J. BOLT.

Wagon-Rack.

No. 166,250. Patented Aug. 3, 1875.

Fig: 1.

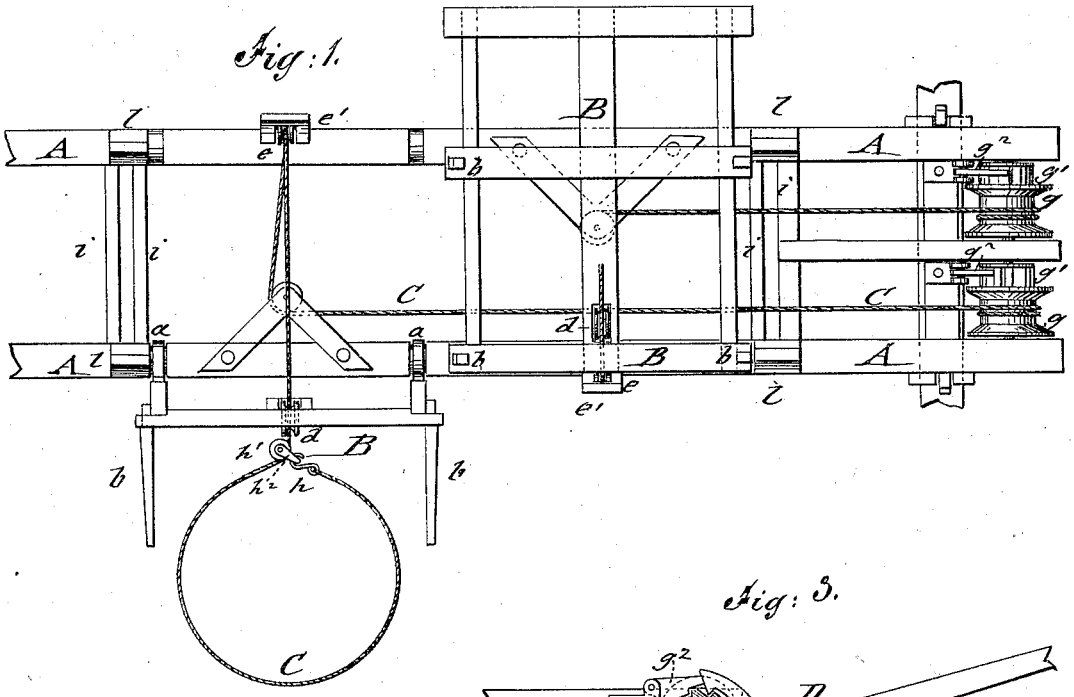


Fig: 3.

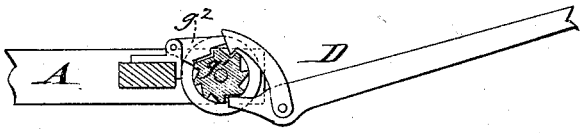
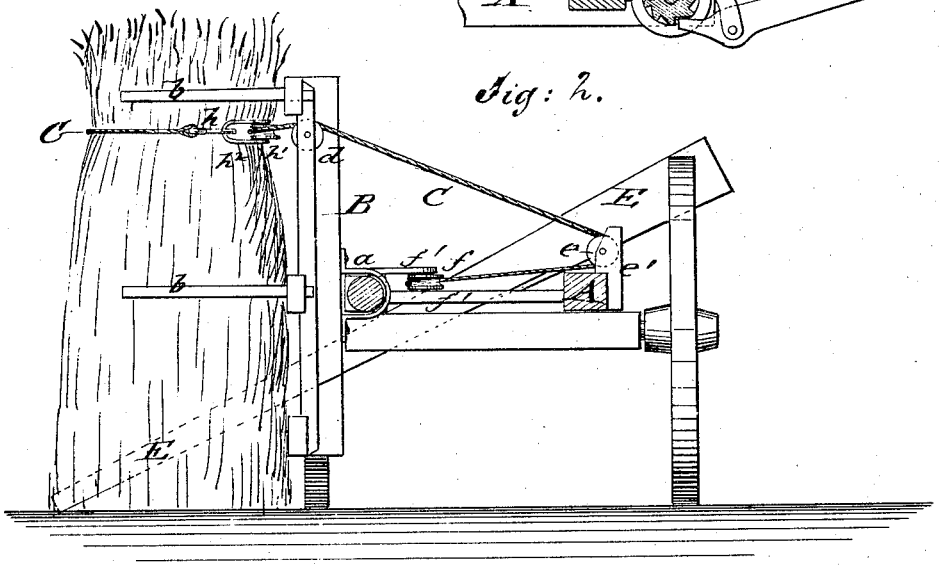


Fig: 2.



WITNESSES:

Chas. Neide.

A. F. Terry

INVENTOR:

Joseph Bolt

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOSEPH BOLT, OF WARSAW, ILLINOIS,

IMPROVEMENT IN WAGON-RACKS.

Specification forming part of Letters Patent No. **166,250**, dated August 3, 1875; application filed May 8, 1875.

To all whom it may concern:

Be it known that I, JOSEPH BOLT, of Warsaw, in the county of Hancock and State of Illinois, have invented a new and Improved Wagon-Rack, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a top view of my improved wagon-rack; Fig. 2, a vertical transverse section of the same, showing tilting frame in position for loading; and Fig. 3 a detail section of the ratchet and hook-lever of winding-drum for operating tilting frame.

Similar letters of reference indicate corresponding parts.

The object of my invention is to so improve the wagon-rack heretofore patented to me under date of February 10, 1874, and No. 147,303, that the loading, conveying, and unloading of corn or other fodder may be accomplished by one person in easy, quick, and secure manner, and the loading and depositing of whole shocks be attended to without tearing or tangling the same in handling.

The invention consists of separate tilting frames, which are arranged on the supporting rack-frame to swing to opposite sides and carried back and retained with the load by cords with hooks and pulley-blocks passing over pulleys to winding-up rollers, and ratchets operated by a hook or grapple lever. The rack-frame is braced in rigid position by inclined bars extending from seat-blocks at opposite sides through lateral guide-pieces of the rack to the ground.

In the drawing, A represents the supporting-frame of the rack for loading corn, fodder, hemp, cane, or other articles. Frame A is made of oblong shape and suitable strength, and placed on the running-gear of the wagon in the usual manner. Two or more separate tilting frames, B, are hinged by iron straps or bands *a* to the longitudinal side beams of the rack-frame A, one frame being hinged to one beam to swing to one side of the wagon, the adjoining one being hinged to the opposite beam, and so on alternately. Each tilting frame B is extended beyond the beam to which it is hinged for the purpose of allowing a greater quantity of fodder to be loaded, but mainly to facilitate by the weight of the load on the extension part outside of the beam the rapid tilting over of the frame. The alternating arrangement of the tilting frames distributes the load in such a manner at both sides of the wagon that the required equilibrium is retained without danger of upsetting at rough places. Upright pieces *b* of the tilting frames serve to retain the load thereon during transportation. The opposite end of tilting frame B rests on the other side beam of the main frame, and is retained thereon when loaded by a cord, C, which passes over a pulley, *d*, of the center-piece of frame B, then over a pulley, *e*, turning in bearings *e'* of one side beam, then over a horizontal pulley, *f*, turning in inside bearings *f'* of the opposite side beam, and then back to a winding drum or roller, *g*, at the rear end of the main frame A, to which the end of the cord is securely applied. A hook, *h*, is attached to the end of cord C beyond pulley *d* of the tilting frame B, while a loose pulley, h^1, with bail h^2 slides readily thereon, serving to loop the cord around a shock of corn and attaching the same firmly thereto. The shock is moved up to the tilted frame and the cord slung around and fastened, load and frame being then ready to be carried back to the rack-frame, which is accomplished by winding up the cord on the roller by means of a side ratchet, g^1, and hook-grapple, lever-crank, or other device D, as shown in Fig. 3. A check-pawl, g^2, serves to retain the cord on the roller, and thereby the tilting frame and load in secure position on the frame. The winding up of the cord swings the tilting frame gradually back into its horizontal position on the rack-frame together with the shock, and retains both in this position thereon, until the pawl is raised and the frame tilted for unloading. The load is deposited in exactly the same position again in which it has been taken from the ground without being torn or tangled in handling, so that it can be more readily stored. There are as many cords, pulleys, and winding rollers as there are tilting frames for admitting their separate loading and unloading and accomplishing these operations by one person in quick and convenient manner. The supporting rack-frame is provided at both ends with lateral guide-pieces *i* and wedge-

shaped side blocks *l* of the side beams. The guide-pieces *i* are placed at such a distance from each other that a brace-bar, E, of suitable thickness may be introduced between the same, and by resting on one of the blocks *l* be extended in inclined position beyond the rack-frame and wheels to the ground. By adjusting both brace-bars in the same position at one side of the wagon they act as braces to prevent the wagon from moving to the shock. When loading the other tilting frame they are changed to the opposite side, by which the whole wagon is braced sufficiently to admit the swinging back of load and tilting frame without danger of tilting the wagon. The brace-bars are taken off when the rack is loaded, and may be replaced or not, as desired, when the shocks are deposited. By the arrangement of separate tilting frames, which balance each other and the stiffening brace-bars, the loading, hauling, and depositing of the load are facilitated and accomplished in a secure and reliable manner.

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

1. The combination of a tilting frame, having one side extended beyond the rack-frame and the other side provided with a pulley and cord, having shock-fastening end hook and sliding pulley-block, with the winding roller and ratchet mechanism at the end of rack-frame, for carrying load and tilting frame back, and retaining both securely, substantially as set forth.

2. The combination of rack-frame, having lateral guide-pieces and side-rest blocks, with inclined brace-bars extending in opposite direction to the ground for supporting the rack-frame during loading, substantially in the manner and for the purpose specified.

JOSEPH BOLT.

Witnesses:
BENNETT BOLT,
OLIVER P. JENIFER.