Dec. 15, 1936. W. N. WRIGHT 2,064,283

LOCOMOTIVE STOKER

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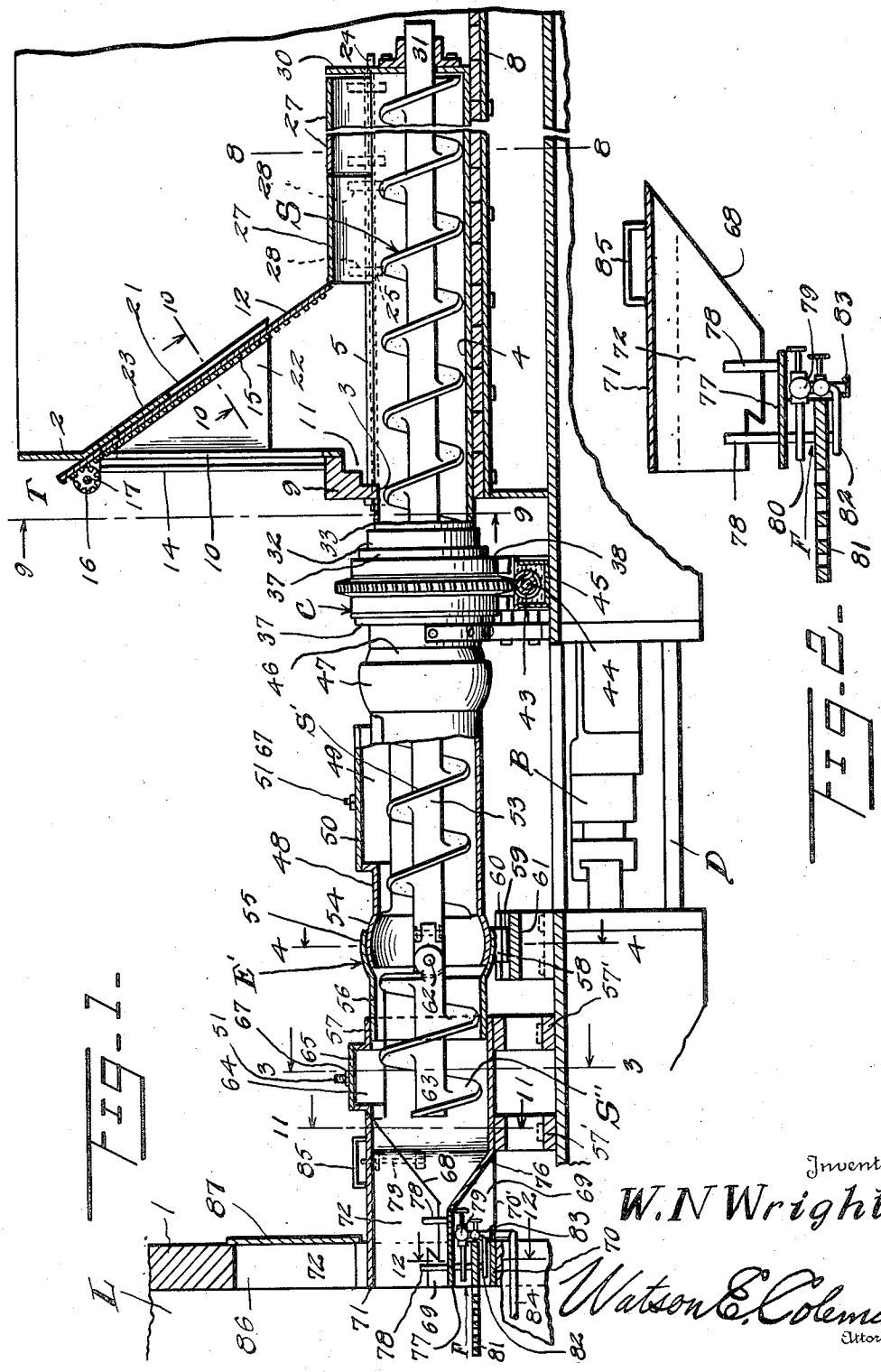


Fig. 1.

Fig. 2.

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LOCOMOTIVE STOKER

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Fig. 3.

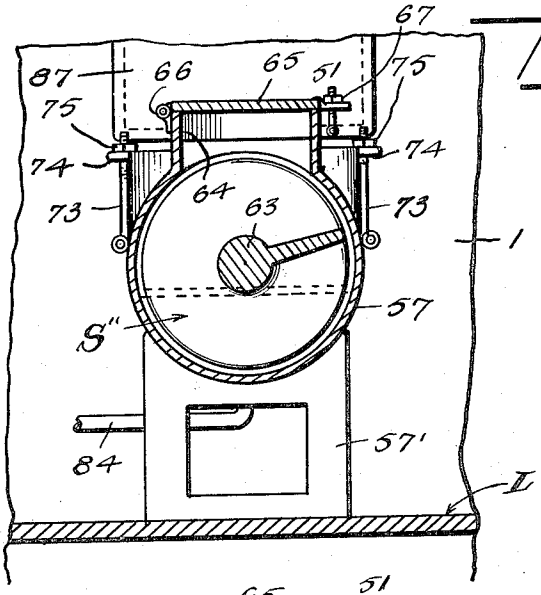
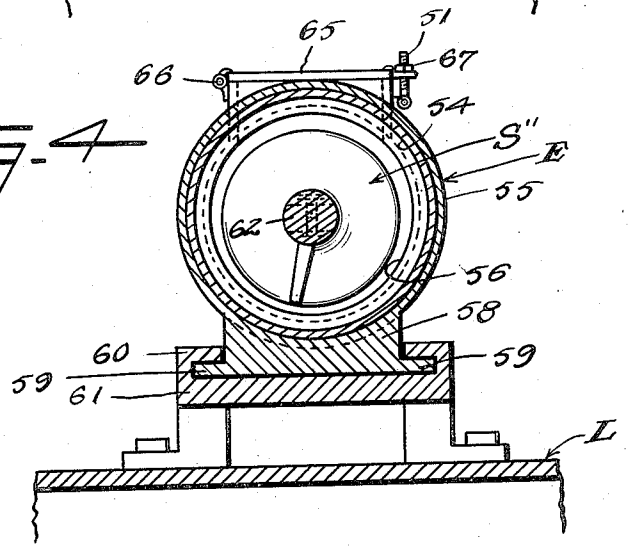


Fig. 4



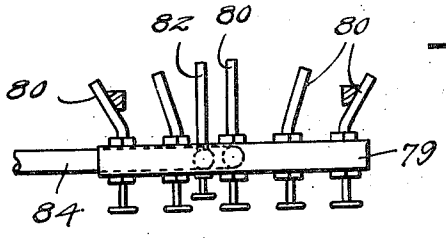


Fig. 5.

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LOCOMOTIVE STOKER

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Fig. 6.

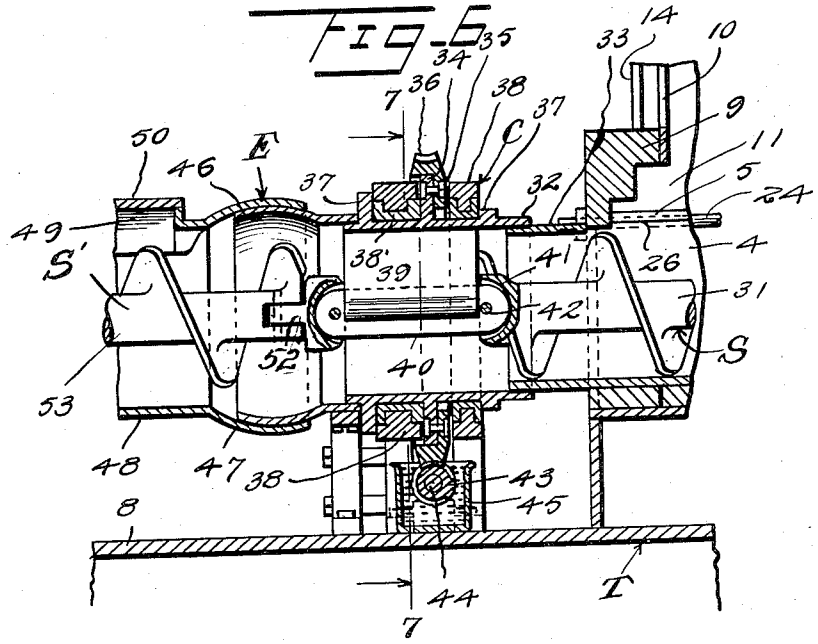


Fig. 7

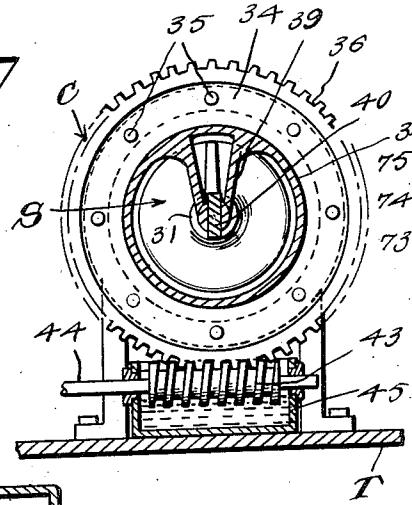


Fig. 11.

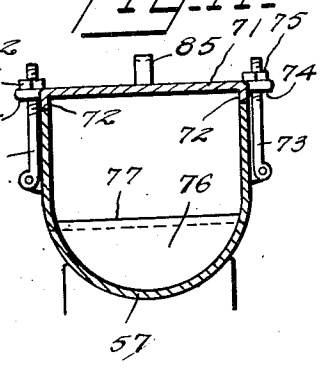
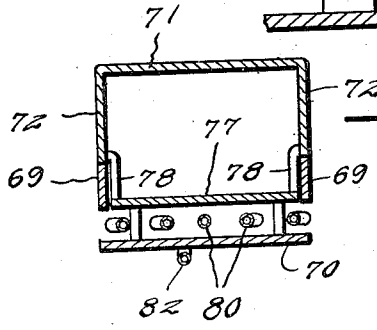


Fig. 12.



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LOCOMOTIVE STOKER

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Fig. 9.

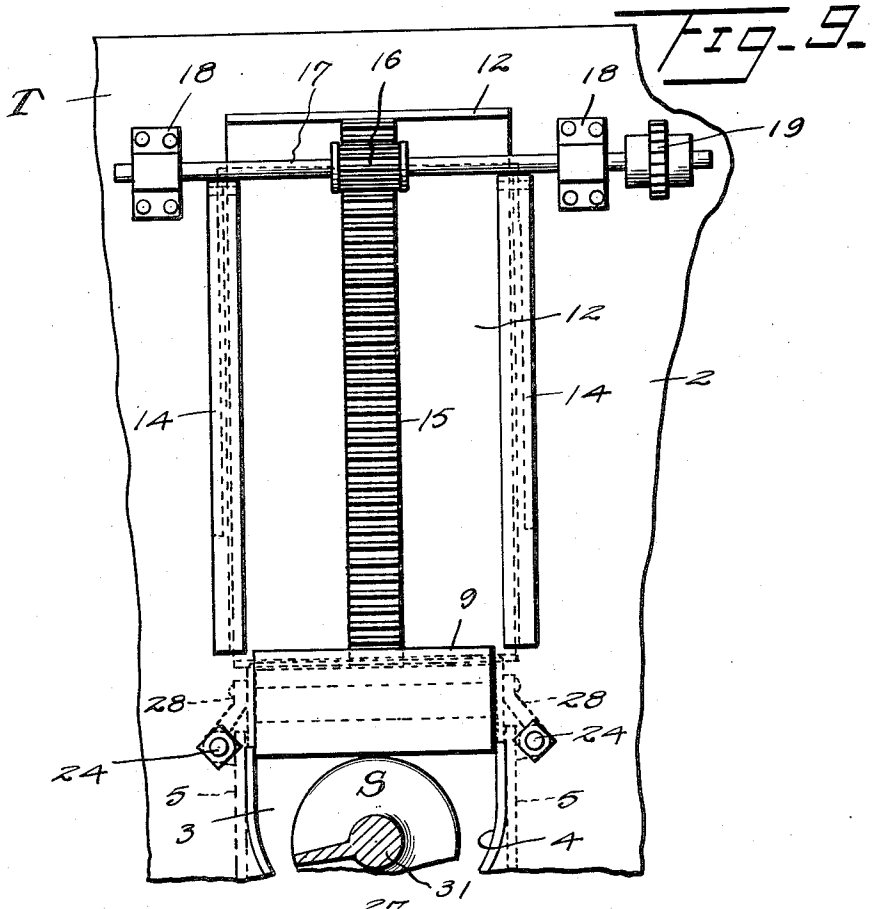


Fig. 8.

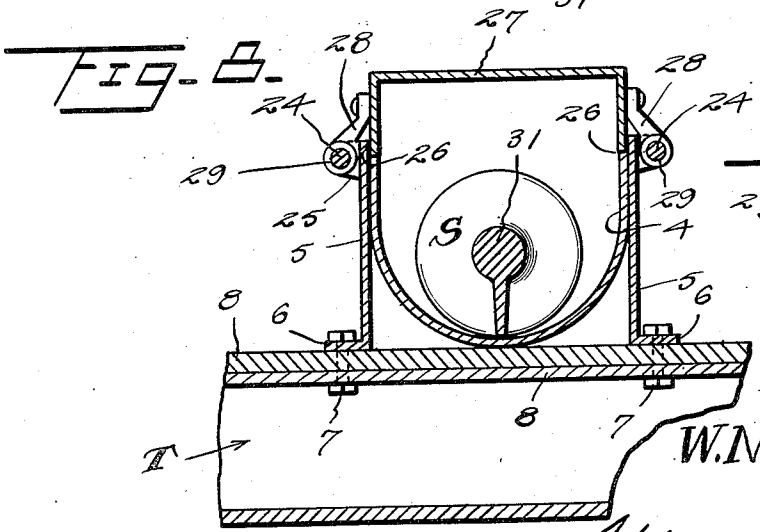
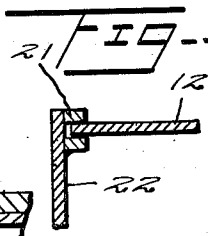


Fig. 10.



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Patented Dec. 15, 1936 2,064,283

UNITED STATES PATENT OFFICE

2,064,283

LOCOMOTIVE STOKER

William N. Wright, Washington, D. C., assignor to The Standard Stoker Company, Incorporated, a corporation of Delaware

Application July 10, 1934, Serial No. 734,557

6 Claims. (Cl. 105—234)

This invention relates to locomotive stokers, and it is an object of the invention to provide an apparatus of this kind which can be applied substantially as a unit into working position without necessitating any material changes in the construction of the locomotive or tender.

It is also an object of the invention to provide a device of this kind which is mounted upon and is entirely above the decks or floors of the locomotive and tender and wherein the drive for the conveyor comprised in the apparatus is preferably mounted upon the deck or floor of the tender.

Another object of the invention is to provide an apparatus of this kind wherein the initial delivering of the coal within the tender to the apparatus is easily and effectively controlled, together with means at the discharge end of the apparatus to effect a proper distribution of the fuel over the fire bed.

A further object of the invention is to provide a stoker which is of a straight line type or which from one end to the other provides travel for the fuel from the tender to the fire bed in a path free from curves whereby clogging of the fuel is substantially eliminated permitting the desired conveying of the fuel with a minimum of power.

An additional object of the invention is to provide an apparatus of this kind which leads from the tender to the fire box of the locomotive and wherein the apparatus is provided with a structure to readily compensate for the necessary motion between the locomotive and tender in making curves or as may occur in straight ahead transit.

A still further object of the invention is to provide an apparatus of this kind which leads from the tender to the fire box of a locomotive and wherein the conveyor construction comprises separable sections in operative engagement when the apparatus is assembled for use but which sections readily separate when it is desired to uncouple the tender from the locomotive and without the necessity of manual operations on the part of the crew or other operators.

An additional object of the invention is to provide an apparatus of this kind wherein the various bearings are all arranged exteriorly of the coal conduit or trough whereby said bearings are substantially free from coal dirt and capable of being easily and readily lubricated.

Still another object of the invention is to provide an apparatus of this kind comprising a conduit leading from the tender to the fire bed of the locomotive and wherein said conduit comprises a plurality of sections, said sections successively increasing in cross sectional area from the tender outward thus permitting passage of full load capacity by the screw conveying means working within said sections of the conduit.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved locomotive stoker whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:—

Figure 1 is a view partly in section and partly in elevation of a locomotive stoker constructed in accordance with an embodiment of my invention, the associated portions of the locomotive and the tender being shown in fragment;

Figure 2 is an enlarged fragmentary view partly in section and partly in elevation illustrating the coal spreader structure as herein disclosed;

Figure 3 is an enlarged fragmentary sectional view taken substantially on the line 3—3 of Figure 1 looking in the direction of the arrows;

Figure 4 is an enlarged fragmentary sectional view taken substantially on the line 4—4 of Figure 1;

Figure 5 is a view in top plan of a portion of the coal spreader unit as herein embodied;

Figure 6 is an enlarged fragmentary vertical sectional view taken longitudinally through that portion of the apparatus mounted on the forward end of the tender as herein disclosed, with certain of the parts in elevation and particularly illustrating the driving means for the conveyor;

Figure 7 is a sectional view taken substantially on the line 7—7 of Figure 6;

Figure 8 is an enlarged fragmentary sectional view taken substantially on the line 8—8 of Figure 1;

Figure 9 is a view partly in elevation and partly in section particularly illustrating in detail the features relating to the coal gate of the tender, the line of section being substantially on the line 9—9 of Figure 1;

Figure 10 is a detailed fragmentary sectional

view taken substantially on the line 10—10 of Figure 1;

Figure 11 is a detailed sectional view taken substantially on the line 11—11 of Figure 1;

Figure 12 is a detailed sectional view taken substantially on the line 12—12 of Figure 1.

As disclosed in the accompanying drawings, 1 denotes the back fire wall as conventionally provided in a locomotive generally indicated as L while T denotes the forward portion of a conventional tender. The locomotive L and the tender T are coupled together by a conventional draw bar D and having interposed therebetween the general type of buffer casting B. The forward wall 2 of the tender T in its lower portion and at substantially its transverse center is provided with an opening 3 through which is directed the rear or inner section of the conduit or trough 4 as comprised in my improved apparatus.

As particularly illustrated in Figure 8 this trough 4 in transverse section is substantially U-shaped in form and has welded or otherwise fixedly secured to its opposite side walls the plates 5. These plates 5 extend substantially from one end to the other of the trough 4 and are provided along their longitudinal marginal portions with the outstanding flanges 6 which may be readily bolted, as at 7, or otherwise detachably connected with the deck or floor 8 of the tender T. By this means it is believed to be readily apparent that the trough 4 may be readily placed in desired position upon the deck or floor 8 of the tender T without any material structural changes being made in such tender T other than the formation of the proper opening 3.

The forward wall 2 of the tender T immediately above the opening 3 is provided with a crusher plate 9 of any preferred type and said forward wall 2 immediately adjacent to and above the crusher plate 9 is provided with a vertically disposed opening 10 of a material height. This opening 10 provides means whereby in case of an emergency an engineman may have access to the coal within the tender adjacent its crusher mouth 11 to break up such lump coal or any other obstruction which may be within the coal interfering with its proper delivery to the screw conveyor S working in the trough 4. This opening 10 is normally closed by a vertically movable door 12 having its marginal portions slidably engaged within the trackways 14 arranged at opposite sides of the opening 10 exteriorly of the tender T.

This door 12 at substantially its transverse center has its outer face provided with a rack 15 extending the entire length of the door 12. This rack 15 has meshing therewith a pinion 16 carried by a shaft 17 rotatably supported by the bearings 18 at opposite sides of the opening 10 and at points thereabove. The shaft 17 as hereing disclosed carries a ratchet wheel 19 with which is adapted to be employed a conventional lever and ratchet whereby when desired the shaft 17 may be manually operated. Power means if desired may also be employed for this purpose as it is to be understood that the means for rotating the shaft 17 in itself forms no part of the present invention. As the shaft 17 is rotated in one direction the door 12 will be raised to fully open position and when in fully open position its lower edge will extend above the trackways 14 so that the door 12 may be readily swung from above and in a direction away from the wall 2 of the tank or tender to bring said door into required angle position with respect to the wall 2 to allow said door 12 to pass into the tender T through the upper portion of the opening 10 provided in the front wall 2 of the tender T. As the door 12 travels within the tender T its side marginal portions each engage within a trackway 21 held at desired angle within the tender T by a supporting plate 22 welded or otherwise fixedly secured to the inner face of the wall 2. The upper portions of the trackways 21 are connected by a plate 23 bridging the space between said upper portions of the trackways 21.

This plate 23 serves to effectually maintain the guideways 21 in desired spaced relation or against spreading under the weight of the coal within the tender when the door 12 is in the position as illustrated in Figure 1. The door 12 is adapted to extend downwardly and inwardly of the tender T to a point closely adjacent to the trough 4 and when so positioned provides immediately adjacent to the front of the tender T a space sufficient to permit a trainman to manually break up any lumps or other obstructions that may occur in the coal at the crusher mouth. However, with the door 12 in the position as illustrated in Figure 1 the coal within the crusher mouth is freed of the weight of the remaining coal within the tender and of course such remaining coal is shut off against flow to said crusher mouth. This is highly important in order to enable the engineman to effect the desired breaking up of the lumps or other obstructions. It is to be understood, however, that the door 12 is only adjusted to its position as shown in Figure 1 when it is desired to effect such breaking up of obstructions in the coal within the crusher mouth as normally this door 12 is in its closed position as determined by the trackways 14.

It is to be stated, however, that when filling the tender T the door 12 is in the position as illustrated in Figure 1 or at its inclined position within the tender, and it is also to be stated that the door 12 is put in its inclined position when it is desired to inspect the stoker so that during inspection the movable parts of the stoker may be operated free of load.

Disposed along opposite sides of the trough 4 substantially from one end to the other are the rods 24 which, as herein disclosed, are suitably supported by outstanding brackets 25 carried by the upper marginal portions of the plates 5. The plates 5 as particularly illustrated in Figure 8 extend a slight distance above the upper marginal edges of the trough 4 whereby guide or trackways 26 are provided for the free longitudinal marginal portions of the sliding covers 27. These covers 27 are each provided in their opposite ends and at both sides with the lugs 28 having their free end portions provided with openings 29 through which the rods 24 are directed and whereby each of said covers 27 is supported for sliding movement along the rods 24. By the medium of these covers 27 effective control is had of the delivery of the coal in the tender proper within the trough 4. The covers 27 are of a number insufficient to extend over the entire length of the trough 4 so that initially the forward portion of such trough 4 will be open. As the coal enters the trough through said forward open portion the remainder of the trough is closed against the coal. However, as said coal is carried out from within the tender

T and passes substantially beyond said forward open portion of the trough 4, the first cover 27 is slid forward thus carrying rearwardly the open top portion of the trough 4. As the coal continues to recede within the tender T the covers 27 in proper succession are slid forward and this can be carried on until the tender T is substantially entirely empty.

It is to be stated that the trough 4 is preferably positioned upon the deck or floor 8 of the tender T at substantially its transverse center. The inner end of the trough 4 is closed by a head 30 which provides a mounting for one end portion of the shaft 31 of the spiral conveyor S. This conveyor S is of a length to extend out through and beyond the opening 3 in the lower portion of the front wall 2 of the tender T so that it may have desired effective coaction with the driving unit C which in accordance with the present embodiment of my invention is mounted upon the deck or floor of the tender in advance of the front wall 2. This driving unit C comprises a tubular section 32 in which is slidably or telescopically engaged the forward or extended end portion 33 of the trough 4, which extended portion 33 is circular in cross section for desired coaction with the tubular member 32. The tubular member 32 at substantially midway its ends is provided with an outstanding surrounding flange 34 welded or otherwise fixedly secured thereto and to which is bolted, as at 35, or otherwise secured a worm wheel 36. The opposite end portions of the tubular member 32 have welded or otherwise fixedly secured thereto the surrounding thrust flanges 37. It is to be noted that the rear flange 37 is of a diameter slightly less than the interior diameter of the worm wheel 36 which is of a ring type. This is to allow the wheel 36 to be readily mounted in desired position.

The tubular member 32 is rotatably supported within the cap bearings 38 suitably mounted upon the deck of the tender T and as will hereinafter be clearly apparent the forward flange 37 acts as a thrust member for coaction with the adjacent bearing 38 to overcome the resistance offered to the driving unit C when the apparatus is in operation. Each of the cap bearings 38 has associated therewith a liner 38' of brass or other desired metal or material, with which the periphery of the tubular member 32 directly engages. As herein disclosed each of the liners 38' in cross section is substantially in the form of a U the outwardly facing groove or channel receiving an annular tongue or flange projecting inwardly from the cap bearing whereby the liner is maintained in desired assembly.

The tubular member 32 has extending substantially radially therein a web 39. This web 39 is of a hollow type as particularly illustrated in Figure 7 although, if preferred, can be solid. The web terminates slightly beyond the axial center of the tubular member 32 but does not extend entirely thereacross. This web 39 also extends a major distance along and within the tubular member 32 and has fixedly secured thereto as by welding or otherwise as may be preferred a coupling bar 40 which extends a desired distance beyond the opposite ends of the web 39. One end portion of the coupling bar 40 is received within a socket 41 provided in the outer end portion of the shaft 31 of the spiral conveyor S and is coupled thereto by the cross pin 42.

The worm gear 36 meshes as herein disclosed with a worm 43 carried by a shaft 44 disposed at right angles to the axial center of the tubular member 32, which shaft 44 is adapted to be driven by any suitable source of power carried by the tender T. This source of power may be a steam engine, a gasoline engine, or otherwise as preferred.

The worm 43 also preferably rotates in oil, for which purpose an oil container 45 is positioned upon the deck or floor of the tender T immediately below the worm 43. This container 45 is to hold a supply of oil at a level sufficient to assure effective lubrication of the worm 43.

The forward end portion of the tubular member 32 telescopically engages within an end portion of a tubular member 46 comprised in a knuckle joint E. A second member 47 of this knuckle joint is arranged at an end portion of a second or intermediate conduit section 48. This section 48 is of desired length and is circular in cross section at its opposite end portions. Its central part at the top, however, is open as at 49 to allow access within the section 48 for the purpose of removing clogs or otherwise as the requirements of practice may necessitate. This top opening 49 is normally closed by a cover 50 which may be maintained in closed position in any manner which suits the convenience of practice, said means being generally indicated at 51.

The forward end portion of the coupling bar 40 is connected by a universal joint 52 with the shaft 53 of a screw conveyor S' extending through the conduit section 48, and it is to be noted that the interior diameter of this conduit section 48 is of greater radius than the radius of the lower curved portion of the trough 4. This is of advantage as it assures more effective travel of the coal from one section to the other.

The forward end portion of the tubular conduit section 48 carries a knuckle section 54 comprised in the knuckle joint E'. A second member 55 of this knuckle joint E' is carried by an end portion of a relatively short conduit member 56 which freely and telescopically engages within the cylindrical end portion of the conduit section 57. This conduit section 57 is supported at a desired height or elevation with respect to the deck or floor of the locomotive by the blocks or pillars 57' interposed therebetween.

As is particularly illustrated in Figures 1 and 4, the knuckle member 55 of the knuckle joint E' is provided with a depending block 58 having its side portions provided with outstanding flanges 59 which are slidably engaged within the guideways 60 carried by a plate or block 61 mounted upon the floor or deck of the locomotive. By this means the forward end portion of the second or intermediate conduit section 48 is positively supported against dropping but in a manner to allow the section 56 to have endwise movement of the section 48 as may be required to compensate for lost motion between the locomotive and tender as may occur when making a turn, uneven tracks in straight away or from any other cause.

The forward end portion of the shaft 53 of the conveyor S' is connected by the universal joint 62 to the shaft 63 of the screw conveyor S'' working within both of the conduit sections 56 and 57.

The rear part of the section 57 at its top is also provided with an opening 64 to allow desired

access within the section 57 and also the section 56 for removing lumps or other obstructions or otherwise as may be required, said opening 64 being normally closed by the cover 65. The cover 65 and the cover 50 in the present embodiment of my invention are held in applied position in substantially the same manner and each of these covers 50 or 65 has one marginal portion hingedly connected, as at 66, the opposite marginal portion having detachably engaging therewith when in closed position the swinging bolt 51 upon which is threaded a holding or locking nut 67.

By referring to Figures 6 and 7 it is apparent that the rearward edge of the spiral of the conveyor sections S' is in radial alignment or substantially coplanar with the web 39 carried within the tubular member 32 of the driving unit C. This is of advantage as it assures the proper passage of the coal through the tubular member 32 with the elimination of any crushing effect.

It is to be further stated that the desired travel of the coal through the tubular member 32 is further and materially facilitated by having the web 39 extend only to slightly beyond the axial center of said member, which would not be true if said web extended entirely across the interior of the member 32.

The forward end portion of the conduit section 57 has its top or upper portion cut away and the outer lower portion of this section 57 is substantially U-shaped in cross section with its side marginal edges disposed upwardly and rearwardly on a predetermined incline as indicated at 68. The forward portion of the bottom wall 70 at a desired point inwardly of the free end of the section 57 is cut away, as at 70', to provide a hand opening whereby ready access may be had within such portion of the conduit section 57 for operating the various valves as comprised in the coal spreader unit F. The upper cut away portion at the forward part of the conduit section 57 is adapted to be closed by a removable head 71 in the form of an inverted U in cross section and having the rear end portions of its side walls 72 inclined complementary to the inclined edges 68 so that when the head 71 is applied said cut away or open forward edge portion of the conduit section 57 will be substantially closed. The meeting longitudinal marginal portions of adjacent side walls 69 and 72 are cut away or recessed to interfit so as to limit any possible forward movement of the applied head 71 with respect to the conduit section 57 proper.

The applied head 71 may be held firmly in applied position in any desired manner but as is particularly illustrated in Figures 3 and 11, the sides of the forward portion of the section 57 carry the swinging bolts 73 for coaction with the outstanding brackets 74 carried by the side walls 72 of the head 71 and upon each of said bolts 73 is threaded a locking nut 75.

The bottom portion or wall of the conduit section 57 extending along the hand opening 70 is disposed, as at 76, on an upward and forward incline to provide a coal bridge which serves as a means to raise the coal as it passes through the conduit section 57 up upon the horizontal coal bridge 77. This bridge 77 extends substantially entirely across the interior of the conduit section 57 and is carried by the side walls 72 of the head 71. While in the accompanying drawings the horizontal bridge 77 is shown as connected to the side walls 72 by the hangers 78 it is to be stated it is also my purpose to have this horizontal coal bridge 77 welded or similarly secured directly to the side walls 72. However, as this is believed to be an obvious expedient over what is shown in the accompanying drawings it is not thought a detailed description and illustration thereof is necessary.

Suitably supported by the horizontal coal bridge 77 therebelow is the coal spreading unit F which comprises a manifold 79 extending in a direction transversely of the section 57 and which is provided at points spaced therealong with a plurality of nozzles 80, said nozzles being disposed on such angles to assure the most effective distribution of the coal over the fire bed as such coal is discharged from the delivery end of the conduit section 57.

As this coal is discharged or delivered from the delivery end of the section 57 it is received upon a perforated firing plate 81 which is also suitably supported by the horizontal bridge 77. By having the coal first received upon this firing plate 81 it is more effectively distributed over the fire bed by the fluid under pressure, such as steam or air discharging out through the nozzles 80. The manifold 79 also carries at substantially its longitudinal center a forwardly directed nozzle 82 which underlies the firing plate 81. The fluid under pressure discharged from this nozzle 82 serves as a cooling medium for the firing plate 81 and also to prevent the fire or coal banking up under the plate and thus prevent burning out of the plate.

The manifold 79 is detachably connected by a suitable coupling 83 with a pipe line 84 leading from a desired source of steam or compressed air.

It is to be noted that the head 71 carries the horizontal coal bridge 77, the manifold 79 and the firing plate 81 so that the same are applied or removed as a unit by pulling upwardly and rearwardly from above upon the head 71, for which reason the upper rear portion of the head 71 is provided with a handhold 85 to facilitate such operation. It is believed to be understood that before removing the head 71 and the parts carried thereby the coupling 83 is disconnected and of course after the head 71 is placed in position such coupling is properly connected.

It is also to be noted that the conduit section 56 and the rear portion of the conduit section 57 are of an interior diameter greater than the interior diameter of the section 48 to facilitate the freedom of travel of the fuel from one section into the other and while I employ the lifting coal bridge 76, it is to be stated that no cross sectional area is lost in view of the fact that when the head 71 is applied the forward end portion of said section 57 above the horizontal bridge 77 is of a rectangular formation in cross section with increased cross sectional area.

It is believed to be obvious that my improved apparatus can be readily placed upon the decks of a locomotive and a tender without any material change in the structure of such rolling stock and that when the device is applied the forward or delivery end of the section 57 projects within the lower portion of the regular coal opening 86 provided in the back wall 1 and that the portion of said opening 86 above the applied forward end portion of the conduit section 57 is closed by a conventional door 87. It is also to be stated that when the head 71

is to be either applied or removed the door 87 is first swung or moved into open position.

The assembly of the unit embodying the head 71 is of decided advantage as upon its removal, which can be readily accomplished, desired access may be had for the purposes of inspection or repair, particularly to the manifold, the jets and the firing plate without removing any fire from the fire box of the locomotive.

It is also to be stated that having the various conduit sections successively of increased diameters permits the various conveyors to run with a full capacity load without clogging.

While the accompanying drawings show the driving unit mounted upon the deck of the tender T, it is to be stated that this driving unit may if desired be arranged upon the deck of the locomotive. It is also to be stated that while I have particularly described and illustrated the invention as a locomotive stoker the same can with but slight modification be employed for stoking a stationary boiler.

From the foregoing description it is thought to be obvious that a locomotive stoker constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:—

1. In combination with a locomotive and its tender, said tender having a front wall, a conduit extending from within the tender and through the front wall thereof to the fire box of the locomotive, the portion of the conduit within the tender having its upper portion open, the front wall of the tender having an opening above the conduit, a door, means for supporting the door exteriorly of the tender for closing the opening in the wall, means for maintaining the door in a downwardly inclined position within the tender from the upper portion of the opening in the front wall, said door when in such inclined position serving to hold back the fuel in the tender to permit access through the opening of the front wall of the tender to the portion of the conduit within the tender adjacent to said front wall, and means for moving the door into either of its two positions.

2. In a tender, a coal bin having a front wall and a floor apertured at its central portion, a conveyor trough disposed beneath said aperture, said front wall being apertured immediately above said trough, a plurality of longitudinally movable plates adapted to form a closure for a portion of the aperture in said floor, a door adapted to form a closure for the aperture in the front wall of said bin, said door being arranged for movement inwardly of said bin to form a cover over that portion of the aperture in said floor not closed by said plates when said plates are moved to their rearmost position.

3. In a tender, a coal bin having a front wall and a floor apertured at its central portion, a conveyor trough disposed beneath said aperture and having a coal crusher mounted therein beneath the front wall of said bin, said front wall being apertured immediately above said crusher, a plurality of longitudinally movable plates adapted to form a closure for the rearward portion of the aperture in said floor, a door adapted to form a closure for the aperture in the front wall of said bin, said door being arranged for movement inwardly of said bin to form a cover over that portion of the aperture in said floor between said crusher and said plates.

4. In a tender, a fuel bin having a front wall and a floor apertured at its central portion, a conveyor trough disposed beneath said aperture, said front wall being apertured immediately above said trough, plate-like means adapted to form a closure for the rearward portion of the aperture in said floor, a door adapted to form a closure for the aperture in the front wall of said bin, said door being arranged to be moved to a position extending from the upper marginal edge of the opening in the front wall of said bin to the forward edge of said plate-like means, said door and said plate-like means forming retaining walls for the fuel in said bin, means for moving said door from its fuel retaining position to form an opening through which fuel will drop into the forward portion of said trough, and said plate-like means being arranged to be slid forwardly to form an opening through which fuel will drop into the rearward portion of said trough.

5. In a tender, a fuel bin having a front wall and a floor apertured at its central portion, a conveyor trough disposed beneath said aperture and having a coal crusher mounted therein beneath the front wall of said bin, said front wall being apertured immediately above said crusher, plate-like means adapted to form a closure for the rearward portion of the aperture in said floor, a door extending downwardly and rearwardly from the upper edge of the aperture in the front wall of said bin to the forward edge of said plate-like means forming a cover over the forward portion of the aperture in said floor, said door serving to hold back the fuel in the tender to permit access to said crusher through the aperture in the front wall of the tender and the aperture in the bin floor below said door, and means for raising said door in a forward and upward direction forming an opening through which fuel passes from the bin to the forward portion of said trough.

6. In a tender, a coal bin having a front wall and a floor apertured at its central portion, a conveyor trough disposed beneath said aperture and having a coal crusher mounted therein beneath the front wall of said bin, said front wall being apertured immediately above said crusher, a door extending from the upper marginal edge of the aperture in said front wall to the aperture in said floor intermediate the longitudinal extremities of said last named aperture, and a plurality of longitudinally movable plates adapted to form a closure for that portion of the aperture in said floor rearward of said door, said door being arranged for movement to a position forming a closure for the aperture in the front wall of said bin.

WILLIAM N. WRIGHT.