(No Model.)

C. C. OAKES.

ADJUSTABLE FORM FOR SETTING AND BUILDING CARRIAGE TOPS.

No. 378,457. Patented Feb. 28, 1888.

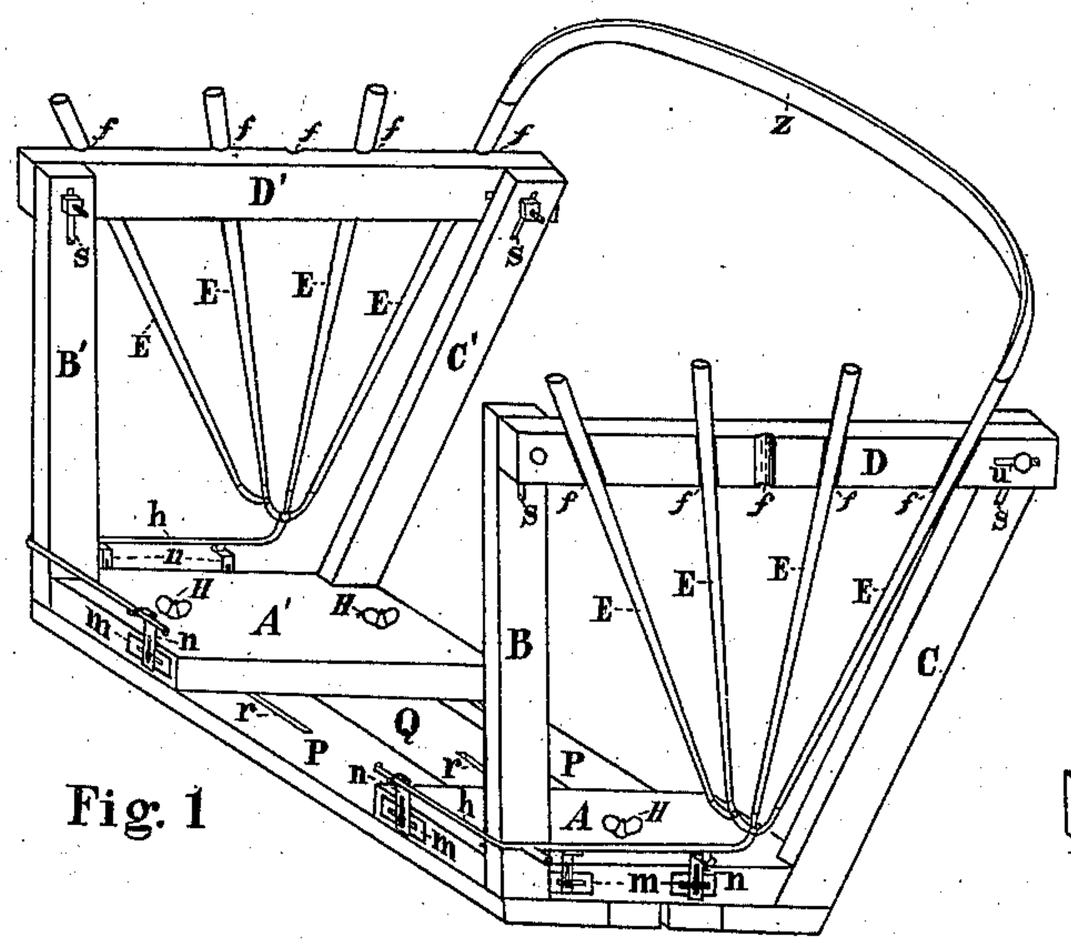

Fig. 1

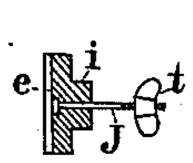

Fig. 9

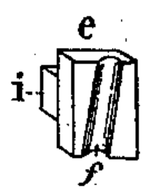

Fig. 10

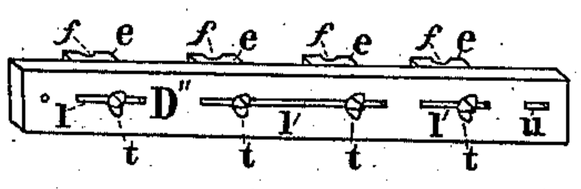

Fig. 8

Fig. 2

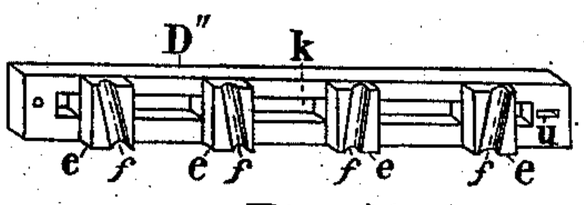

Fig. 7

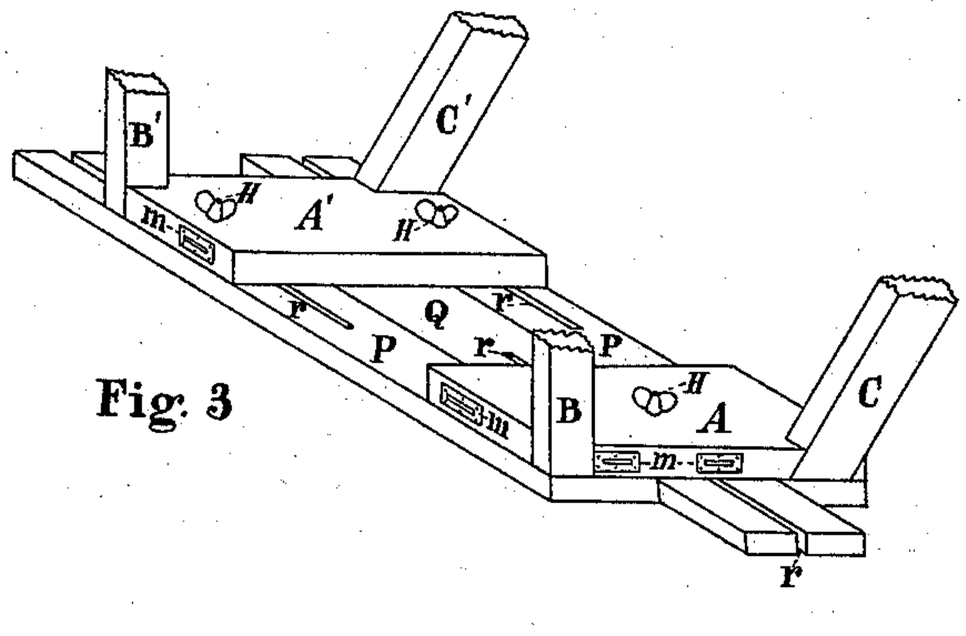

Fig. 3

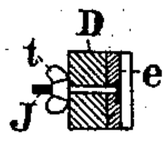

Fig. 5

Fig. 6

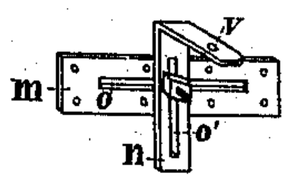

Fig. 4

Witnesses.
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Cummins C. Oakes,
By his Attorney P. W. J. Lander.

UNITED STATES PATENT OFFICE.

CUMMINS C. OAKES, OF NEWPORT, MAINE.

ADJUSTABLE FORM FOR SETTING AND BUILDING CARRIAGE-TOPS.

SPECIFICATION forming part of Letters Patent No. 378,457, dated February 28, 1888.

Application filed September 17, 1887. Serial No. 249,958. (No model.)

To all whom it may concern:

Be it known that I, CUMMINS C. OAKES, a citizen of the United States, residing at Newport, in the county of Penobscot and State of Maine, have invented a new and useful Adjustable Form for Setting and Building Carriage-Tops; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide an adjustable form for carriage-top builders, so arranged as to be adjustable for carriage-tops of any height, depth, and width, and after once set every top made to that size is just alike and fits a certain-sized seat. A carriage-top once started can be completely finished without removal from the form, even to fitting the curtains and adjusting the braces.

In the description reference is made to the accompanying drawings, in which—

Figure 1 is a perspective view of the complete form, showing the setting of the sockets and top rail. Fig. 2 is a perspective view of the adjustable socket-bar, having adjustable socket-holders. Fig. 3 is a perspective view of the lower part of the adjustable form, showing its longitudinal adjustments. Fig. 4 shows the adjustments of the rail-supporter. Figs. 5, 6, 9, and 10 are details of the adjustable socket-holders. Figs. 7 and 8 show back and front views of the connecting-bar with adjustable socket-holders attached.

Similar letters of reference indicate corresponding parts throughout the several figures.

My device consists of two similar base-blocks, A A′, having bolted or otherwise secured to their under sides the horizontally-sliding bars P Q. Each sliding bar contains one or more longitudinal slots, *r*, running from one-half to two-thirds of their respective lengths. Two of the sliding bars P P are firmly secured by one end to the under side of the base-block A, there being left between them just space enough for the reciprocation of the free end of the middle sliding bar, Q, whose opposite end is secured to the center of the base-block A′. Threaded bolts, provided with thumb-nuts H H, pass through the slots *r* and extend through suitable holes drilled to receive them in the base-blocks A A′, securing said bars to the base-blocks.

Firmly confined to the outside corners of the base-blocks A A′ are vertical upright posts or standards B B′ and angularly-inclined standards C C′, extending to a suitable height, their upper ends containing longitudinal slots S, and connected by horizontal bars D D′. The horizontal connecting-bars D D′ are adjustable in a vertical direction on the standards B B′ C C′ by bolts passing through slots in their respective ends and the slots S in the upper end of the standards. The connecting-bars D D′ are also provided with four angularly-disposed grooves or recesses, *f*, spaced equal distances from each other, as shown in Fig. 1. These grooves receive the carriage-top sockets E, keeping them in their proper pitch and distances while springing in the bows Z and building the top. In the drawings an extra groove, *f*, is shown in the bars D D′, which is used for holding the middle socket when a three in place of a four bowed top is being built.

In some instances I find it practicable to have the connecting-bars D D′ provided with socket-blocks adjustable on the length of the bar when building tops of various depths, and for this purpose I have provided the connecting-bars D″ and D‴. (Shown in Figs. 7, 8, and 2.) These bars are made about the same size and are interchangeable with the bars D and D′ on the frame.

In Fig. 2 the connecting-bar D‴ contains three longitudinal slots, *l*, mortised through the thickness of the bar. Passing through these mortises are threaded bolts J, connected to circular socket-blocks *e*, having transverse grooves *f* running across their outer faces for holding the sockets. Thumb-nuts *t* are turned on the extended ends of the bolts J at the back of the connecting-bar D‴, fastening the socket-blocks *e* securely to the face of the bar. The advantage of this style of socket-holder lies in the fact that the socket-blocks *e* may be secured at any desired distance from each other and the grooves *f* in each block may be turned at any angle to allow the sockets of the carriage-top to rest in the entire length of the groove.

In Figs. 7 and 8 the connecting-bar D″ has a channel, *k*, running through the center of the face of the bar to within a few inches of each end. Sliding in this channel are square socket-blocks *e*, provided with a shoulder and extension, *i*, on the back of the block, the same depth and width of the channel *k*, and each socket-block has a transverse socket groove, *f*, extending across its face. Threaded bolts J pass through the socket-blocks *e*, as shown in Fig. 9, and the longitudinal slots *l* in the connecting-bar D″, Fig. 8. Thumb-nuts *t*, turning on the bolts J, secure the socket-blocks at any desired place on the length of the bar.

On the side and back edges of my adjustable form, connected to the base-blocks A A′, are adjustable rail-supporters for holding the carriage-top rail *h* preparatory to building the top thereon. These rail-supporters consist of the metallic plate *m*, having a slot, *o*, extending through its longitudinal center, and holes drilled through the plate between the slot and the edge, through which screws pass to secure said plate to the base of the form.

Confined to the plate *m*, just described, is a vertical rail-supporting iron, *n*, containing a longitudinal slot, *o′*, through which a bolt passes to secure this vertical iron to the plate *m*. The upper part of this vertical rail-supporting iron *n*, above its connection with the plate *m*, is bent outward at a right angle, and contains a hole, *v*, drilled through this outer end, through which a stud or screw from the top-rail *h* passes when confining the latter to the rail-supporter.

The adjustability of the rail-supporting iron *n* to fit the different style top-rails used on carriage-tops is accomplished by loosening the nut on the bolt passing through the slots *o* and *o′* and sliding the vertical iron *n* either vertically or horizontally until the hole *v* coincides with the stud or hole in the top-rail *h*. The tightening of the nut secures the rail-supporter firmly to the form, and the top-rail *h* can then be fastened to said rail-supporters. By this arrangement any and all different styles of top-rails used upon carriages can be firmly fastened to the base of my adjustable form and a top built thereon.

The manner of using my adjustable form is as follows: The base-blocks A A′ are drawn out until the desired width is attained for a certain-sized carriage-top. The thumb-nuts H are then screwed down tightly holding them. The angle or rail-supporting irons *n* are then adjusted to accommodate the height, and holes drilled in the top-rail *h*, which is secured thereto by bolts passing through the holes drilled in each. The sockets E are fastened to the front ends of the top-rails, *h*, and spread until they lie in the grooves *f* in the connecting-bars of the frame D and D′. If the connecting-bars D″ or D‴ are used in place of the plain bars D D′, the socket-blocks *e* are first adjusted the proper width on the length of the bar and confined by tightening the thumb-nuts *t* on the back of the bar. The sockets E then spread until they lie in the grooves *f*, which hold them their respective distances from each other. The top-bows Z are now sprung into the ends of the sockets E, and the top can be covered, stuffed, lined, and completely finished, even to putting on the curtains and braces, before removing from the form. The top is taken from the form by removing the bolts that connect the top-rail *h* to the rail-supporting irons *n*, and another top can be set up the exact counterpart of the first without having to readjust the form.

In the drawings I have shown the upright standards B B′ connected to the base-blocks A A′ at the corners of the latter; but I do not confine myself to this exact place for said uprights, for they may be set in the base-blocks three or four inches from the corners, which arrangement would allow a top-rail with a finished back attached to be secured to the form and a top built thereon.

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

1. An adjustable form for setting and building carriage-tops, consisting of the movable bases longitudinally adjustable on parallel sliding bars and secured thereto by bolts passing through slots in the free ends of said bars, upwardly-projecting standards secured to said bases and connected at their upper ends by connecting-bars having angularly-disposed grooves on their outer faces, and means for securing the carriage-top rails to the base of the form, substantially as shown and described.

2. In a form for setting carriage-tops, an adjustable rail-supporter connected to the base of the form, consisting of the metallic plate *m*, having a longitudinal slot, *o*, through its center, a vertical iron, *n*, having a similar slot, *o′*, connected to the plate *m* by a bolt passing therethrough, said vertical iron above the plate being bent at an angle extending outward and having means to secure the top-rail at its outer extremity, substantially as described.

3. The adjustable connecting-bars, each having a longitudinal slot running through its center and adjustable blocks provided with a transverse groove across the outer face of each for receiving the carriage-top sockets, secured to the connecting-bars by bolts having thumb-nuts passing through said slots fastening the socket-blocks at any desired angle and distance on the bars, substantially as shown, and for the purpose described.

4. The combination of the adjustable base-blocks having secured thereto the upwardly-projecting standards having slots in their upper ends, the connecting-bars containing bolts extending through said slots in the upper end of the standards connecting them, the adjustable socket-holders having transverse socket-grooves secured to the connecting-bars by bolts having thumb-nuts passing through the longi-

tudinal slots in said connecting-bar, and the adjustable rail-supporters consisting of metallic plates secured to the base-blocks, each plate having a slot running longitudinally through its center, and a vertical iron bent outward at its upper end, having a similar slot connected to the plate by a bolt passing through their respective slots, and having means to connect the carriage-top rail to said last-named iron, substantially as described.

CUMMINS C. OAKES.

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GEO. F. WEED.