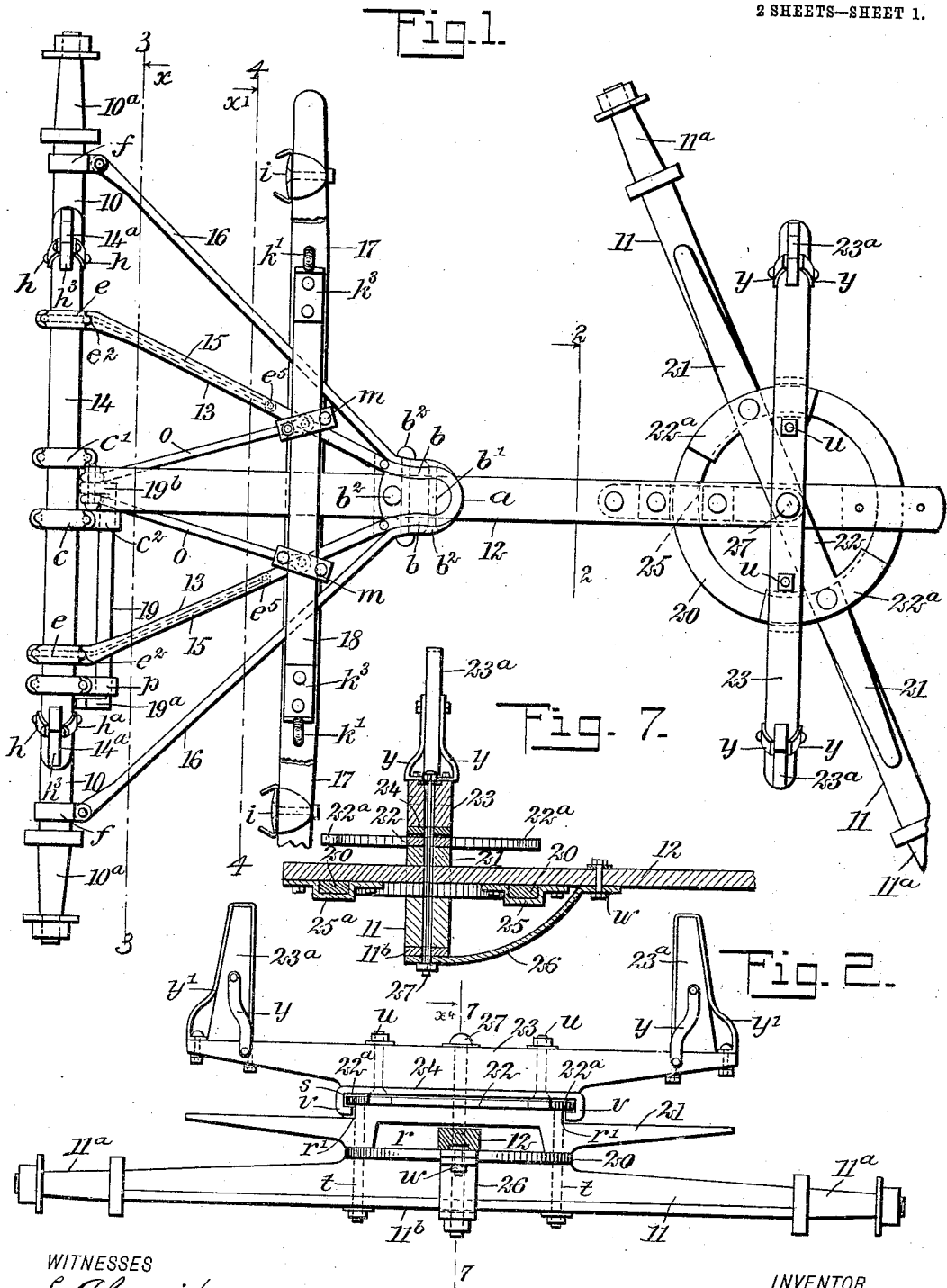


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 RUNNING GEAR FOR WAGONS.
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Patented Dec. 28, 1909.

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RUNNING-GEAR FOR WAGONS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM J. OTT, a citizen of the United States, and a resident of Merlin, in the county of Josephine and State of Oregon, have invented new and Improved Running-Gears for Wagons, of which the following is a full, clear, and exact description.

The purpose of my invention is to provide novel details of construction for a freight hauling wagon, which are light, strong and durable, enable a quick turning movement, largely prevent destructive wear, and that may be produced at moderate cost.

The invention consists in the novel construction and combination of parts, as is hereinafter described and defined in the appended claims.

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

Figure 1 is a plan view of the improved running gears; Fig. 2 is a sectional elevation, on the line 2—2 in Fig. 1, seen in direction of the arrow; Fig. 3 is a transverse sectional view of details near the rear end of the running gears, substantially on the line 3—3 in Fig. 1, seen in the direction of the arrow x ; Fig. 4 is a transverse sectional view of parts, substantially on the line 4—4 in Fig. 1, seen in direction of the arrow x' in said figure; Fig. 5 is a transverse sectional view of details substantially on the line 5—5 in Fig. 3, and seen in direction of the arrows x^2 ; Fig. 6 is a transverse sectional view substantially on the line 6—6 in Fig. 3, seen in direction of the arrow x^3 in said view; and Fig. 7 is a transverse sectional view of the forward portion of the running gears substantially on the line 7—7 in Fig. 2.

In the drawings, 10 indicates the rear axle of the running gears, having the spindles 10^a thereon, 11 is the front axle, 11^a spindles thereon, and 12 a reach bar, connecting the axles in a novel manner as will be hereinafter explained.

On the reach bar 12, at a suitable distance from the rear axle 10, a pair of hounds 13 are mounted at their central portion, said hounds being preferably formed of an I-bar of metal, bent at the longitudinal center, their point of junction a , being curved, and from which two members b , b , extend parallel with each other, these members being

spaced apart by a center block b' as shown in Fig. 1, which block is bolted as at b^2 on the reach bar 12.

From the members b , b , the hounds 13 diverge, and extend rearward, their rear ends lapping upon the upper side of the rear axle 10, at an equal distance from the reach bar 12, which is disposed centrally on the axle. A bolster 14, is mounted upon the ends of the hounds, and also seats upon the reach bar above the axle 10, and upon the lower side of the axle, which may be of wood, a reinforce bar 10^b of plate metal, is secured by the following means.

At each side of and near the reach bar portion that is seated upon the rear axle 10, two clip bands c , c' of usual form, are passed down over the bolster and axle, their lower ends that terminate in short bolts as usual, being provided with nuts that clamp a cross piece upon the axle by engagement with the bolt ends after the cross piece is placed upon the latter.

The clip plates mentioned, not only serve to clamp the bolster upon the reach bar and axle, but also assist in securing the ends of the hounds 13 upon the axle. The bolster is further secured upon the hounds and axle by a pair of clip bands such as is shown in Figs. 3 and 5.

Each clip band consists of a flat metal bar of a suitable width, bent at its center sidewise so as to form a rectangular looped portion c , which embraces an end portion of the bolster 14, with its parallel depending sides c' . The depending sides c' of each clip band, of an equal length, are reduced in width a short distance above the hounds 13 and these reduced portions are given the form of bolt-like extensions c^2 . The clip bands c are positioned directly above the rear ends of the respective hounds 13 and the axle 10, so that their bolt-like extensions c^2 may be inserted down through perforations in the hounds and embrace the axle body, as shown in Fig. 5 for one clip band. On the threaded lower end of each member c^2 of each clip band that has just been described, one end of a brace rod 15 is secured by nuts c^3 , and thence is extended toward the lower side of the hounds 13, whereon said forward ends of these similar braces are secured as shown at c^5 in Fig. 4. Upon the rear axle 10 near each spindle 10^a, one end of a reinforcing brace 16 is clipped, as shown at f in Figs. 1 and 3, and from the

axle said braces extend forward into lapped engagement with the respective portions of members *b*, *b* of the hounds 13, and are rigidly secured thereon by the rivets *b*² *b*² that pass transversely through alined perforations in the members *b*, *b*, braces 16 and center block *b'*, as shown in Fig. 1, thereby firmly uniting the braces and hounds together, and upon the reach bar 12. Upon each end of the bolster 14, a stake 14^a is erected, and supported vertically by two lateral braces and an outer edge brace. The lateral braces *h* for each stake 14^a as shown in Figs. 3 and 6, each are bent from a flat bar of metal, so as to produce a return bend *h'* thereon. The main portion of each brace laps upon the opposite sides of a stake 14^a, and is thereon secured by a transverse bolt *h*², that passes through each of said main portions, as is clearly shown in Fig. 6. The depending return bent portions *h'* of the pair of oppositely disposed braces *h*, embrace the ends of the bolster body 14, and at their lower ends said braces are curved laterally and secured upon the bottom of a wagon body A, indicated by dotted lines in Fig. 6. The brace *h*² which is placed upon the edge portion of each upright stake 14^a that is tenoned in an end portion of the bolster 14, is formed of strap iron, that is bent so as to closely fit it upon the stake, at the side thereof adjacent to the wagon body A, said portion of the brace terminating at its lower end in a threaded bolt that passes down through a perforation in the bolster, and is secured thereto by a nut screwed on the projecting end of said bolt extension, as appears in Fig. 3. The braces *h*² are bent over the rounded upper ends of the stakes 14^a and down in contact with the outer portion of the edge of each stake, to a point near the bolster that projects beyond each stake at its ends.

The depending member of each brace *h*² is bent toward the stake upon which it is mounted, forming a flange *h*⁴ thereon, which seats upon the adjacent end of the bolster 14, and is secured thereon by a bolt or other means, as indicated in Fig. 3.

It will be seen that the braces *h*, *h*² as secured upon the stakes 14^a and bolster 14, strengthen the connection of each stake with the latter, so that the wooden stakes are adapted to withstand strain in any direction.

The improvement embodies a novel construction for a brake rigging, that is constructed as follows: A brake bar 17, which is preferably formed of wood and is provided with suitable shoes *i* for the support of the brake blocks, not shown, is supported below the bottom of the wagon body A at a suitable distance from the rear axle and parallel therewith, by the following described means.

As shown in Figs. 1 and 4, a carrier bar 18 is loosely connected to and arranged parallel with the brake bar 17, by means of two similar hanger irons *k*. Each hanger iron is in the form of a straight bar of suitable length, having a hook *k'* bent on the upper end, and a hook *k*² bent on the lower end thereof at a right angle to the upper hook. At the side of each hanger *k* that is opposite from that from which the hook *k'* projects and near thereto, two spaced flat arms *k*³ project parallel with each other and at a right angle with the hanger body.

The ends of the carrier bar 18 are respectively inserted between a pair of the hanger arms *k*³ and are secured in place by bolts or rivets *l*, as shown in Fig. 4, and as appears in said view, the hanger bar is seated transversely on the hounds 13, and secured thereto by the looped clips *m*, thus affording stable support for the carrier bar.

Upon the brake bar 17 at an equal distance from the shoes *i*, two eye bolts *n* are secured that have a hooked connection with the hooks *k*², which serve to support the brake bar 17 from the carrier bar.

The upper hooks *k'* on the hanger irons *k* may be connected by chains or the like with the bottom of the wagon body A, but this is not absolutely necessary, as the connection of the carrier bar 18 with the hounds 13 affords adequate support for the brake rigging.

Upon the brake bar 17, below the clips *m*, the forward ends of two link rods *o* are secured and thence project toward the clip band *c*, *c'*, as shown in Figs. 1, 3 and 4. On the clip *c*, a box *c*² is formed, and upon the axle 10, near one brace rod 15 another box is clamped, as shown at *p*. In the boxes *c*² and *p*, a rock shaft 19 is journaled that at the end near the box *p* is furnished with an upright lever 19^a. Upon the opposite end of the rock shaft 19 that is positioned below the reach bar 12, a short arm 19^b is formed or secured, upon the sides of which the rear ends of the pair of link rods *o* are lapped and pivoted, as is indicated in Figs. 1 and 3.

It will be seen that by rocking the lever 19^a, the brake bar 17 may be moved toward or from the rear axle 10 for applying the brakes as usual.

The front axle 11 is of an equal length with the rear axle 10 and may be formed of hard wood reinforced with a metal bar 11^b, and it may here be mentioned that the reinforcing metal bars 10^b and 11^b may constitute the main portions of said axles and have the spindles 10^a, 11^a respectively formed integral therewith.

Seated upon the upper surface of the axle body 11 and central thereon, a circle plate 20 is affixed by means presently described, and upon the circle plate a sand board 21 is mounted, which is recessed on the lower

side, as indicated in Fig. 2, said recess r affording clearance for the forward end portion of the reach bar 12, which passes there-through and rests upon the circle plate, as represented in Figs. 2 and 7. At an equal distance from the reach bar, where it passes through the recess r , two offset shoulders r' are formed on the upper side of the sand board 21 by a removal of material. A segmental guide plate 22 is mounted upon the sand board 21, consisting of a flat metal bar, and the ends thereof merge into two flat segment plates 22^a that are equal portions of a circle having the same diameter as that of the circle plate 20.

The guide plate 22 is seated upon the sand board 21, and is so relatively positioned that its edge portion s overlaps the shoulders r' an equal distance, thus affording openings below said edge portions.

As indicated by dotted lines in Fig. 2, the guide plate 22, said board 21 and circle plate 20 are all secured together and upon the axle 11 by bolts t and nuts on the lower ends of the bolts, thereby securing the sand board in the same vertical plane with the axle.

A bolster 23 of an equal length with the bolster 14 and that is designed to seat upon the guide plate 22, is furnished with a wear plate 24 that is secured by the bolts u upon the lower side of said bolster. The wear plate 24 is provided with like hook-shaped flanges v at the ends thereof, which loosely engage the outer edge portions of the segment plates 22^a, being turned toward each other and occupying the recesses or openings below the segment plates at the shoulders r' .

Upon the lower side of the reach bar 12 and rearward of the front axle 11, a looped keeper plate 25 that loosely embraces the circle plate 20, is secured, as is indicated by dotted lines in Fig. 1 and sectionally in Fig. 7.

A curved brace 26 formed of heavy plate metal, is flanged at its rear end w that is bolted upon the lower side of the reach bar 12 adjacent to the keeper plate 25, and thence extends forward and downward into engagement with the lower side of the axle 11.

A king bolt 27 is inserted downward through aligned perforations in the bolster 23, wear plate 24, segmental guide plate 22, sand board 21, circle plate 20, axle 11 and brace 26, the lower end of said bolt having a nut thereon that when properly adjusted, is prevented from retraction by burring the projecting end of the bolt.

The forward end portion of the reach bar 12 is preferably held in loose engagement with the circle plate 20 by a keeper plate 25^a, similar to the keeper plate 25.

Upon the ends of the bolster 23, two stakes 23^a, similar in construction to the

stakes 14^a, are erected, and are reinforced by the braces y, y, y' constructed and arranged in engagement with the stakes and the bolster in the same manner as are the braces h, h^a on the stakes 14^a, which render the stakes durable and capable of resisting strains in any direction, said stakes being spaced apart an equal distance with the rear stakes, so that a wagon body having proper width and vertical sides will be held in place laterally by the stakes, as is indicated in Fig. 3.

It will be seen that the construction of the parts and their relative association with the reach bar 12 and front axle 11 that has been described, affords a very strong, free swinging movement of the axle in either direction, sufficient to enable the running gears to turn in a circle of small diameter. The wide bearing provided between the circle plate and the segmental guide plate, prevents side lurching of the gears, and adapts the wagon having the improved running gears for easy movement over a rough road-bed.

The provision of the integral hounds 13 and braces 15, 16, therefor, renders the connection between the reach bar and rear axle very strong and light, and adapted for resisting lateral or torsional strains incurred in travel over a road that is uneven.

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

1. In running gears, the combination with a front axle, a circle plate, and a reach bar, of a sand board mounted upon the circle plate and upon the reach bar, a segmental guide plate on the sand board, a wear plate having hooked engagement with the segments on the guide plate, and a bolster secured on the wear plate.

2. In a running gear, the combination with the front axle, of a circle plate, a reach bar to which the circle plate is secured, a sand board mounted upon the circle plate, said sand board being recessed on its under side to receive the reach bar and provided on its upper side with shoulders, a guide plate secured upon the sand board and projecting beyond the shoulders thereof, and a bolster provided on its under side with a wear plate having hooked-shaped flanges engaging the guide plate.

3. In a running gear, the combination with the front axle, of a circle plate, a sand board mounted upon the circle plate, said sand board being recessed on its under side and provided with shoulders on its upper side, a segmental guide plate on the sand board and projecting beyond the shoulders thereof, a bolster having on its under side a wear plate provided with hooked-shaped flanges engaging the guide plate, a reach extending through the recess of the sand board with its end projecting beyond the circle

plate, and a king bolt passing through the several parts.

4. In running gears, the combination with a front axle, a circle plate thereon, a reach
5 bar extended across the circle plate and loosely secured thereon, and a sand board recessed on the lower side and mounted upon the circle plate, of a segmental guide plate seated upon the sand board, a wear plate
10 having hooked ends that loosely engage the outer edges of the guide plate segments, a bolster whereon the wear plate is secured,

means for securing the sand board and circle plate on the axle, and a king bolt that pivots the bolster and wear plate on the guide plate 15 and also pivots the reach bar upon the axle.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM JAMES OTT.

Witnesses:

MARY M. JOHNSON,
JAMES P. MARTIN.