

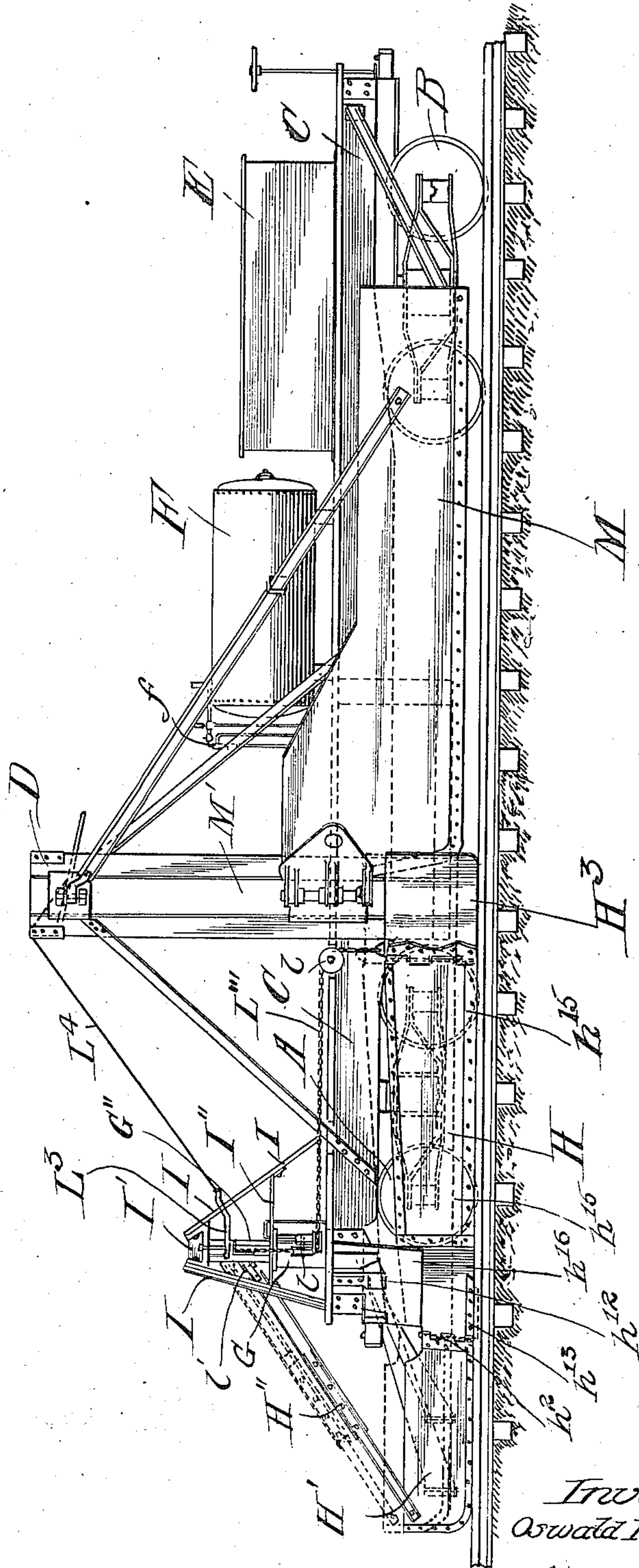
963,773.

O. F. JORDAN.
RAILROAD SPREADER.
APPLICATION FILED JUNE 7, 1909.

Patented July 12, 1910.

5 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
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John R. Lepore.

Inventor:
Oswald F. Jordan

by *Arthur W. Nelson*
Att'y.

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5 SHEETS—SHEET 2.

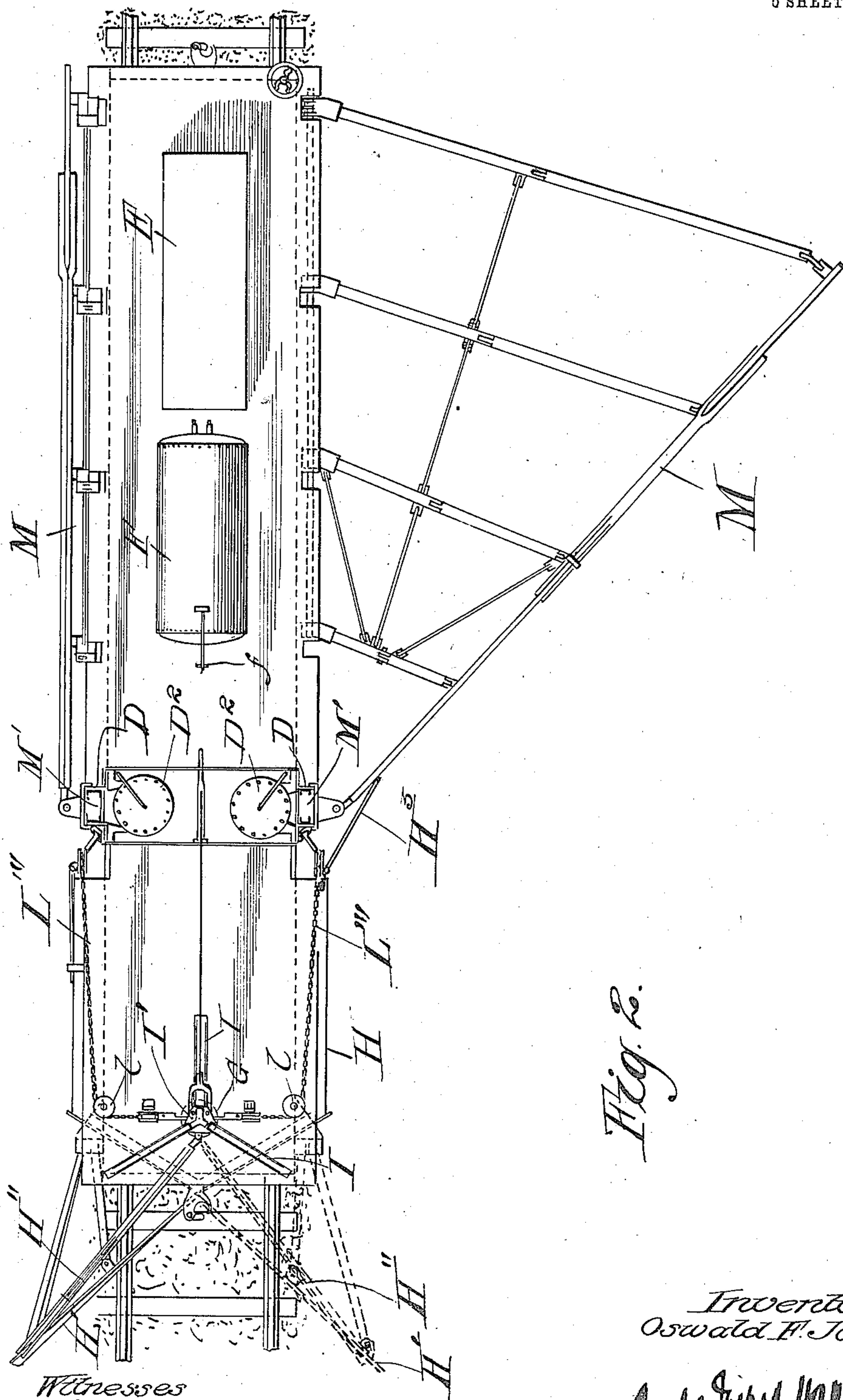


Fig. 2.

Witnesses
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John R. Leeper.

Inventor:
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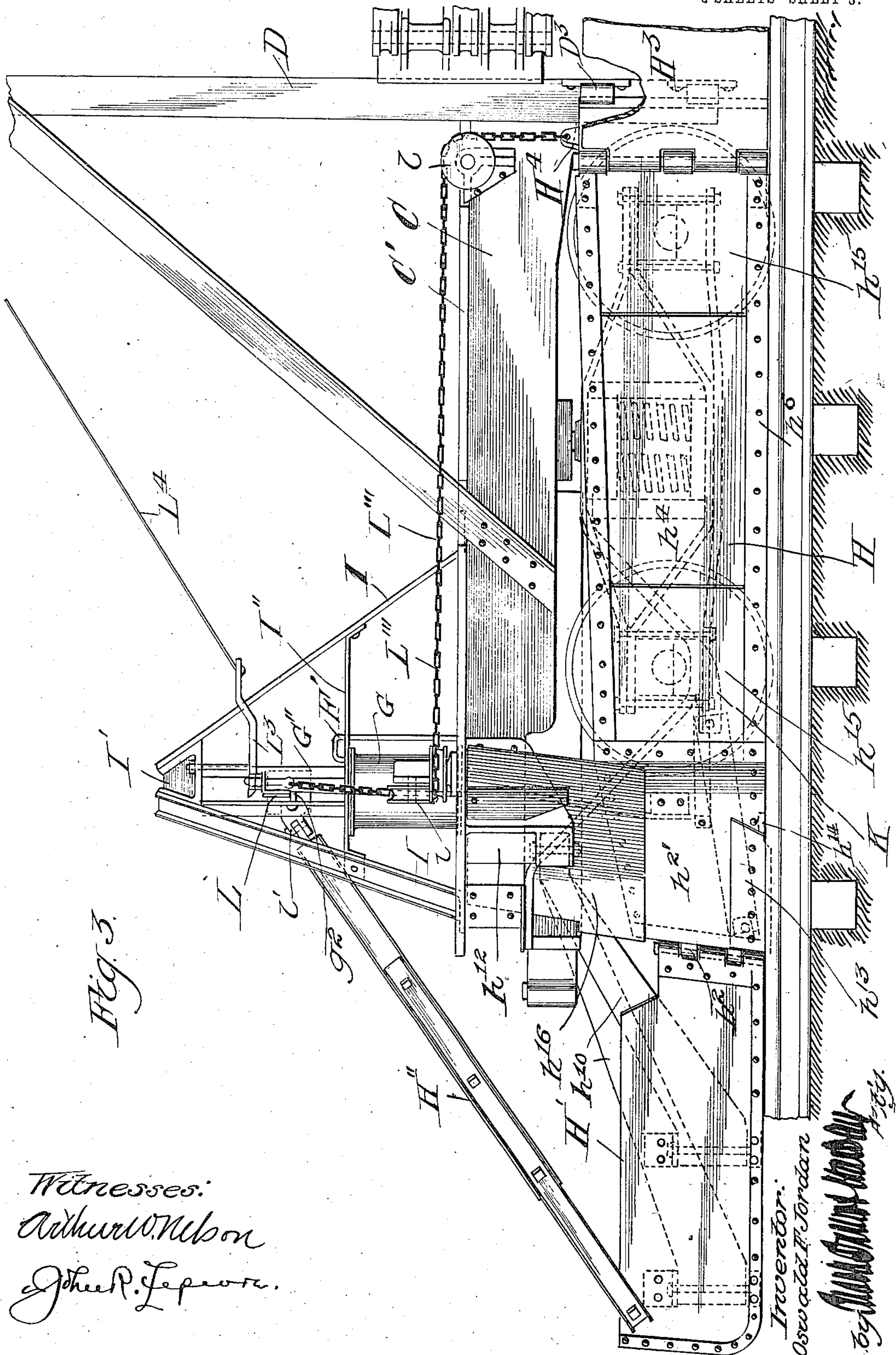
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5 SHEETS—SHEET 3.



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5 SHEETS—SHEET 4.

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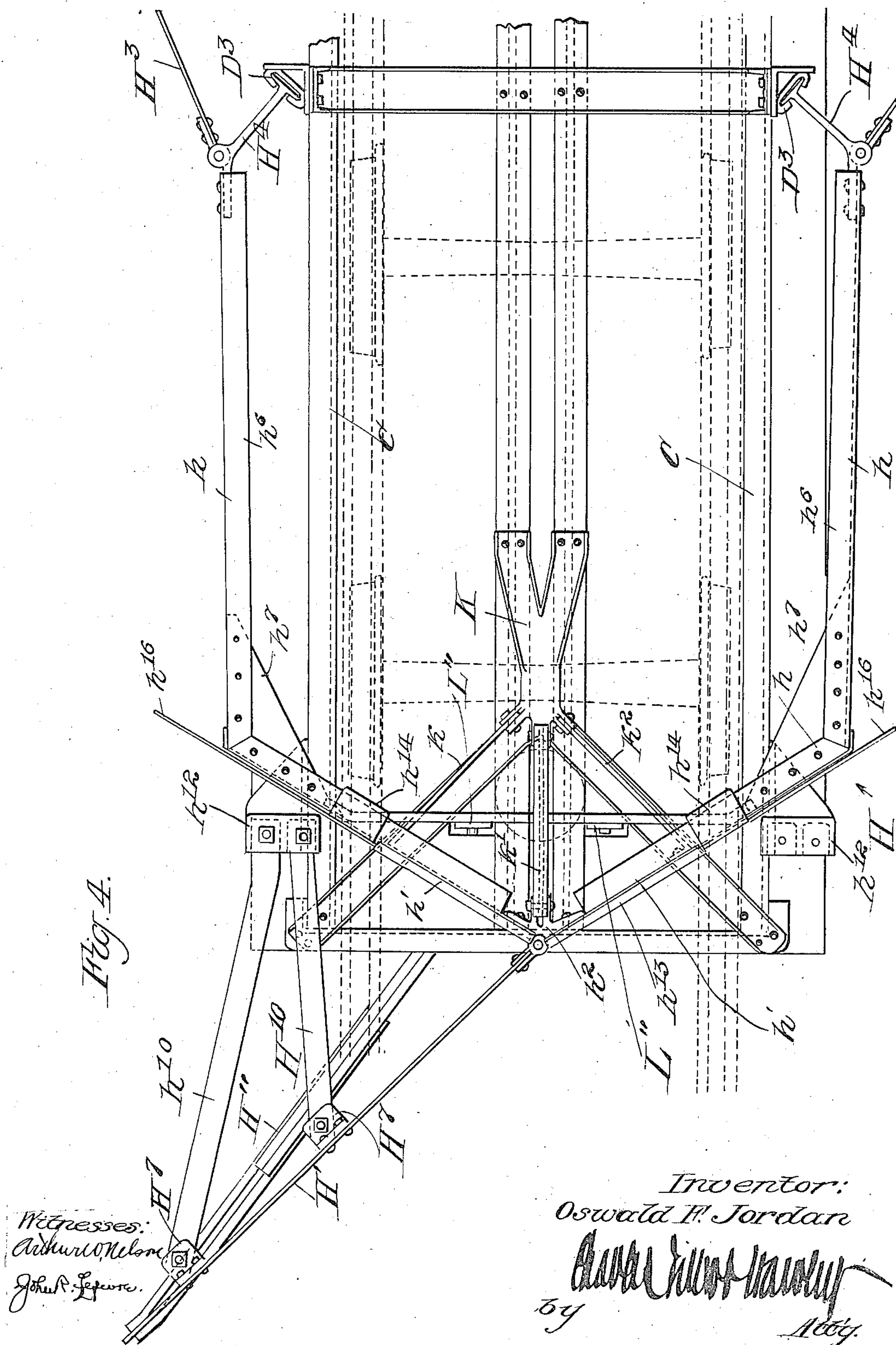
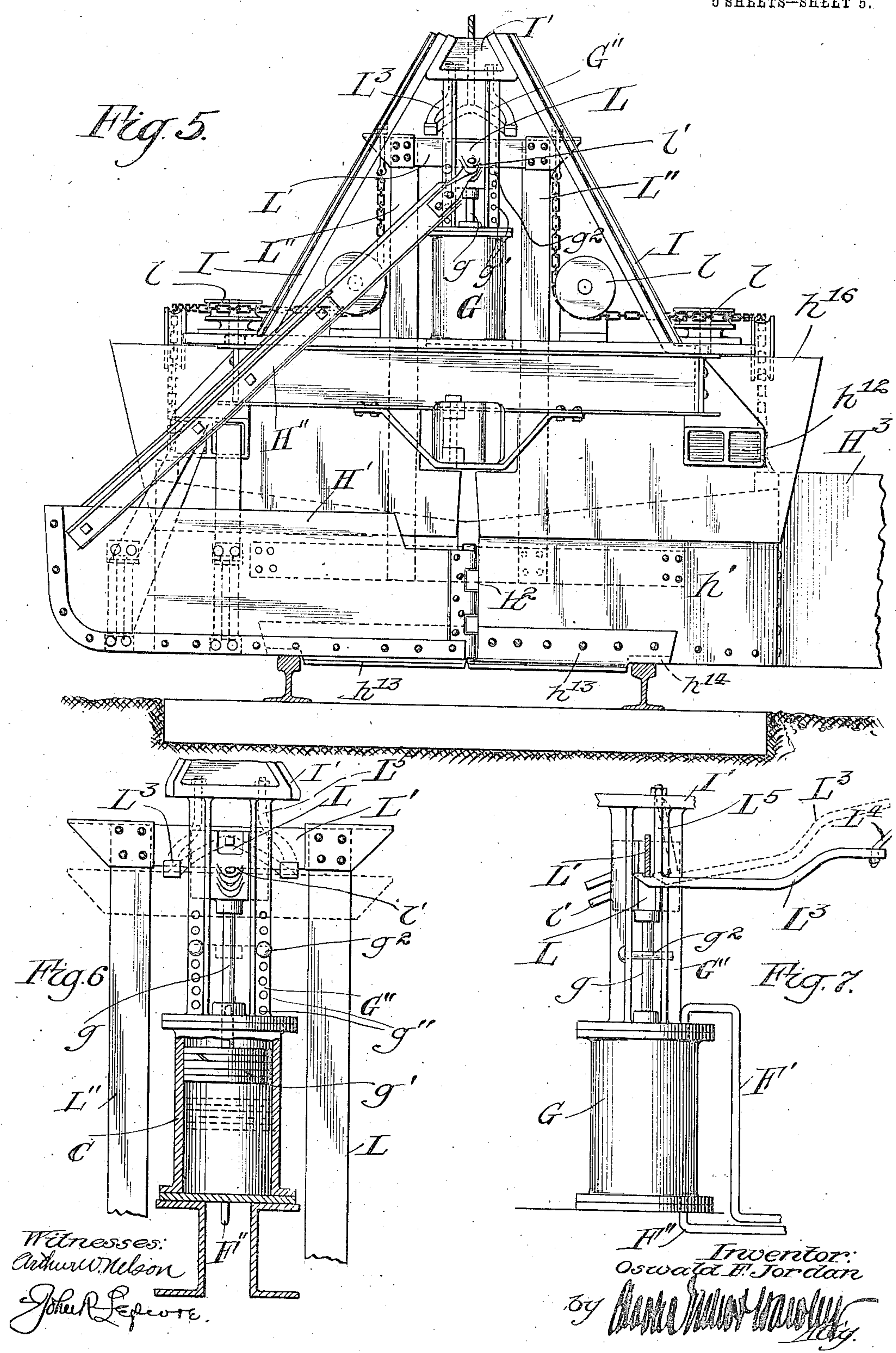


Fig. 4.

Witnesses.
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Inventor:
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Alfred Vincent Hawkey
by 1864.



UNITED STATES PATENT OFFICE.

OSWALD F. JORDAN, OF CHICAGO, ILLINOIS.

RAILROAD-SPREADER.

963,773.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed June 7, 1909. Serial No. 500,492.

To all whom it may concern:

Be it known that I, OSWALD F. JORDAN, a citizen of the United States, and resident of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Railroad Spreaders or Plows, of which the following is a full, true, clear, and exact description.

My invention relates to improvements for machines for constructing railways and has particular reference to improvements in railway spreaders of the kind used for distributing or spreading road bed or ballasting material. Such machines are also used for surfacing or grading railway road beds and rights of way. Machines of this class usually consist of a car of about the dimensions of a railroad flat car equipped with wings or side plows for pushing aside or spreading ballasting material previously deposited on the tracks. Some of these machines have been equipped with front end plows, others have only small wheel protecting scrapers or flanges. It frequently occurs that ballast or other material is dumped on the wrong side of the track or it may be found on both sides, or directly on the track, when the material should have been dumped all at one side. In such cases it is necessary to transfer the material from one side or the other of the track and the primary object of my invention is to provide a railroad spreader, by which such transfer of material may be quickly and cheaply accomplished.

A particular object of my invention is to provide a front truck plow which shall be adapted to shift or convey ballasting or other material from a considerable distance on one side of a railroad track to the other side thereof and also to clear material from between the tracks.

A further particular object of my invention is to provide an improved front truck plow adapted to be secured to railroad spreaders of various kinds for the purpose of shifting or conveying ballasting material from a considerable distance on one side of the railroad track to an extreme distance on the opposite side thereof and to level or surface the road bed or way in the same operation.

A further special object of my invention is to provide an improved front truck plow which shall be automatically operable and

yet under manual control, concerning the raising and lowering of the plow and the holding of the plow down to its work.

Still further objects of my invention will appear hereinafter.

With these objects in view my invention consists generally in a railroad spreader of the construction and combination of parts hereinafter described and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which;

Figure 1 is a side elevation of an improved railroad spreader embodying my invention; Fig. 2 is a plan view thereof; Fig. 3 is an enlarged side elevation of the forward part of the machine showing my improved front end plow and its operating mechanism, all in a working position; Fig. 4 is a plan view, from beneath, of the improved plow showing the manner of securing the same to the car, also the system of bracing, the rails and car wheel being shown in dotted lines; Fig. 5 is a front elevation of the plow and operating mechanism; Fig. 6 is an enlarged view of the engine and connecting parts for raising and lowering the plow, the full lines illustrating the idle position and the dotted lines illustrating the working position; and Fig. 7 is a side elevation on the line X—X of Fig. 6.

In general appearance the body of my railroad spreader resembles an ordinary flat car. Because of this resemblance and to simplify the description of the same, I shall refer to the same as comprising a car which as shown in Figs. 1 and 2 is equipped with a front plow, H, side plows or wings, M—M, and various parts co-acting with these plows, for bracing or holding and for operating the same. In practice a locomotive is used for pushing the spreader along the track and the office of the latter is to spread, distribute or shift ballast or other material previously deposited on or at the sides of the track. The car or body portion of the machine may be constructed of wood or metal, or may be a composite structure. This is true also of the plows, but as indicated in the drawings, I prefer that the plows shall be all metal structures, particularly the front plow. The main part of

the front plow is V-shaped and occupies a position directly in front of the front truck of the car. An auxiliary part or extension projects forward or laterally from the apex of the plow, H. Side plates extend rearwardly from the main section of the plow, as shown in Figs. 1 and 2, and serve to prevent material from falling inward upon the truck. This whole structure is vertically movable on the front end of the car and is lowered upon the rails only when work is to be done. In the drawings A and B represent the front and rear trucks. As a rule I make the underframe C, of the car narrower than usual in flat cars, as it is desirable that the plows shall work as close as possible to the rail. The floor, C', of the car is laid on the underframe and extends from end to end thereof. Just behind the front truck I provide suitably braced columns, D—D, for movably supporting the spreader wings, M—M. In fact these columns serve as guides for the spreader wing posts, M'—M'. The columns preferably extend downward to a point close to the rails and the lower parts as hereinafter described, carry vertical guides for the rear ends of the front plow.

I have described the side wings or side plows in detail in a companion application of even date herewith and shall not claim the detailed construction thereof in this application, nevertheless I desire that it shall be understood that my invention embraces and includes broadly, side wings and plows in combination with the herein described front plow, one of the purposes of my invention being to move material from one side of the track far to the other side thereof.

It will be evident from this specification that my invention may be carried out with side wings or plows of various forms and therefore is not limited to such as are herein shown. I also desire that it shall be understood that so far as the front plow is concerned, my invention is not limited to the use of such a plow upon a side wing spreader.

The rear part of the car deck or floor is occupied by a dunnage chest, E. A little forward of the chest E, I locate a compressed air or steam reservoir, F, from whence the several engines for operating the front plow and the spreader wings are supplied by a system of piping hereinafter described. At the forward end of the car I locate an engine (the principal part of which is the cylinder, G), the office of which is to operate the front plow, H. The spreader wings can be raised and lowered by the compressed air engines, D²—D², located on the columns, D—D, and can be swung out and retracted by other air engines secured to the underframe of the car.

The engine for operating the spreader wings and for operating the plow all receive power from the common reservoir, F, and the arrangement of the valves for controlling the admission and exhaust of air at the several engines are so located that they can be operated from a central point on the car.

As hereinafter more fully explained the front plow is suspended from the engine, G, and the latter or the structure in which it is held, is obviously called upon to withstand a considerable part of the working thrust of the plow. The engine proper comprises the cylinder, G, which is securely fastened to the underframe of the car, the cross head guides, G'', on top of the cylinder, the cross head, L, the piston rod, g, and the piston, g', within the cylinder. To hold these parts in rigid alinement and against the thrust exerted on the cross head, I form or attach the cross head guide bars, G'', to the triangular block, I', and brace the same by three or more heavy channel beams or bars, I, together with a suitable number of horizontal diaphragms or braces, I''. In this manner I construct upon the front end of the car an engine and engine frame of sufficient strength to hold and to operate the plow under all conditions. The cross head, L, has a plate member, L', secured therein which extends an equal distance on each side of the cross head. Plow supporting members, L''—L'', are secured to the member L', and serve to support the main weight of the plow proper, H. At the rear end of the plow, the side members are supported by the chains, L''', which are also secured to the member, L', in the cross head, passing over suitable sheaves, l, and being secured to a lug at the rear end of the plow, provided for that purpose. The wing member, or extension, H', of the plow is supported at its forward end by the telescopic, adjustable, brace, H'', which is rigidly secured to the wing, H', and pivotally secured to the cross head, L, in the lugs, l', provided for that purpose. The rear end of the wing, H', is hinged in the casting, h², which also serves to connect the nose members, h', h', of the plow, H. It will thus be seen that the cross head, L, supports the whole plow including the extension member, H', thereof. I am able to raise and lower the plow by simply moving the cross head. This is accomplished by the engine, G. Suitable pipes, F', F'', communicate with the compressed air cylinder, F. The pipe, F', is used for admitting air above the piston, g', the pipe, F'', for admitting air below the piston. A valve, f, at the juncture of these pipes, serves as a means of regulation and control. This is of well known construction and need not be described in detail. The valve as shown is preferably located near the middle of the car in convenient

proximity to the operating valves of the other engines.

For supporting the plow, in its lowermost or working position, I employ the cross pins, g^2 , (see Figs. 6 and 7). These may be placed at different heights in the rows of holes, g'' , in the cross head guides, G'' . The weight of the plow is usually sufficient to hold it down to its work, but when necessary I admit air above the piston in the cylinder, G , and exert additional downward thrust on the plow. When it is desirable to positively hold down the rear end of the plow, *i. e.* the side wings or aprons, h , I substitute rigid levers for the supporting chains, L''' , pivoting the levers midway of their length and connecting the rear ends thereof to the plow by suitable rigid links. The full lines in Fig. 6 show the position of the cross head and other parts when the plow is in its inoperative or idle position and the dotted lines represent the operating or working position.

L^3 is a device or latch for automatic engagement with the cross head when the latter is raised, serving to support the same and the plow in raised position. As shown in Figs. 6 and 7, this device is in the form of a yoke which straddles the cross head guides. It has a long weighted handle to which an operating cord or rope, L^4 , is attached. The working end of the latch is supported by link bolts, L^5 , so that it may swing back and forth as indicated by full and dotted lines in Fig. 7. Before the plow can be lowered, the latch must be removed, and at such times it is usual to operate the engine and relieve the latch from the weight of the plow. The latch is then drawn back and the plow may be slowly lowered until the cross head rests on the stop pins, g^2 . When the plow is elevated by means of the air engine, the cross head bar, L' , strikes the beveled ends of the latch and forces it back out of the way until the cross head is fully raised, whereupon it automatically swings back beneath the bar, L' , and locks the plow in raised position.

Referring now to the structure of the plow, H , this is made up of the V forming members, h' , and the side or apron members, h , preferably formed of steel plates h^2 and h^4 , having their edges strengthened by angle irons, h^5-h^6 . The side wings or aprons, h , contain holes opposite the journal boxes of the front truck. These holes are closed by plates, h^{15} , which if desired may be hinged, to afford easy access to the journal boxes. The plates, h^4 , of the plow nose members, h' , are bent inwardly and securely riveted to the side members, h . The plate member, h^7 , secured to the side members, h , and nose members, h' , serve to strengthen the same. The nose members are rigidly connected by the casting, h^2 . The casting, h^2 , also serves

as a hinge butt for the wing member, H' . The wing member, H' , is suitably braced by struts, h^{10} , which are secured in the lug, H^7 , on the wing, H' , and in the casting, h^{12} , secured to the underframe of the car. As the wing, H' , is capable of use on either side of the car, I provide a thrust casting, h^{12} , on each side. To shift the wing, H' , I remove the struts, h^{10} , and put them on the other side of the car and swing the wing, H' , on the hinge, H^2 . It is necessary at such times to reverse the lugs, H^7 , on the wing to accommodate the braces on the other side. The dotted lines in Fig. 2, show the wing secured at the opposite side of the car. The wing pin of the extension is removable and by taking this out and loosening the ends of the struts the wing may be freed and removed from the truck plow. The plow, H , has to withstand a considerable thrust caused by the impinging of the ballasting or other material against its face. I preferably transmit the greater part of this thrust directly to the underframe of the car. This is accomplished by use of the Y-shaped casting, K , which is rigidly secured to the center and the side sills of the car being bowed down at the middle under the car axle. From the low point on the member, K , under the car axle, a number of braces, k , k' , and k^2 , extend to and are secured to the nose member, H' , of the plow. These serve to transmit the thrust to the car underframe. The thrust on the wing member, H' , is partly taken up and transmitted to the car underframe by the struts, h^{10} . It will be seen that this is a very substantial construction, well able to stand the heavy strains to which it is subjected when in use.

The plow when in use preferably rests upon the car rails. I therefore provide steel shoes, at the points where the plow touches the rail. These are formed by the parts, h^{15} , of the flanged steel plates, h^{13} , on the members, h' , of the plow. It will also be noticed that the member, h^{13} , extends a little below the top of the rail and is flared forward between the rails. It will also be noticed that the members, h^{13} , extend close to the inner sides of the rails. This is best shown in Fig. 5. The members, h^{13} , serve to clear material from between the rails and also the top of the rails.

Heretofore no successful plow has been produced to displace material close to the sides of the rail. I am able to do this with my plow, because the nose members of the plow are very near to the truck pivot. The plow therefore closely follows the course of the front truck in passing a curve. The car in being propelled along the track encounters the material which has been deposited beside and between the rails. The wing member, H' , serves to shift material from the side of the track to a point where it is

connected to the nose, h' , of the plow, H , from whence the plow pushes it to the side of the track. The material in striking the nose, h' , has a tendency to pile over the top of the plow. To prevent this I use shield members, h^{10} , which are secured to the front of the car and extend downwardly below the top of the plow. To hold the rear ends of the aprons h , against the lateral movement, I preferably provide them with rigid angle plates, H^4 , which rest against the columns, $D-D'$. The plates, H^4 , are provided with T heads and these are held and guided in guides, D^3 , on the columns. It will be noted that there are gaps between the rear ends of the front plow and the forward ends of the side wings, M . To close these gaps and to avoid an abrupt angle between the front and side plows, I employ the auxiliary wings, $H-H^3$. These I hinge upon the members, H^4 , as best shown in Figs. 3 and 4. The rear ends of the auxiliary wings, H^3 , need not be attached to the side wings and are left free to swing against the same. They are preferably folded forward against the aprons of the front plow when the spreader is not in active use.

As various modifications of my invention will readily suggest themselves to one skilled in the art, I do not limit the invention to the specific structures herein shown and described.

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

1. The railroad spreader herein described, comprising a car, in combination with a front truck plow supported by said car, having a forwardly and outwardly projecting extension and therewith adapted to shift or convey material from a considerable distance on one side of the track to the opposite side thereof, substantially as described.

2. The railroad spreader herein described, comprising a car, in combination with a front truck plow supported by said car, having a forwardly and outwardly projecting, reversible extension and therewith adapted to shift or convey material from a considerable distance on one side of the track to the opposite side thereof, and a spreader wing at the side of said car whereby material conveyed thereto by the plow may be further distributed, substantially as described.

3. The railroad spreader herein described, comprising a car provided with a front truck plow having an adjustable extension adapted to shift or convey material from a considerable distance on one side of the tracks to the opposite side thereof, in combination with spreader wings at the sides of the car whereby material conveyed thereto by said plow may be distributed at the side of the track, substantially as described.

4. The railroad spreader herein described,

comprising a car, in combination with a vertically movable front truck plow supported by said car and adapted to shift or convey material from a considerable distance on one side of the tracks to the opposite side thereof, fluid actuated means for raising said plow and for pressing said plow downwardly while at work, substantially as described.

5. The railroad spreader herein described, comprising a car, in combination with a vertically movable front truck plow supported by said car, fluid pressure means for raising said plow and for pressing said plow downwardly while at work, and suitable stop means for limiting the downward movement of the plow, substantially as described.

6. The railroad spreader herein described, comprising a car, in combination with a vertically movable plow on the front end thereof, an adjustable stop for said plow, and fluid pressure means for pressing said plow downward against said stop, substantially as described.

7. The railroad spreader herein described, comprising a car, in combination with a front truck plow, a vertically movable cross head suitably supported on said car, means for suspending said plow from said cross head and suitable means for moving said cross head, substantially as described.

8. The railroad spreader herein described comprising a car, in combination with a front truck plow, a vertically movable cross head supported on said car, stop means for said cross head, means suspending said plow from said cross head, and fluid pressure cross head operating means, substantially as described.

9. The railroad spreader herein described comprising a car, in combination with a front truck plow, a vertically movable cross head suitably supported on said car, guides for said cross head, suitable means suspending said plow from the aforementioned cross head, stop means for said cross head, suitable means for pressing said cross head downward against said stop, substantially as described.

10. The railroad spreader herein described comprising a car, in combination with a front truck plow, a vertically disposed cylinder on said car, a piston in said cylinder, a piston rod secured to and supporting a cross head, suitable means for suspending said plow from said cross head, fluid pressure means for actuating said piston to move said cross head, and adjustable stop means to limit the downward movement of the cross head, substantially as described.

11. The railroad spreader herein described comprising a car, in combination with a front truck plow, a vertically disposed engine on said car, a piston therein having a piston rod connected to a cross head, suit-

able means suspending said plow from said cross head, suitable guides for said cross head, adjustable stops in said guides, fluid actuated means for pressing said cross head downward against said stops to hold the plow in working position, substantially as described.

12. The railroad spreader herein described, comprising a car, in combination with a front truck plow, a cross head suitably supported on said car and vertically movable in cross head guides, suitable means for suspending the aforementioned plow from said cross head, a wing member hinged on said plow and projecting at an angle therefrom, a telescopic brace secured to and extending between the aforementioned cross head and the end of the hinged wing member for supporting the same, substantially as described.

13. The railroad spreader herein described, comprising a car, in combination with a front truck plow, a vertically movable cross head, a vertically disposed cylinder on said car, a piston therein, a piston rod connected to said cross head, suitable cross head guides, suitable means suspending said plow from said cross head, cross head stop pins, in said cross head guides, a wing member hinged on said plow and extending at an angle therefrom, a telescopic brace secured in the aforementioned cross head and connected to the end of the plow wing member for supporting the same and fluid pressure means for pressing said cross head against said stop pins to hold the plow and plow wing in working position, substantially as described.

14. The railroad spreader herein described, comprising a car in combination with a front truck plow, a fluid actuated engine on said car, having a vertically movable cross head, members depending from said cross head for supporting the forward end of said plow, and other means also connected to said cross head for supporting the rear end of the plow, substantially as described.

15. The railroad spreader herein described, comprising a car, in combination with a front truck plow, a fluid actuated engine on said car, having a vertically movable cross head, members depending from said cross head for supporting the forward end of said plow and other means also connected to said cross head for supporting the rear end of the plow, a wing member hinged on the point of said plow and extending at an angle therefrom and a telescopic brace connecting the end of said wing member to said cross head, substantially as described.

16. The railroad spreader herein described, comprising a car, in combination with a front truck plow, a cylinder on said car containing a piston having a piston rod connected to and supporting a cross head,

suitable guides for said cross head, stop pins in said cross head guides to limit the downward movement of the cross head, members depending from said cross head for supporting the forward end of the aforementioned plow, other means also depending from said cross head for supporting the rear end of the plow, a wing member hinged to the forward end of the plow and extending at an angle therefrom, a considerable distance past the rail, a single telescopic strut secured in the aforementioned cross head and connected to the end of the plow wing member, for holding the same to a working position, suitable means for bracing said wing member to withstand the thrust of material against its face, substantially as described.

17. The railroad spreader herein described, comprising a car, in combination with a front truck plow, a vertically disposed cylinder at the forward end of said car, a piston therein, a connecting rod secured in said piston, a cross head, cross head guides above said cylinder, suitable members rigidly bracing said cylinder and cross head guides, cross head stops and suitable members depending from said cross head and connected to said plow for supporting the same and for raising and lowering it, substantially as described.

18. The railroad spreader herein described comprising a car, in combination with a front truck plow, a cross head arranged in suitable guides, fluid pressure means for actuating said cross head, members depending from said cross head and secured to the forward part of the plow for supporting the same, chains also depending from said cross head and passing over a number of sheaves and connected to the rear end of the plow to form a support therefor, a wing member hinged to the forward part of the plow, a telescopic strut extending between the aforementioned cross head and the end of said wing member to hold the same in working position and suitable braces extending between said wing member and the car underframe, substantially as described.

19. In a railroad spreader, a car, in combination with a front truck plow, suitable vertically movable means for supporting the aforementioned plow, fluid pressure means for actuating said plow supporting means, suitable means secured to said car for bracing said plow, a wing member hinged to the nose of said plow and extending at an angle therefrom, suitable means for supporting the end of said wing, brace members extending between said wing and the car underframe, said brace members being fastened in brackets provided for that purpose thereon, substantially as described.

20. In a railroad spreader, a car, in combination with a front truck plow, supported by suitable vertically movable means, said

plow comprising side portions and converging nose portions, suitable means for connecting said side and nose portions, a hinge casting serving to connect the two nose portions securely together, flanged rail bearing members secured to the lower edges of said nose portions, a suitable brace secured to and depending from the aforementioned car frame, a plurality of struts extending from said brace for strengthening the nose portion of the plow, a wing member hinged in the aforementioned nose connecting casting and suitably supported and braced, substantially as described.

21. The railroad spreader herein described, in combination with a vertically movable front truck plow, suitably supported by said car, an adjustable stop for said plow, fluid pressure means for pressing said plow downward against said stop to hold the plow in working position, a wing or scraper member hinged to the forward part of said plow and extending at an angle therefrom, suitable means for supporting and embracing said wing member, means depending from the car underframe for taking the thrust caused by the impinging of the material against the plow face, and means secured to the rear end of the plow for guiding the same, substantially as described.

22. The railroad spreader herein described, comprising a car in combination with a plow incasing the front truck of said car, a vertically movable cross head supporting said plow, means for raising and lowering said cross head and plow and auxiliary means for supporting said plow when in working position, substantially as described.

23. The railroad spreader herein described, comprising a car, in combination with a vertically movable plow incasing the front truck of said car, fluid actuating means for raising said plow and for pressing the same downward while at work, substantially as described.

24. The railroad spreader herein described, comprising a car, in combination with a vertically movable plow incasing the front truck of said car and being suitably supported thereby, stop means for said plow, fluid pressure means for said plow, fluid pressure means for raising said plow and for pressing the same downward against said stop, substantially as described.

25. The railroad spreader herein described comprising a car, in combination with a vertically movable front truck plow, fluid actuated means for raising said plow, automatic means for holding said plow in raised position, substantially as described.

26. The railroad spreader herein described comprising a car, in combination with a vertically movable front truck plow, fluid pressure means for pressing said plow down-

ward while at work and for raising said plow out of working position and automatic means for locking said plow when the same has been raised to a predetermined position, substantially as described.

27. The railroad spreader herein described, comprising a car and its trucks, in combination with a plow incasing the front truck of said car, means for raising and lowering said plow, spreader wings at the side of said car, auxiliary wings at the rear of said plow for closing the gaps between the plow and the spreader wings, substantially as described.

28. The railroad spreader herein described, comprising a car, in combination with a vertically movable front truck plow, comprising side members and converging nose members rigidly connected and braced, an extension member hinged to the nose of said plow and extending at an angle therefrom to a considerable distance past the rail, brackets on the aforementioned car frame, brace members secured in said brackets and extending to same member for bracing the same, substantially as described.

29. The railroad spreader herein described comprising a car, a front truck plow supported by said car, in combination with an extension member hinged to the forward part of said plow and adapted to be secured in an angular position to project over either side of the railroad track, suitable brackets on the aforementioned car adapted to receive brace members for rigidly bracing said hinged wing, a telescopic strut for supporting the end of said wing, substantially as described.

30. The railroad spreader herein described, comprising a car in combination with a vertically movable front truck plow, a casting rigidly secured to the underframe of said car and having a depending middle portion, a plurality of struts extending from said casting to the forward part of said plow, hinge members secured to the rear ends of said plow and slidably secured in guides provided on depending columns on the aforementioned car, substantially as described.

31. The railroad spreader herein described comprising a car, in combination with a vertically movable front truck plow supported by said car, said plow comprising side portions and converging nose portions, a shield secured to said car in line with the converging portions of the plow and depending from the car to close the opening between the top of the plow and the car frame to prevent material from piling into the car trucks, substantially as described.

32. The railroad spreader herein described comprising a car in combination with a plow supported by said car and incasing the front truck thereof and suitable doors in the side

portions of said plow to afford easy access to the car truck and its journal boxes, substantially as described.

33. The railroad spreader herein described 5 comprising a car, in combination with a vertically movable front truck plow, a cylinder at the forward end of said car containing a piston and piston rod, a cross head secured to said piston rod, cross head guides extend- 10 ing from the top of the said cylinder to a member rigidly braced by a plurality of members secured to the car underframe, an automatic plow lock, suspended from said braced member, and means for operating 15 said automatic lock from a desired position on the car, substantially as described.

34. The railroad spreader herein described, comprising a car, in combination with a vertically movable front truck plow, 20 fluid actuated means for raising and lowering said plow and for pressing the same downwardly when in working position, suitably valved pipes for controlling the said fluid actuated means from a desired position 25 on the car, substantially as described.

35. The railroad spreader herein described, comprising a car, in combination with a plow arranged in front of the front truck of the car and under the front end of the car platform, an extension on said plow 30 for coaction therewith to move material from one side of the track to the other side thereof and an engine on said front end of the car platform above said plow for raising and lowering said plow, substan- 3 tially as described.

36. In a railroad spreader, a car in combination with a V shaped plow in front of the front truck of the car and a detachable forwardly and laterally extending extension 40 wing, having its rear end attached to the apex of said plow, substantially as described.

In testimony whereof, I have hereunto set my hand, this 28th day of May, 1909, in the presence of two subscribing witnesses.

OSWALD F. JORDAN.

Witnesses:

ARTHUR W. NELSON,
JOHN R. LEFEVRE.