

(No Model.)

W. LEONHARDT.
WAGON TOP.

No. 471,484.

Patented Mar. 22, 1892.

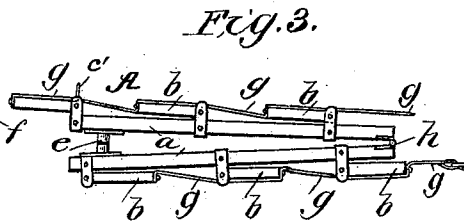
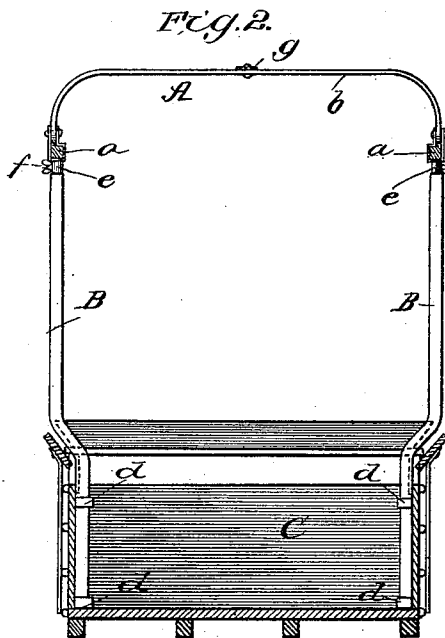
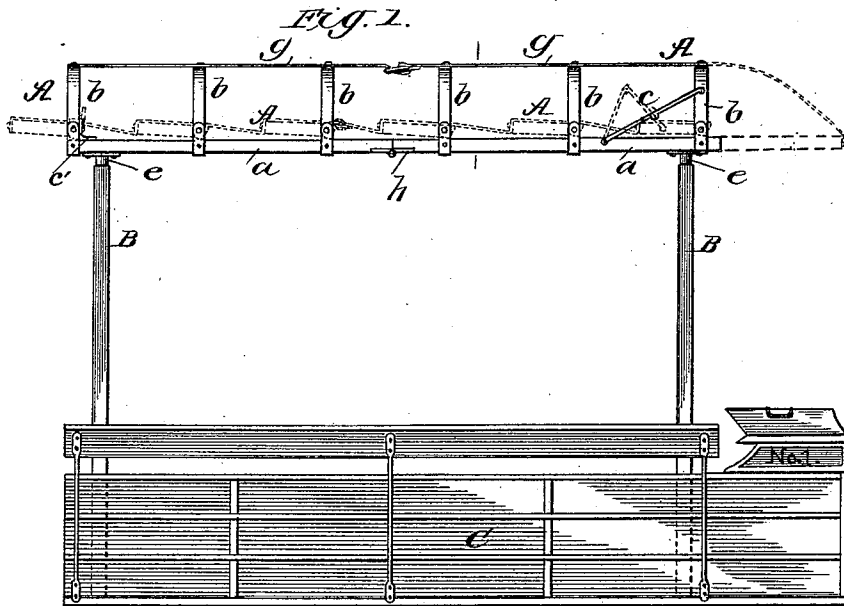
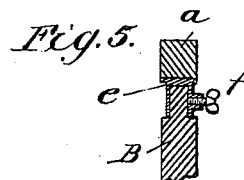
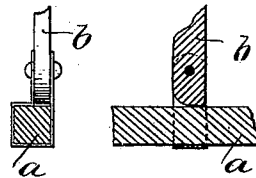


Fig. 4.



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WAGON-TOP.

SPECIFICATION forming part of Letters Patent No. 471,484, dated March 22, 1892.

Application filed November 27, 1891. Serial No. 413,238. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LEONHARDT, residing at Baltimore, in the State of Maryland, have invented a new and useful Improvement in Wagon-Tops, of which the following is a specification.

The large delivery or freight wagons such as are commonly used by express companies, furniture-dealers, &c., are in many cases provided with a removable canvas-covered top. In one instance, at least, a wagon-top of this kind has been made adjustable—*i. e.*, adapted to fold for the purpose of enabling it to cover more or less of the body, as occasion requires; but this fails to meet practical requirements, since, owing to the height of their tops, wagons of the class described cannot be driven undersome gateway-arches or into warehouses, stables, sheds, or other structures intended for housing and protecting such vehicles. It is always inconvenient and often impossible to remove the top when the wagon is loaded, and it is equally impracticable to fold the top as a whole. To meet this difficulty, I have devised and manufactured a wagon-top whose canopy or upper portion only is adapted to fold, the body or main portion being supported rigidly, although made removable from the wagon-body.

This improved top may be easily and quickly lowered to adapt the wagon to pass under barriers that would otherwise prevent it. I have also devised other improvements in the construction of wagon-tops, as will be hereinafter described.

In the accompanying drawings, Figure 1 is a side view of my improved top applied to a wagon-body. Fig. 2 is a vertical transverse section of the same. Fig. 3 is a plan view of the top proper folded. Figs. 4 and 5 are detail sections of the joints of the top.

The skeleton frame A, forming the canopy portion of my improved wagon-top, is composed of the horizontal rails or bars *a*, supported on standards B, but removable therefrom, and a series of short bows *b*, which are hinged to said rails *a*, and a jointed brace *c*, which holds the bows *b* normally vertical. The wooden standards B are supported detachably in iron clips or keepers *d*, affixed to the

wagon-body C in the usual way, but are bowed outward, for a purpose hereinafter stated. The upper ends of said standards B enter metal sockets *e*, which are bolted or riveted to the under side of the rails *a*, and are held detachably in said sockets by means of thumb-screws *f*, as shown best in Fig. 5. The wooden bows *b* are hinged to the rails *a* by means of metal clips, and their ends are cut away or rounded on one side to adapt them to fold. Angular metal stops *c'*, Fig. 1, are attached to the front side of the rear bow and bear on the rails *a*, thus serving to steady the bows when elevated. In such case, however, the squared front portions of their ends also bear on the rails *a*, as shown in Fig. 4, and thus aid in holding the bows in that position. The brace *c* is pivoted at one end to a rail *a* and at the other to the front bow of the series *b* and provided at the middle of its length with a rule or knuckle joint, which adapts it to fold in one direction only. A canvas strip *g* connects all the bows *b*, as shown. It will be apparent that when the jointed parts of the brace *c* are aligned, as shown in full lines in Fig. 1, it holds the bows *b* vertical, but when relaxed or bent (see dotted lines, same figure) the bows may be turned backward, whereby the whole canopy-top is lowered and correspondingly reduced in height. This obviously adapts the wagon-top to pass safely under barriers with which it would otherwise come in contact. The practical advantage of this construction is very great and will be readily appreciated. The rails *a* are each made of two parts connected at the middle by means of a metal hinge *h*, so that they are adapted to fold together. Thus the whole canopy-frame A, being detached from the standards B, may be folded compactly, as shown in Fig. 3, to adapt it to be packed in a small space for the purposes of transportation or storage. The standards B bend outward, Fig. 2, at a point just above the sides of the wagon-body C, so that the whole top portion of the frame is as wide as or wider than the distance between the wagon-wheels. This construction obviously enlarges the cubical and carrying capacity of the wagon correspondingly.

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

1. The combination, with supporting-standards, of the collapsible or folding canopy-frame composed of two horizontal rails and a series of short bows pivoted to said rails and all adapted to fold, and means for holding said bows in the normal vertical position, as shown and described.

2. The combination, with the horizontal rails *a*, of the bows *b*, pivoted thereto and having a corner of their ends rounded, while the squared portions of said ends bear on the rails when the bows stand vertically, and the jointed brace pivoted to a rail and the front bow, as shown and described.

3. The combination, with supporting-standards, of the detachable canopy-frame composed of the horizontal rails *a*, the bows *b*, pivoted thereto, and means for securing said

frame to the standards detachably, as shown and described.

4. The combination, with the parallel side rails having a rule-joint at their middle, which opens upward, of a series of bows *b*, pivoted to said rails and adapted to fold, as described, and means applied to the end bows of the series for supporting them in vertical position against tension inwardly or toward each other, as shown and described.

5. The improved collapsible or folding canopy-frame composed of the parallel two-part side rails, each having a rule-joint at the middle, and the series of bows *b*, pivoted to the said folding rails and adapted to fold upon the same, as shown and described.

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