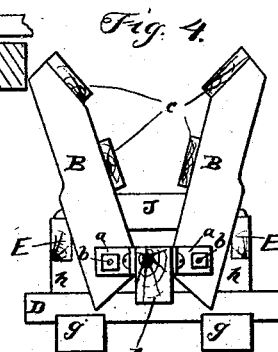
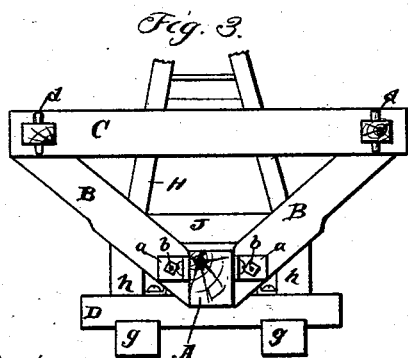
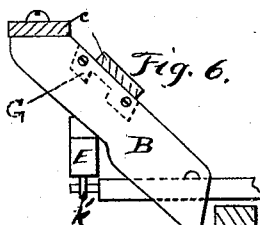
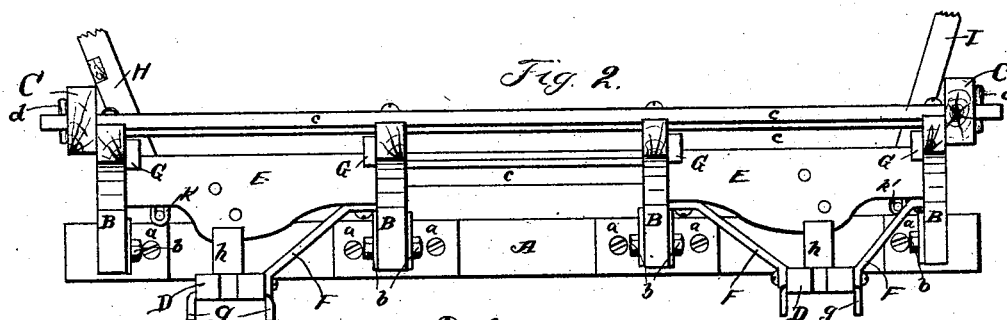


C. ZENGLER.
HAY RACK.

Patented July 14, 1891.



Witnesses.
C. J. Cross.
Ed. L. Smith.

Inventor:
Casper Zengler
Benj. Fred W. Bond

Atty.

UNITED STATES PATENT OFFICE.

CASPER ZENGLER, OF CANTON, OHIO.

HAY-RACK.

SPECIFICATION forming part of Letters Patent No. 455,895, dated July 14, 1891.

Application filed February 28, 1891. Serial No. 383,208. (No model.)

To all whom it may concern:

Be it known that I, CASPER ZENGLER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Hay-Racks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a top view showing a portion of the center board or bottom. Fig. 2 is an edge view. Fig. 3 is an end view. Fig. 4 is an end view illustrating the position of the different parts when the rack is folded. Fig. 5 is a detached view showing a portion of one of the trusses. Fig. 6 is a view showing one of the pivoted arms partially elevated and illustrating the positions of the center sill and showing the end of one of the trusses. Fig. 7 is a detached view of one of the locking or retaining blocks.

The present invention has relation to hay-racks; and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, A represents the center sill, which is located as illustrated in the drawings and extends the entire length of the rack proper.

To the sill A are pivotally attached the arms B, which are located substantially as illustrated in the drawings, and in the drawings four arms are shown located upon each side of the center sill A; but it will be understood that a greater or less number of arms B may be used, if desired; but I prefer to use four arms located upon each side of the sill, as illustrated in the drawings. The arms B are pivotally connected or attached to the center sill A by means of the angle-irons *a*, which angle-irons are securely attached to the center sill A by means of suitable screws or their equivalents. The arms B are pivotally connected by means of the clamping-bolts *b* or

their equivalents, which clamping-bolts pass through apertures in the arms B and the angle-irons *a*.

For the purpose of securely holding the arms B, together with the bars or rails *c*, in the position illustrated in Figs. 1 and 2, the end bars C are provided, which end bars are attached to the outer bars or rails *c* and held in the desired position by means of the pins *d*, which pins may be of the form shown, or, if desired, spring-keys or clamping-bolts may be used.

To the center sill A are securely attached the cross-bars D by means of the clips *e* and the clamping-bolts *f*. It will be understood that the cross-bars D are to rest upon the front and rear bolsters in the ordinary manner.

For the purpose of preventing the rack proper from moving endwise upon the wagon proper the clips *g* are provided, which clips are securely attached to the cross-bars D in any convenient and well-known manner.

To the cross-bars D are securely attached the bottom or lower ends of the posts or standards *h*, and to the top or upper end of the posts or standards *h* are securely attached the trusses E, said trusses being located substantially as illustrated in Figs. 1 and 2.

For the purpose of strengthening the trusses E the braces F are provided, which braces are securely attached to the trusses E and to the cross-bars D.

To the pivoted arms B are securely attached the notched blocks G, said blocks being provided with the notches or recesses *k*.

The notches *k* are for the purpose of receiving the ends of the trusses E, and thereby providing a rest for the center of the arms B.

When it is desired to fold the rack proper, the end bars C are removed, at which time the arms B are free to be folded together, thereby reducing the bulk of the rack, thereby providing a better means for storing the rack.

It will be understood that before folding the arms B the ladder H and the binding-bar I should be turned down upon the center sill A or the bottom A', thereby placing said parts in position, so as not to interfere with the folding of the arms B.

It will be understood that the ladder H and

the binding-bar I should each be pivotally connected to the trusses E by means of the rock-bars J.

5 In the drawings the rock-bars J are pivotally connected to the trusses E by means of the staples *k'*, the manner of connecting the rock-bars J being immaterial.

10 It will be understood that by my peculiar arrangement I am enabled to dispense with the ordinary side sills and substitute therefor a center sill, which is so located that it will not interfere with the front wagon-wheels when the wagon is turned.

15 The trusses E are so located that they will clear the front wagon-wheels.

The trusses E are each provided with the shoulders *g'*, which are for the purpose of abutting against the faces of the blocks G when the arms B are placed in the position 20 illustrated in Fig. 1.

It will be understood that my rack can be used for hauling all bulky material, such as boxes and beer-kegs.

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

1. The combination of the center sill A, having angle-irons *a* fixed thereto, the arms B, pivoted to said irons on each side of the sill, the side rails *c* and end bars C, supported by 30 said arms, the cross-bars D, fixed to the center sill and provided with bolster-clips *g*, the trusses E, located above the cross-bars D, the blocks G, provided with recesses *k* to receive the ends of said trusses, and the braces F, se- 35 cured to said cross-bars and trusses, substantially as shown and described.

2. The combination of the center sill A, the pivoted arms B, the side rails *c*, the end bars C, the cross-bars D, fixed to the center sill, 40 the trusses E, having shoulders *g'*, the blocks G, having recesses *k* to receive said trusses, the clips *e*, and the clamping-bolts *f*, substantially as shown and described.

In testimony that I claim the above I have 45 hereunto subscribed my name in the presence of two witnesses.

CASPER ZENGLER.

Witnesses:

F. W. BOND,
E. A. C. SMITH.