

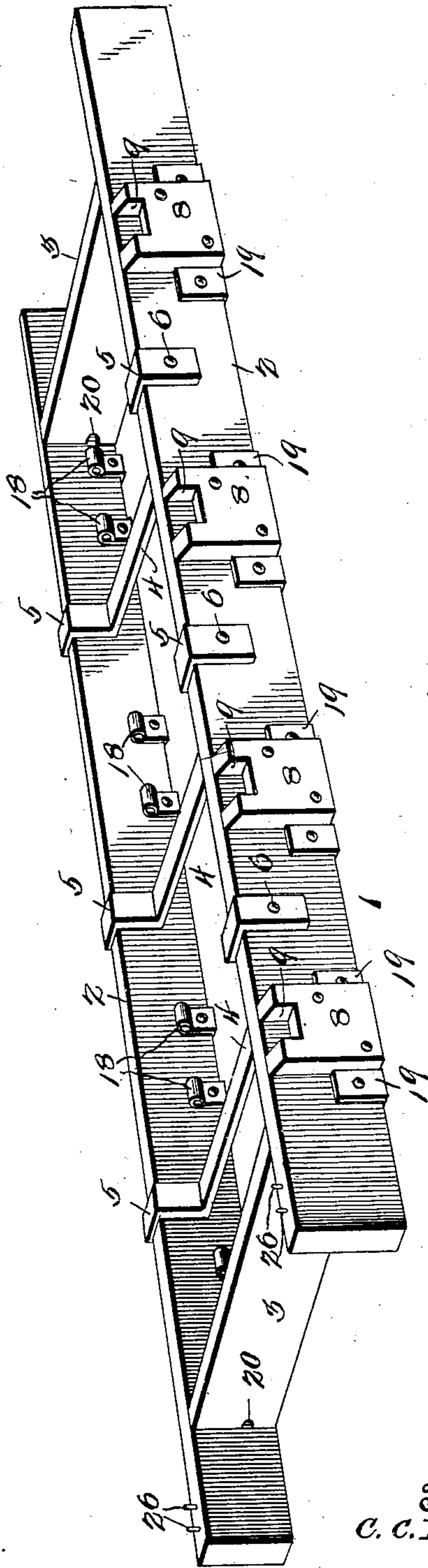
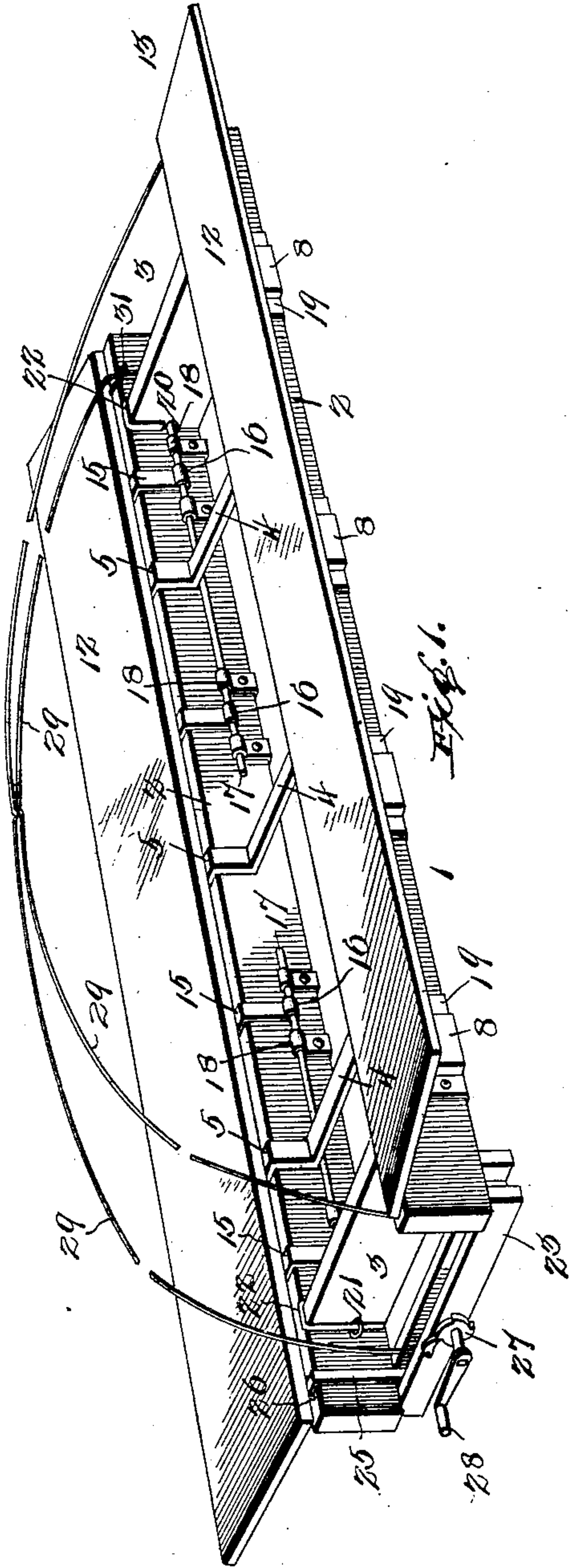
No. 738,071.

PATENTED SEPT. 1, 1903.

C. C. RUNYON.
CONVERTIBLE HAY RACK.
APPLICATION FILED MAR. 4, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
J. L. Macnamer
Gertrude S. Roy

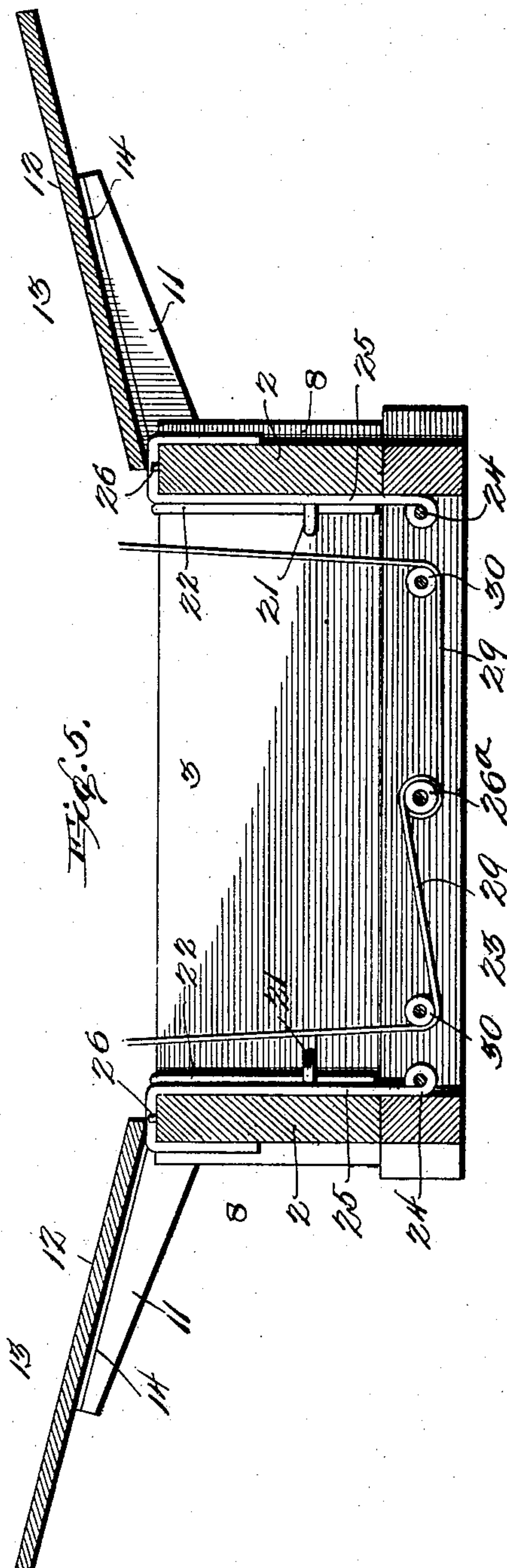
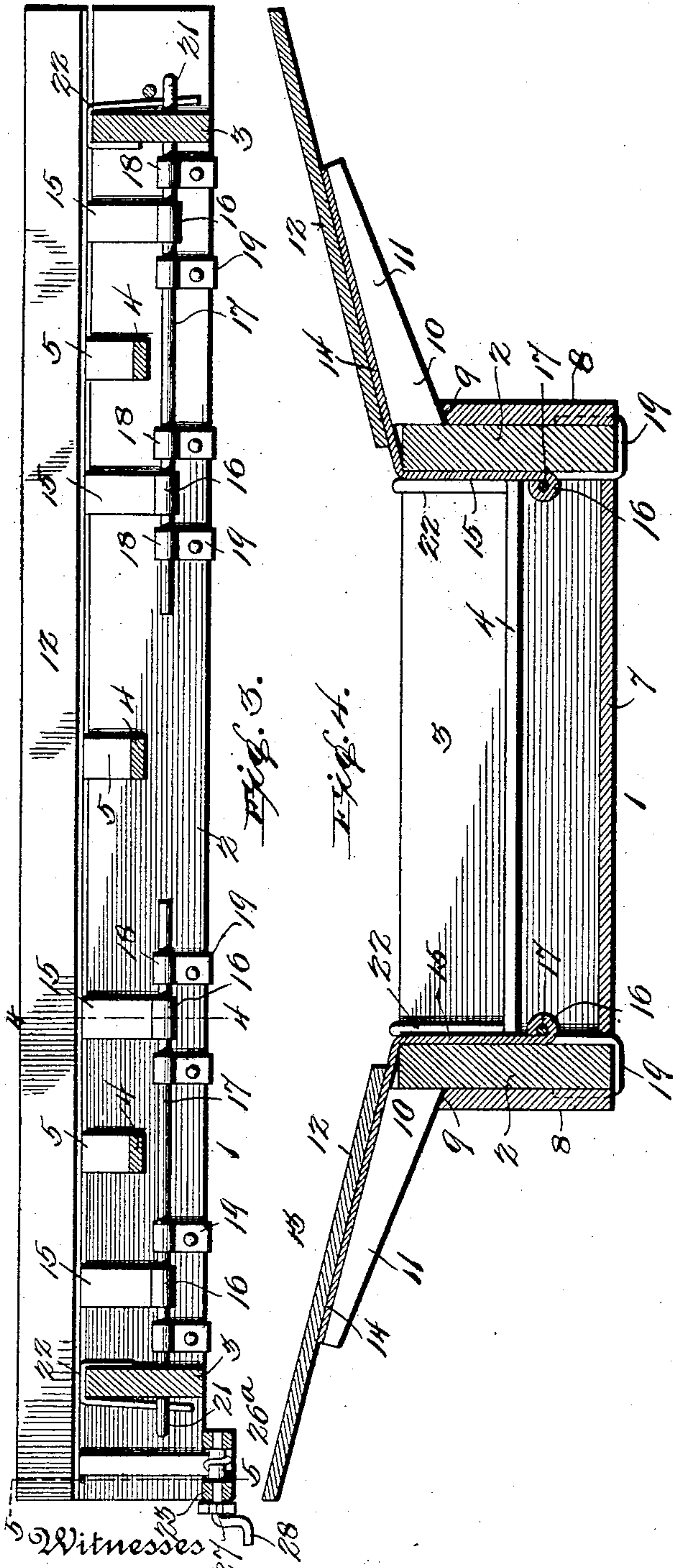
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NO MODEL.

2 SHEETS—SHEET 2.



Witnesses
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UNITED STATES PATENT OFFICE.

CALVIN C. RUNYON, OF MIDDLEPOINT, OHIO.

CONVERTIBLE HAY-RACK.

SPECIFICATION forming part of Letters Patent No. 738,071, dated September 1, 1903.

Application filed March 4, 1903. Serial No. 146,206. (No model.)

To all whom it may concern:

Be it known that I, CALVIN C. RUNYON, a citizen of the United States, residing at Middlepoint, in the county of Vanwert and State of Ohio, have invented certain new and useful Improvements in Convertible Hay-Racks, of which the following is a specification.

This invention relates to hay-racks or frames for wagon-bodies, and has for its object to provide an improved convertible rack of this character wherein the various elements thereof are readily removable and replaceable, while at the same time comprising means for adapting the wagon box or body for a variety of uses, such as a hay-rack or "hay-ladder," as it is sometimes termed, and also as a log-rack or wood-rack, as occasion may demand.

To this end the invention contemplates a simple and practical construction of knock-down rack providing an extended and firm platform or support for a load of hay, while at the same time embodying a construction wherein the several parts are readily separable for storing and occupying a minimum space.

A further object is to associate with the detachable elements, which are designed particularly for providing a hay-rack construction, a simple and effective binder or "boomer" attachment, providing means for easily and effectively binding the load upon the rack.

With these and many other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts, which will be hereinafter more fully described, illustrated, and claimed.

The essential features of the invention involved in the novel mounting of the side rack-wings and the mounting of the binder attachment are necessarily susceptible to structural modifications without departing from the scope of the invention, but a preferred embodiment thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a wagon-body equipped with the improvements contemplated by the present invention for converting the same into a hay-rack. Fig. 2 is a

perspective view of the wagon body or box frame stripped of its attachments and exposing the detail construction thereof. Fig. 3 is a vertical central longitudinal sectional view of the hay-rack construction shown in Fig. 1. Fig. 4 is an enlarged transverse sectional view thereof on the line 4 4 of Fig. 3. Fig. 5 is a similar view on the line 5 5 of Fig. 3.

Like reference-numerals designate corresponding parts throughout the several figures of the drawings.

In carrying out the invention no change is involved in the manner of mounting the wagon body or box frame upon the running-gear, as the common mounting of hay-racks upon the bolsters is generally resorted to in the employment of the present invention. Hence the latter contemplates associating with the usual running-gear a main rack or box frame 1, essentially consisting of the opposite parallel upright side beams 2, running the full length of the frame, and the opposite upright end cross-bars 3, rigidly connecting the beams 2, preferably a short distance from the extremities thereof, as plainly shown in Figs. 1, 2, and 3 of the drawings.

In addition to the upright end cross-bars, which connect the side beams 2 and provide a substantially rectangular framework, the main rack-frame 1 preferably embodies a plurality of transverse body-braces 4, arranged at spaced intervals between the oppositely-located end cross-bars 3 and provided at their extremities with the stirrups 5, embracing the top edges of the side beams 2 and firmly bolted thereto, as at 6, thus providing a thoroughly-braced structure of exceptional strength well adapted for use not only as a hay-rack body, but also as a log or wood rack, as may be desired. Also in the carrying forward of the invention the main rack-frame 1 may be provided with a closed bottom section 7, which is of special utility in the hay-rack construction to catch the shattered grain.

An important feature in the construction of the main rack-frame 1 resides in providing the side beams 2 thereof upon the outer sides with a series of spaced upright standards or standard-blocks 8, having in their upper edges the angular holding-notches 9, adapted to receive in interlocking engagement the inner

widened ends 10 of the bracing-cleats 11, rigidly secured to the under side of the platform members 12 of the side rack-wings 13.

The side rack-wings 13 are a separable and detachable part of the main rack-frame 1, the same being adapted for engagement, respectively, at opposite sides of the main rack-frame and projecting laterally a distance beyond the top of the said frame to provide extended side platform-sections for the support of the load of hay on the rack. The platform member 12 of each rack-wing 13 may consist of an imperforate board, such as suggested in the drawings, or may be of slatted formation, as is common to hay-rack constructions, but irrespective of whether the platform member 12 is of a slatted or solid formation the same is reinforced at its under side by a plurality of the bracing-cleats 11, corresponding in number to the standards 8 at the sides of the rack-frame with which the wings are associated, and while the interlocked engagement of the cleats 11 with the standards provides for securely holding each rack-wing against longitudinal displacement still it is necessary to provide supplemental fastening means for detachably fastening or locking the wing in place. To provide for this, each of the side rack-wings 13 has rigidly fastened thereto a plurality of angled supporting-brackets 14. These angled supporting-brackets 14 are arranged in separate groups respectively at each side of the transverse center of the wing. The upper arms of the said brackets are rigidly fastened to the under side of the platform member 12 and partake of the inclination thereof, while the lower portions thereof constitute pendent securing-legs 15, which are disposed at the inner side of the adjacent side beam 2 and are provided at their lower extremities with the eyes 16, adapted to receive a fastening-rod 17, also passed through a horizontally-alined series of keepers or keeper-eyes 18, provided at the inner upper ends of the bracket-stirrups 19, embracing the lower edges of the side beam and bolted or otherwise rigidly fastened thereto.

With the angled supporting-brackets 14 at each side of the transverse center of each rack-wing 13 there is associated a series of the alined keepers 18 and a fastening-rod 17, the outer end of which rod extends through a rod-opening 20 in the adjacent end bar 3 of the frame and is provided with a terminal loop 21, adapted to receive one leg of a U-shaped locking-key 22. This U-shaped locking-key has a detachable spring-clip engagement over the top edge of the cross-bar 3, with which it is associated. By lifting the various locking-keys 22 out of engagement with the loops of the rods 17 and then withdrawing said rods from the alined eyes 16 and 18, the side rack-wings 13 are freed, so that they can be readily removed from the main rack-frame, thereby adapting the latter for use as a common log or wood rack.

In connection with the elements adapting

the rack-frame for use as a hay-rack there is preferably associated with the main rack-frame a removable binder attachment. This binder attachment essentially consists of an open rectangular windlass-frame 23, adapted to be removably supported beneath the rear projecting ends of the side beams 2, as plainly shown in Figs. 1, 3, and 5 of the drawings. The said frame has secured to the opposite end portions thereof, as at 24, the lower extremities of the carrying-hooks 25, lying at the inner sides of the side beams 2 and hooking over the top edges thereof between retaining studs or projections 26, as plainly shown in Figs. 1 and 5 of the drawings. By unhooking the members 25 from the beams 2 the entire binder attachment can be readily removed from the rack-frame.

The open rectangular windlass-frame 23 has mounted centrally therein a transversely-arranged winding-drum 26^a, carrying a pawl-and-ratchet check device 27 and having on the outer end of its shaft an operating-crank 28. The said windlass has arranged to wind and unwind thereon the opposite binding-cables 29, extending in opposite directions from the central drum 26 and passing around guiding-rollers 30, journaled transversely in the end portions of the frame 23. The separate cables 29 are crossed over the top of the load and have their front extremities connected, as at 31, to the front projecting ends of the side beams 2. By operating the crank 28 and winding up both cables on the drum the same may be drawn as tightly as desired over the load to secure it when on the rack.

From the foregoing it is thought that the construction, use, and many advantages of the herein-described improvements will be readily apparent without further description, and it will be understood that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a rack of the class described, the main rack-frame having upon the outer sides thereof a plurality of notched standards, oppositely-located side rack-wings each having a plurality of bracing-cleats interlocked with the notches of the exterior standards and also provided with a plurality of angled supporting-brackets taking over the adjacent side beam and lying at the inner side thereof, and a fastening for securing the brackets of each wing to the side beam which they engage.

2. In a rack of the class described, the main rack-frame including connected side beams and end cross-bars, a plurality of alined keeper-eyes secured to the side beams and arranged along the inner sides thereof, the oppositely-located side rack-wings each having a plurality of angled supporting-brackets taking over

the adjacent side beam of the rack-frame and formed with pendent securing-legs provided with eyes adapted to aline with the keeper-eyes, the securing-legs and certain keeper-eyes being arranged in separate groups at opposite sides of the transverse center of each side wing, a sliding fastening-rod cooperating with the eyes of each group and also with one of the end cross-bars of the rack-frame, and a removable locking-key having a locking engagement with each fastening-rod, and a removable engagement with the cross-bar through which said rod passes.

3. In a rack of the class described, the main rack-frame having projecting side portions at

its rear end, a windlass-carrying frame having carrying-hooks detachably engaged over the said projecting side portions, a winding-drum and oppositely-located guiding-rollers mounted in said windlass-frame, and separate binding-cables connected with said frame, passing around the guiding-rollers, and crossed above the rack.

In testimony whereof I affix my signature in presence of two witnesses.

CALVIN C. RUNYON.

Witnesses:

E. GOODWIN,
S. P. NEER.