

(No Model.)

2 Sheets—Sheet 1.

F. FISCHER.
WAGON.

No. 570,467.

Patented Nov. 3, 1896.

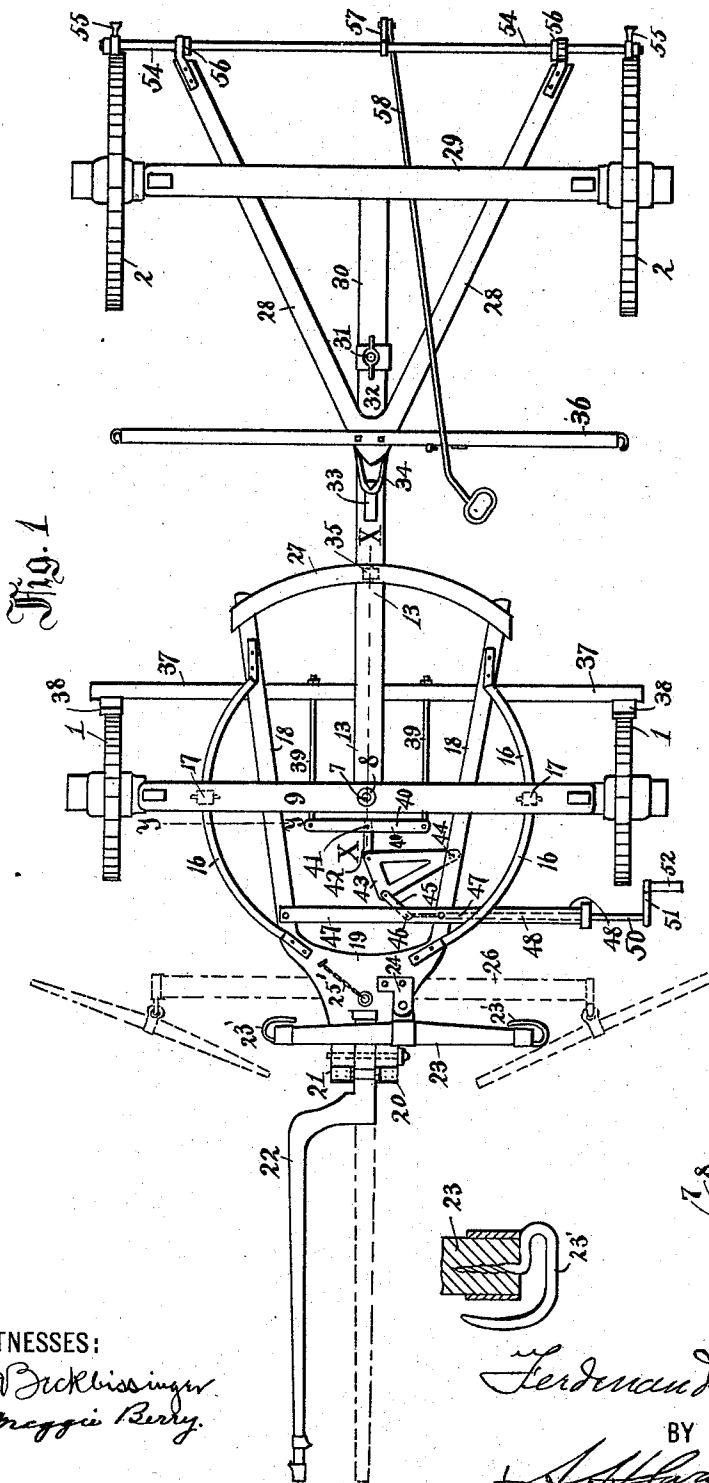


Fig. 1

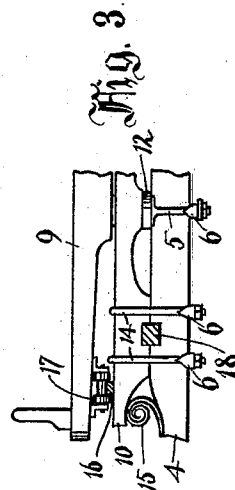


Fig. 3

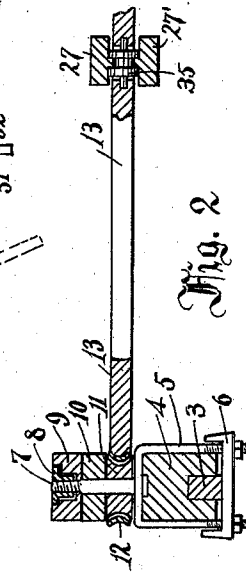


Fig. 2

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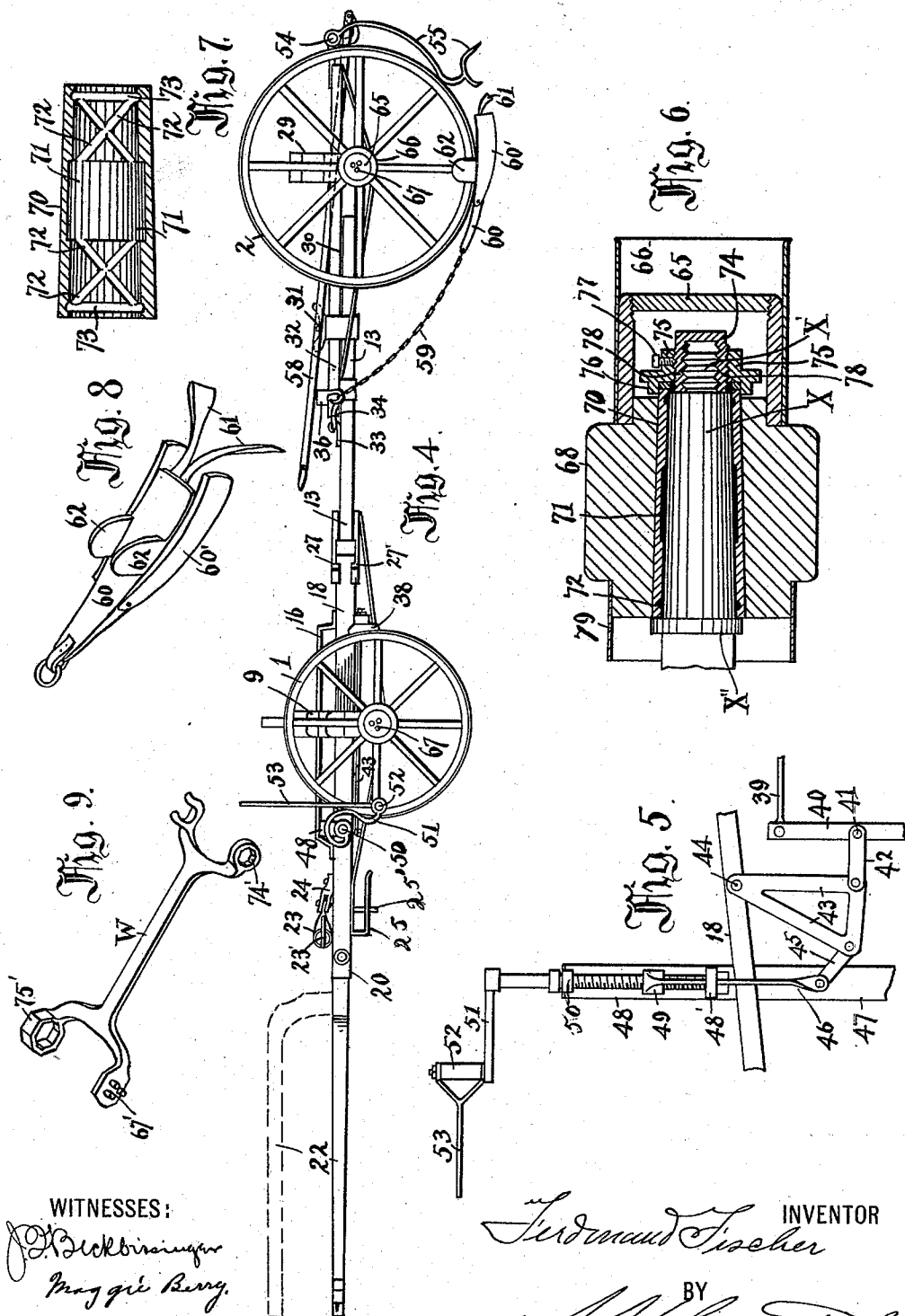
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WITNESSES:

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UNITED STATES PATENT OFFICE.

FERDINAND FISCHER, OF CHESANING, MICHIGAN.

WAGON.

SPECIFICATION forming part of Letters Patent No. 570,467, dated November 3, 1896.

Application filed April 11, 1896. Serial No. 587,109. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND FISCHER, a citizen of the United States, residing at Chesaning, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Wagons; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention is a wagon; and it consists of the improved parts, their arrangement and combination.

Figure 1 is a top view. Fig. 2 is a sectional detail on line Y Y of Fig. 1. Fig. 3 is a front view of part of axle and bolsters. Fig. 4 is an elevation of the wagon. Fig. 5 is a view of the brake from underneath. Fig. 6 is a section of wheel-hub and axle. Fig. 7 is a sectional view of axle-box. Fig. 8 is a perspective of brake-shoe. Fig. 9 is a wrench adapted for use on the wagon.

In the drawings, 1 1 are the front wheels, and 2 2 are the rear wheels.

3 is the metal axle, which is rectangular in form and set in the wooden axle with its longest diameter vertical, thus giving the axle more strength than if horizontal. This axle is set about two-thirds of its width into the wooden part 4 and secured therein by the clamps 5 and 14, which have the improved clip or cross-piece 6, having the ears 6' extending up along the side of the clamp and adds strength to it. Extending upward from the center clamp 5 is a square bolt 7 in the place of what is commonly known as the "king-bolt." This bolt 7 passes up through the sand-board 10 and the top bolster 9, and is held in place by the nut 8, countersunk in the bolster 9. Between the sand-board and the axle and journaled on the bolt 7 is a pulley 11, having the band 12 connected to the end of the reach 13 running over it.

16 16 are curved tracks connected to the hounds 18 and resting on the sand-board 10 just back of the end of the bolster 9.

Journaled in the under side of the bolster 9

and at each end is a roller 17, adapted to run on the track 16 as the bolster is turned, thus supporting the ends of the bolster on the track and preventing the tipping of the load if unevenly loaded or thrown to one side by the wheels passing over an uneven road. Between each end of the sand-board and the axle is a coiled spring 15 resting upon the axle and adapted to receive the strain thrown upon the end of the sand-board by the tipping of the load, &c.

As stated, 18 are the hounds of the wagon, and are connected by the tree 19 in front and stayed by the curved cross-piece 27 in the rear. The hounds are different from other wagon-hounds, as they extend nearer the wheels and are connected different in front. The tree 19 has two frontwardly-extending arms 20 and 21, between which the tongue 22 is fastened in any desirable way. This tongue is peculiar in shape, and because of its peculiarity is adapted to be used as a thill for a single wagon. Just in front of its engagement with the tree the tongue bends or crooks to one side for the proper distance and extends frontwardly. When used as a tongue, this bow is placed vertically, as shown in dotted lines in Fig. 4; but to use the tongue as a thill it is turned one-half down, thus making room for the horse directly in front of the center of the wagon. The singletree 23 may then be attached to strap 24, and the wagon thus converted into a single wagon.

When used as a double wagon, the double-tree 26 is placed in the hook 25 underneath the hounds, the pin 25' holding it in place.

23' is a peculiar-shaped hook for the end of the whiffletree for holding the trace.

28 are the hounds on the rear axle and extend rearward beyond the axle, as will hereinafter appear.

29 is a bolster on the top of the rear axle, and 30 the rear reach, which has the clips 32 extending below it and adapted to receive and clamp the front reach 13 to the rear reach and be bolted together by the bolt 31. The ends of the hounds 28 have a loop 34, adapted to be engaged by the hook 33 on the top of reach 13 as it is clamped to the reach 30.

35 is a roller journaled in the reach 13 between the half-circles 27 and 27', as shown in

Fig. 2, and as the front truck is turned out of line the reach 13 turns between the half-circles without friction.

x is the arm of the axle, and is of usual form, except that it is shorter and has but one screw-collar x'' .

x' is the screw-threaded end of the axle, adapted to receive the nut 74. This nut 74 has also a threaded outer surface 78, receiving collar 75, adapted to be screwed onto it and fit the end of the hub, the nut 74 fitting the end of the axle, the collar 75 having the annular shoulder 76 fitting the end of the hub.

77 is a set-screw securing the collar 75 to the nut 74 when it has been adjusted as described, and they may therefore both be moved together. I am enabled by this construction of the nut to adjust the nut to the wear of the axle and hub by securing the collar 75 farther in on the nut without cutting back the arm, as is common.

70 is a boxing for the hub 68. It has a middle annular broad groove 71, and extending from this groove are smaller ones running diagonally across the inner surface of the hub, from the large groove 71 to small annular grooves 73 near the edge of the hub, the bearing-surface of the hub on the arm being between these grooves only. The large groove 71 forms a reservoir for oil or grease, the smaller grooves being feeders to the bearing-surfaces. The smaller grooves at the ends collect the grease, or prevent its getting beyond them.

79 is a band on the rear end of the hub, extending beyond the rear end of the hub and arm for the purpose of preventing sand and dirt getting into and beyond the collar x'' . The hub has a similar band in front for the same purpose, 66, and also to form a cap for the end of the hub, as will be seen. The inner surface of this collar is threaded and adapted to receive the cap 65, which screws therein, forming a neat finish for the end of the hub, and covering up the nut and preventing it from falling off or unscrewing if the cap 65 is screwed in far enough. This cap 65 is provided with two or more small holes 67, (shown in Fig. 4,) by means of which I am able to tighten and loosen the cap in the hub by using the wrench with the prongs 67' fitting these holes. After the cap has been removed the end 74' of the wrench W will fit the nut 74, and the end 75' will fit the collar 75 of the nut and adjust it after the pin 77 has been removed.

I adapt my wagon for use on hilly and mountainous country by attaching my improved brake, viz: 38 are the shoes of the brake and are applied to the front wheels. These shoes are carried on the bar 37, supported underneath the hounds, and are operated by the rods 39, extending from the bar 37 beyond the front of the axle and connected to the bar 40 parallel with 37, and having the draw-bar 42 connected to it. This bar 42 is pivoted at the

right angle of the triangular piece 43, which is pivoted to one of the hounds 18 at its acute angle. It is pivoted at its other angle to the bar 45, connected to the rod 46, supported in the lug 48' under brace 47, connected to the hounds 18. The bar 46 terminates at its opposite end in a threaded traveling nut 49 on the threaded rod 48, also supported underneath the brace 47 by the lugs 48' and 50, and terminates in a crank 51 and handle 52, having an extension-handle 53, adapted to reach to the wagon-seat. It is obvious that by turning the crank 51 the rod 46 may be moved out or in, thereby moving the triangle piece 43 and also the brake-shoes connected as described, thus affording means for setting the brake, the leverage being great.

At the rear of the wagon and supported by and journaled in the hounds 28 by the boxes 56 is the horizontal shaft 54, having rigidly secured thereto and depending from at each end directly in the rear of the wheel 2 the arms 55, having a forked end adapted when turned down to engage the earth just in the rear of the wheel and be engaged by the wheel as it moves backward, and to prevent the wagon from going backward, and is meant for use in ascending hills when it is necessary to stop the team, and may be used in connection with the brake described.

60 is my improved rear-wheel shoe-brake, (shown in Fig. 8,) and consists of the bed-piece 60, having side runners 60' and upwardly-extending lugs 62 and the flanged tail-piece 61. It is connected by chain 59 to the cross-piece 36, carried by hounds 28. Its use is as follows: When descending a hill, the shoe is connected, as shown in Fig. 4, thus preventing the wagon from descending too fast. If the hill is very steep the tail-pieces 61 may be attached, so as to engage and cut into the earth, thus making the movement more difficult.

It will thus be seen that my wagon is designed especially for mountainous country, still parts of it may be applied to any wagon or vehicle.

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

1. In a wagon, the combination with the wheels, the axle, the pulley 11, and the reach 13, of the rear reach 30 and hounds and clamps securing the rear reach and hounds together, and a hook on the front reach and a loop on the rear hounds engaging the hook, as specified.

2. In a wagon, the combination with the front and rear truck of a reach extending from engagement with a pulley on the front axle, to the rear hounds, and a reach extending from the rear axle frontward and engaging the front reach and held thereto by clamps, and a hook on the front reach engaging a loop on the front end of the rear hounds, as specified.

3. In a wagon, a brake for the wagon, com-

prising shoes carried on a transverse bar at the rear of the front truck a screw-threaded crank-shaft in front of the axle, a traveling nut on the screw-threaded crank-shaft, connecting to a series of pivoted levers, the levers connected to the transverse bar carrying the shoes, whereby the crank-shaft is turned, the nut will travel in one direction and draw the shoes to the wheel, and when turned in the opposite direction will push them away, as specified.

4. In a wagon-brake, the combination with a series of levers arranged in front of the front axles, two parallel levers extending back of the front axle and connected to a rod carrying brake-shoes adapted to engage the front wheels, and the brake-shoes, and a threaded crank-shaft in front of the front axle carrying a traveling nut connected to one of

the series of levers, and a crank for turning the shaft, as specified.

5. In a wagon-frame, the combination of a shaft journaled in the rear extension of the hounds of the rear truck, rods connected to the shaft and adapted to be turned down just at the rear of each wheel of the rear truck and having forked ends adapted to engage the earth, and a lever connected to a crank on the shaft and extending upward and forward so as to be engaged by the operator and adapted to turn the shaft, substantially as and for the purpose set forth.

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

FERDINAND FISCHER.

Witnesses:

A. H. SWARTHOUT,
JAKE MOILES.