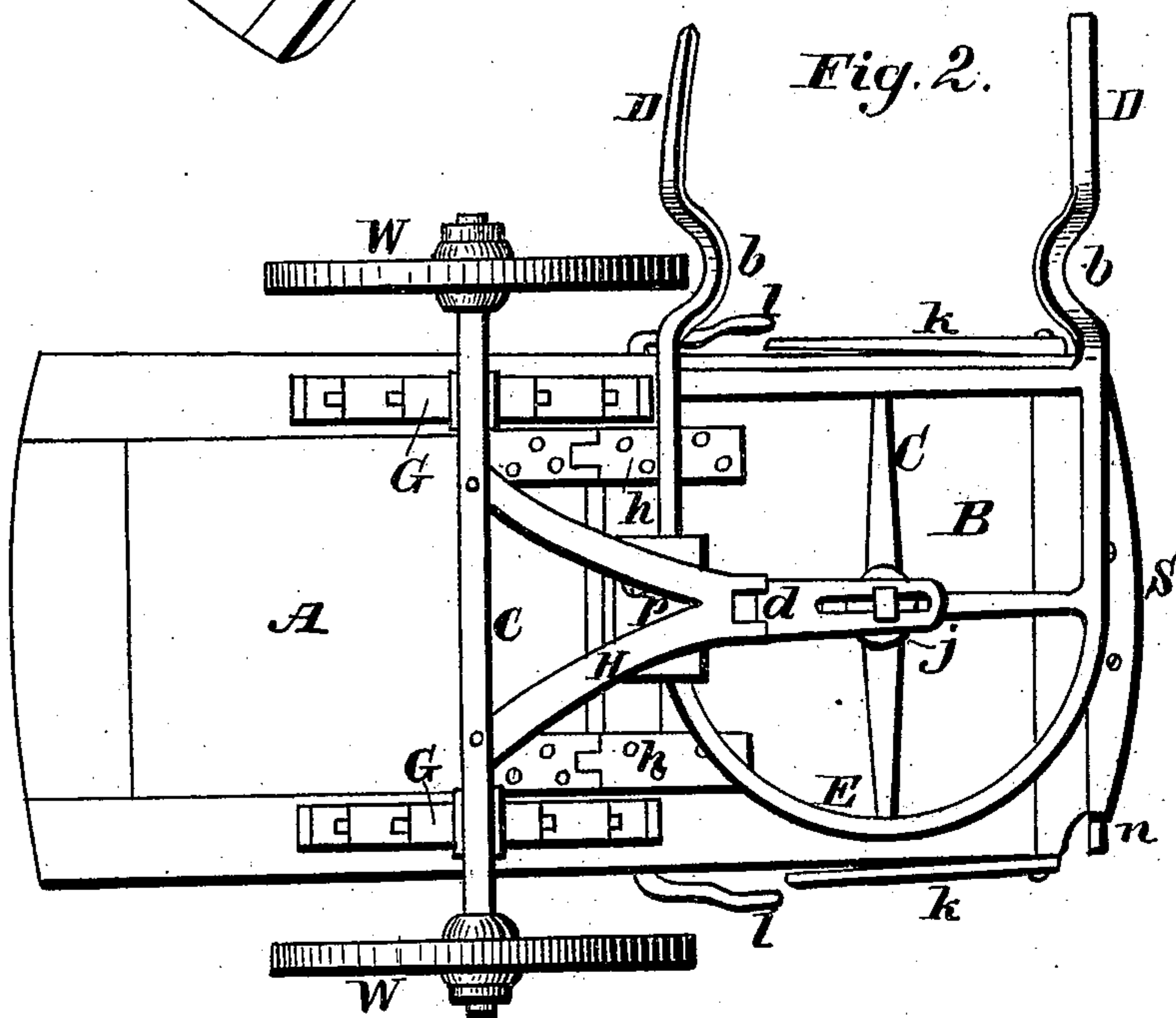


Fig. 2.



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EDWARD WARREN AND THOMAS BRANGWIN, OF CERESCO, MICHIGAN.

Letters Patent No. 76,856, dated April 14, 1868; antedated April 8, 1868.

IMPROVEMENT IN DRAYS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, EDWARD WARREN and THOMAS BRANGWIN, both of the village of Ceresco, in the county of Calhoun, and State of Michigan, have invented a new and useful Improvement in Drays; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view.

Figure 2 is a plan view of under side of dray.

Similar letters of reference indicate corresponding parts in both figures.

The nature and object of our invention are the better adaptation of the ordinary two-wheeled dray for use in crowded thoroughfares; and it consists in constructing the dray-bed in two sections, providing the shafts with a semicircular head-frame of metal, so that they may be free to turn under the forward section, on a central pivot, and so hanging and securing the two sections together, and securing the pivoted shafts, that the dray-bed and shafts may be used in all respects like the rigid ones in common use, except when necessary to facilitate the loading or unloading, and economizing street-travelling space, by employing the devices which we are now about to describe, so as to better enable those skilled in this branch of mechanism to construct the same.

We construct our dray-bed in two separate sections, A and B, and connect them together by stout hinges, *h*, on the under side, or by any other of the ordinary modes in common use, to form a strong hinge-joint. This joint, when the bed is in place, should be a proper distance forward of the cranked axle C, between which and the hinder section, A, two elliptic springs, G, are placed, and connected substantially in the usual way.

We deem the joint necessary, for the purpose of tilting the section A, so as to form an inclined plane, to facilitate the loading and unloading, without affecting the plane of rotation of the shafts D, which are formed with or connected properly to a semicircular bow-head frame of metal, E, pivoted by a king-bolt (the head of which is seen at *a*) to the forward section, B, at the centre of rotation. As we design to make the shafts capable of swinging round on both sides, to a right angle, or nearly so, with the dray, the relative proportions of parts required, in some cases, may bring the shafts into contact with the wheels, in which case we propose to form bows, as at *b*, so as to leave the necessary clearance.

For the purpose of locking the two hinged sections rigidly together, we employ two or more spring-catches, as at F, securely strapped to one of the bed-sections. The end lips of said catches are seen in fig. 1, at *i*, as disengaged, for the hind section is there shown as tilted, and the shafts partially swung round.

Opposite these catches we bolt stoutly to the other section, two or more locking-plates, as at L, having rectangular openings large enough to receive, not only the lips of the spring-catches, but the cams *c* of a tilting-shaft, T, provided at each end with a lever, *l*, so arranged that the cams will overlap the lips of the catches, in such manner that when the tilting-shaft is partially rotated, by lifting either of the levers, the cams will depress the spring-catches, and disengage them from the locking-plates. The bearing-surfaces of the catches and lock-plates may be hardened, if deemed necessary, and the whole sunk flush with the dray-bed, and covered by a strip of plate-iron fastened to the hind part, so as to overlap the joint, with a slight curve, to allow heavy bodies to slide over it easily, a broken section being shown at *m*.

S represents a spring-stop, furnished at each end with a handle and shouldered projections, *n*, for the purpose of locking the shafts laterally, when in line with the dray-bed. We usually pivot to each side of the dray-bed a strut, *k*, which can be turned up and held parallel in any convenient way, when not in use, and dropped to support the load when the shafts are to be moved.

Should it be deemed necessary to brace the axle, a forked brace-strap, H, jointed, as at *d*, may be secured to it, while a T-headed bolt, tapped in the end of the king-bolt, and passing through a slot in the other end of the brace, will secure it at that point, and allow freedom for the change of plane.

In the arrangement as seen in fig. 2, the plates of the hinges *h*, together with the plate of the spring-stop, and one or more of the bent guide-plates, as seen at *p*, form, in general, sufficient bearing-surfaces for guiding

the shaft-bow E, but friction may be still further reduced by the interposition of small rollers, if considered necessary.

When the dray is backed to the sidewalk, (say to unload,) and the projection of the horse in the street impedes travel, the drayman detaches and drops a strut, k, lifts, by the handle, one end of the spring S clear from the shaft-bows, and turns the horse and shafts round towards the opposite unencumbered side, until it stands about parallel with the curb, and out of the way; he then lifts the lever next to him, of the tilting-shaft T, as aforesaid, and lowers the section A of the platform-bed. As the levers l fall by their own weight, the cams are always in position to permit the spring-catches to pass underneath, when sprung in by lifting, or by the weight of the drayman on the forward section.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. We claim the dray-shafts D, provided with a semicircular bow-head, E, in combination with the hinged sections A and B of the platform-bed of a dray, substantially as and for the purpose specified.

2. We claim the arrangement and combination of the spring-catches F, lock-plates L, cranked tilting cam-shaft T, and spring-stop S, with the aforesaid hinged sections, and pivoted bow-headed shafts, substantially in the manner and for the uses set forth.

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Witnesses:

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