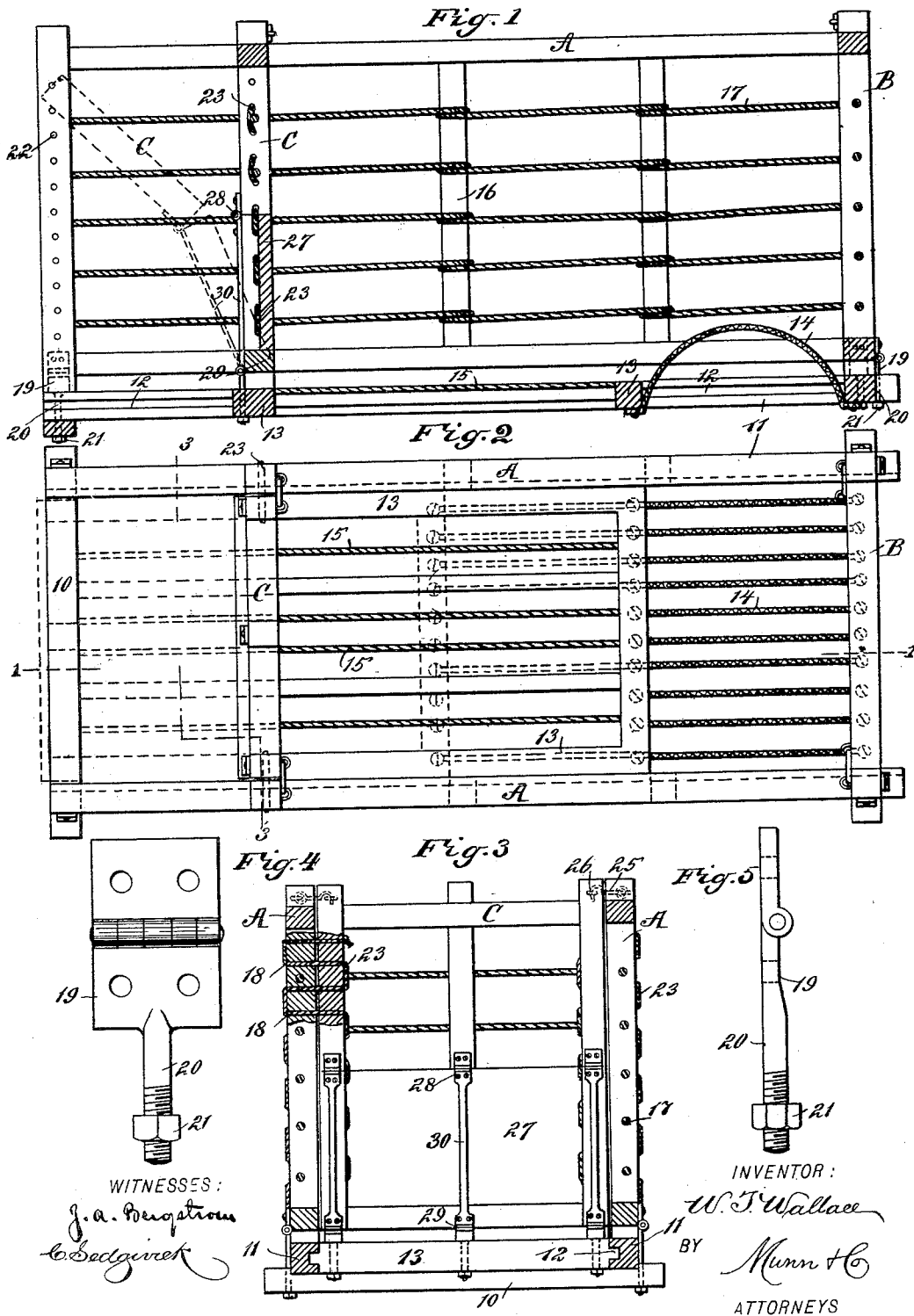


(No Model.)

W. T. WALLACE.
HAY RACK.

No. 477,161.

Patented June 14, 1892.



UNITED STATES PATENT OFFICE.

WILLIAM T. WALLACE, OF BELOIT, KANSAS.

HAY-RACK.

SPECIFICATION forming part of Letters Patent No. 477,161, dated June 14, 1892.

Application filed January 18, 1892. Serial No. 418,477. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. WALLACE, of Beloit, in the county of Mitchell and State of Kansas, have invented a new and useful
5 Improvement in Hay-Racks, of which the following is a full, clear, and exact description.

My invention relates to an improvement in hay-racks, and has for its object to simplify the construction of such devices and provide
10 a rack capable of being built in a durable and economic manner; and a further object of the invention is to provide a means whereby one or more sections of the rack may be made adjustable, so as to increase or decrease
15 the area of the rack.

It is the further object of the invention to so construct the sections that they may be expeditiously and conveniently united, and whereby any of the sections may be made to
20 fold downward, so as to expose more or less of the contents of the rack.

The invention consists in the novel construction and combination of these several parts, as will be hereinafter fully set forth, and
25 pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the
30 views.

Figure 1 is a vertical central section through the rack, taken, practically, on the line 1 1 of Fig. 2. Fig. 2 is a plan view of the rack as illustrated in Fig. 1. Fig. 3 is a transverse
35 vertical section taken, practically, on the line 3 3 of Fig. 2; and Figs. 4 and 5 are front and edge views, respectively, of a hinge employed in connection with the sections.

The base frame of the rack consists, preferably, of end pieces 10 and side pieces 11, secured upon the end pieces, the said side pieces being provided, respectively, in their inner
40 faces with a longitudinal groove 12. It will thus be observed that the base is more or less rectangular in general contour. In the base a bottom frame 13 is held to slide, the side
45 pieces of which frame are preferably provided with tongues, which enter the grooves 12 of the base, or the bottom frame may be
50 guided in any other approved manner, as said frame is adapted to be longitudinally adjust-

able within the base. The bottom frame 13 is of less length than the base, and to the rear end of the bottom frame a series of cables 14, of wire, thickly-woven hemp, manila rope, 55 or other elastic material, is secured, which cables are likewise attached to the rear end beam 10 of the base, as is best shown in Figs. 1 and 2. As the bottom frame 13 is more or less of a skeleton character, it is provided
60 with a series of longitudinal strands 15, which strands may consist of cables, if in practice it is found desirable. When the rear cables 14 are perfectly flat, the forward end of the bottom frame 13 will be flush, or essentially
65 so, with the front face of the base.

The upper structure of the rack comprises two side panels A, a rear end panel B, and a front end panel C. The side panels A consist of a frame-work, preferably rectangular in
70 general contour, and the said frame-work is adapted to carry a lattice-work constructed of any suitable or approved material, or, as shown in the drawings, the frames of the side
75 panels may be braced by a series of uprights 16, and the body of these panels may be made up of longitudinal strands 17 of wire or rope, in which event the strands are attached to the end portions of the panels and are wound
80 around the uprights 16. The upright nearest to the forward end of each side panel is provided with a series of apertures 18, as shown in Fig. 3. The rear end panel is constructed in like manner as the side panels,
85 but there is no occasion for any of these uprights being provided with apertures. The side and end panels may be attached to the base by dowel-pins, or preferably a hinge connection is established between each panel
90 and the base, in which event the rear end panel and both side panels are connected with the base through the medium of hinges 19, (illustrated in detail in Figs. 4 and 5,) the
95 body portion of one member of these hinges being provided with a stud 20, projected therefrom, which studs are threaded to receive nuts 21. When the plain member of the hinge has been screwed or otherwise secured to the bottom rail of the panel, the
100 studs 20 are forced downward through openings in the beams of the base structure, and the nuts 21 are screwed upon that portion of

the studs projecting below the under faces of the base-beams.

The panels may be connected in any suitable or approved manner. Preferably, however, the end upright of each panel is provided with a series of apertures 22, and laces 23 are employed in this event to make the connection between the panels. This is effected, as shown in Fig. 3, by knotting one end of each lace and passing the laces through registering apertures in the panels in essentially a zigzag manner until the lower portion of the panels is reached, whereupon the lower ends of the laces employed are secured in any approved manner.

In addition to the lace connection between the panels hooks and eyes may be used, (designated on the drawings, respectively, as 25 and 26,) the latter connecting mediums being located at the tops of the panels.

In the drawings the front panel is shown as adjusted inward, but normally—that is, when the rack is erected to receive its full capacity of hay—the front panel is located at the front end of the rack. The front panel is ordinarily made to differ in construction from the side and rear panels, the upper section only of said panel being of lattice-work, the lower section 27 being solidly inclosed. The front panel is also preferably made in two sections, and these sections have a hinge connection. Therefore the hinge connection between the front panel and the base structure differs somewhat from the hinges used at the sides and the back. The front hinges are double hinges—that is, two hinges 28 and 29 are connected by a bar 30—and the lower hinge is provided with the shank 20 and the nut 21, heretofore referred to. The upper hinges 28 unite the two sections of the front panel and the lower hinge 29 connects said panel with the base. Thus, if in practice it is found desirable, the upper section may be folded down upon the lower one or both sections may be folded down upon the base-section, enabling the interior of the rack to be readily reached.

I desire it to be distinctly understood that I do not confine myself to any particular means of fastening the sections together and that the hooks and eyes may be employed only upon the front panel, other fastenings being dispensed with, so that either section of this panel may be expeditiously and conveniently folded downward, and I further desire it to be understood that in the construction of the side and end panels canvas may be employed as a substitute for lattice-work or that the side and end panels may consist of solid boarding. It is obvious that the rack may be made as large as desired and that the rack may be provided with any number of partitions. The front panel, however, is adapted to extend from side to side of the rack.

As a flexible connection is established between the bottom frame and the base, it is

obvious that the latter frame may be carried rearward or forward, as the amount of hay contained in the rack may justify, it being the prime object in making the front panel adjustable to carry the said panel up close to the hay and thence rearward as the hay is consumed or removed, and this movement can be readily made without making the base in sections, which sections could not be readily removed, owing to the weight of the hay upon them, by constructing one part of the base of flexible cables. This construction of the base admits of a sliding panel of stout material being employed and the movement of that panel in suitable guides without disconnecting the panel from the base-section, and no matter how the panel is moved the base will be in condition to properly support whatever is placed upon it. It will be understood that the cables in practice may not present the exact curve shown in Fig. 1 when the base-section is shortened, as the weight of the hay may turn them to one side.

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

1. In a hay-rack, the combination, with a base structure provided with a longitudinally-adjustable frame, of side and end panels connected with the base structure, the front panel being laterally adjustable and provided with a drop-section, and a locking connection, substantially as shown and described, between the front panel and the side panels, the end and side panels being capable of opening outward from the base structure when desired, exposing the contents of the rack from top to bottom, substantially as set forth.

2. In a hay-rack, the combination, with a base structure, a frame held to slide in said structure, and a flexible connection between the sliding frame and the base structure, of side and end panels erected upon the base structure at the margins thereof, the front end panel being adjustable to and from the rear panel, and fastening devices, substantially as described, connecting the panels, as and for the purpose set forth.

3. In a hay-rack, the combination, with a base structure made in skeleton form and a frame provided with a lattice-body and held to slide in the base, the said frame having a flexible connection with the rear of the base structure, of side panels attached to the side margins of the base structure, a rear end panel also attached to the base structure, and a forward end panel attached to the forward portion of the sliding panel of the base, and devices, substantially as shown and described, connecting the panels erected upon the base and upon the base-panel with each other, as and for the purpose specified.

4. In a hay-rack, the combination, with a base structure of essentially skeleton form, a panel held to slide in said structure of less length than the structure, and a flexible con-

nection between the rear of the panel and the rear of the structure, of an upper structure consisting of side panels and a rear end panel attached to the base structure and a front panel hinged to the forward portion of the base-panel, and fastening devices connecting the panels of the upper structure one with the other, as and for the purpose set forth.

5. In a hay-rack, the combination, with a base structure of essentially skeleton form and a panel of less length than the base structure held to slide therein and having a flexible connection with the rear of the structure, of an upper structure erected upon the base around the base-panel, the said upper structure consisting of side panels, a rear end panel hinged to the base structure, the hinges being provided with studs extending through the base structure and nuts upon the lower ends of the studs, and a forward panel having a

hinge connection with the forward portion of the base-panel, the forward portion of the upper structure being constructed in hinged sections, and fastening devices, substantially as shown and described, uniting the panels of the upper structure, as and for the purpose set forth.

6. A hay-rack provided with a base consisting of a skeleton frame, a panel sliding in said frame, and a flexible connection between the panel and the skeleton frame, substantially as shown and described, one upright panel of the rack being adapted for attachment to the sliding panel of the base, as specified.

WILLIAM T. WALLACE.

Witnesses:

C. E. SHULL,
S. A. SHULL.