Nov. 28, 1933. T. J. DALE 1,937,266

SPREADING DEVICE FOR DUMP WAGONS

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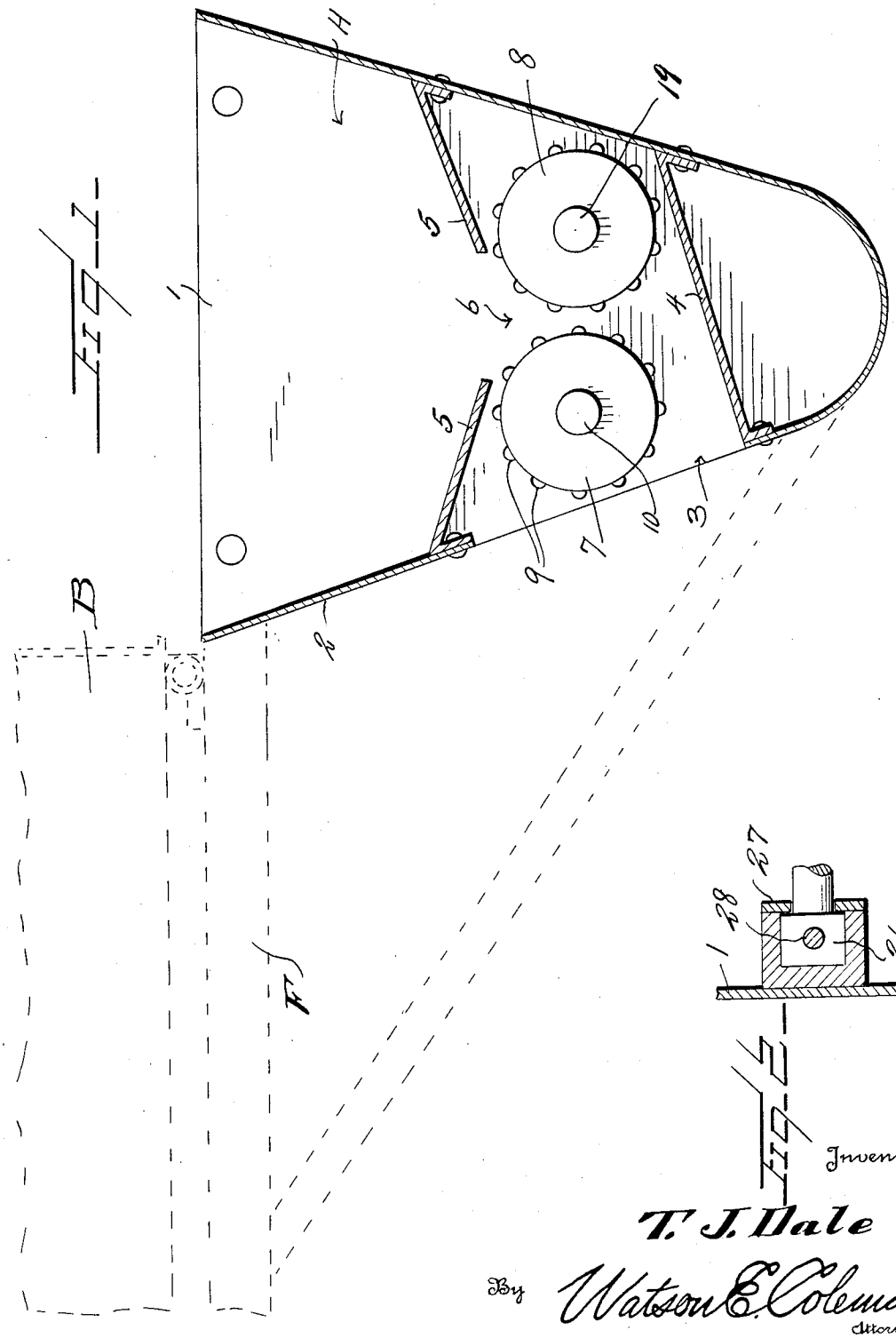


Fig. 1.

Fig. 2.

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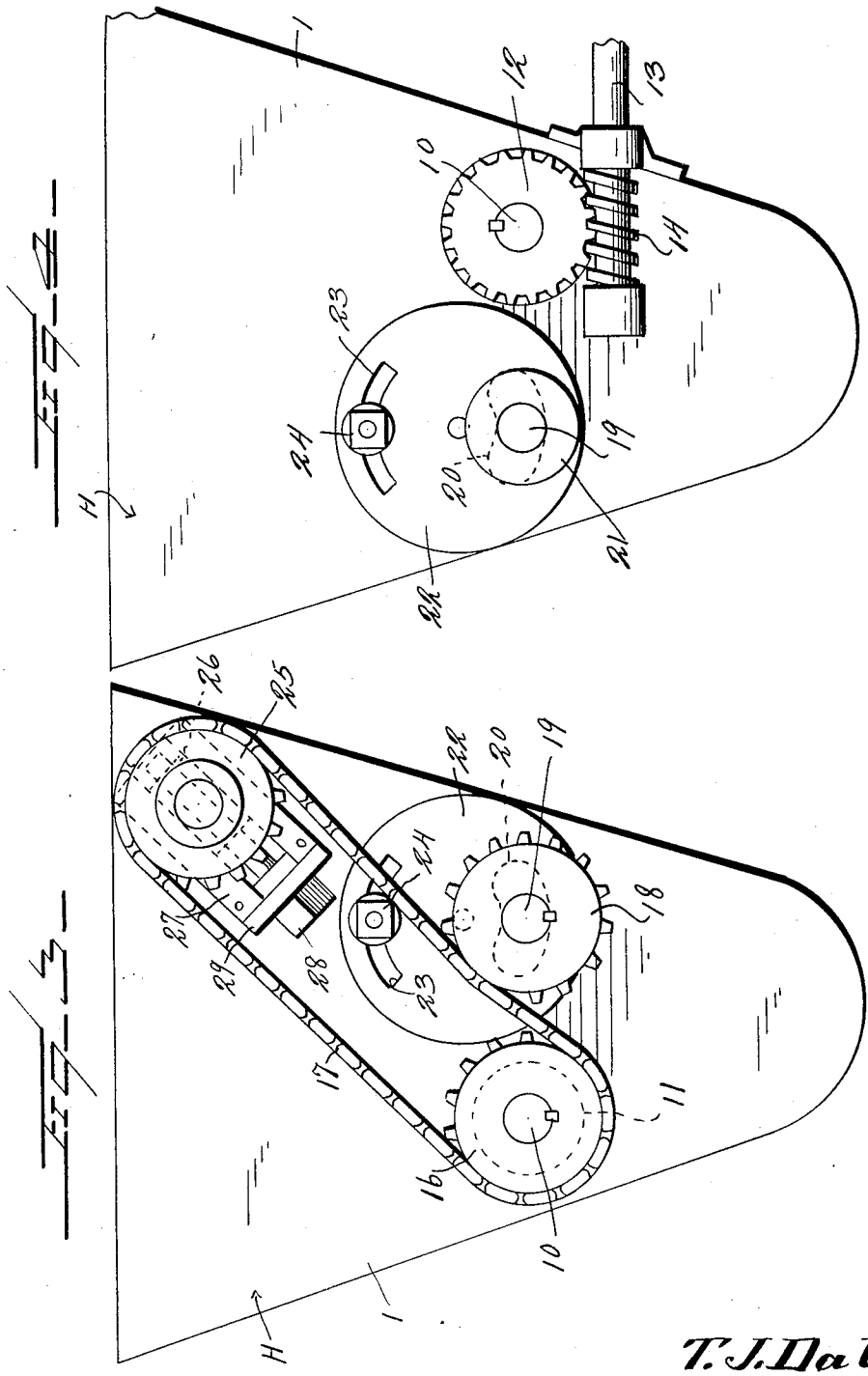
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SPREADING DEVICE FOR DUMP WAGONS

Talmar J. Dale, Oil City, Pa.

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4 Claims. (Cl. 83—12)

This invention relates to a spreading device for dump wagons, and it is primarily an object of the invention to provide a device of this kind adapted to discharge upon an icy roadway or other slippery surface ashes or other granular material to minimize slippage on such surface.

It is also an object of the invention to provide a device of this kind provided with means for effectively crushing clinkers or other masses of material so as to assure the discharge of the material being comminuted.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved spreading device for a dump wagon 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 spreading device constructed in accordance with an embodiment of my invention and in applied position, the coacting portion of a vehicle being indicated by broken lines;

Figure 2 is a fragmentary detailed sectional view illustrating a portion of the mounting as herein disclosed for the idle gear;

Figure 3 is a view in side elevation of the device as herein disclosed;

Figure 4 is a view in elevation of the side of the device opposite to that illustrated in Figure 3.

As disclosed in the accompanying drawings, H denotes a hopper adapted to be attached to the rear end of the frame F of a vehicle and into which hopper the wagon body B is adapted to dump or discharge. This hopper H may be of desired configuration and dimensions and, as herein disclosed, comprises the side plates or walls 1 and the front and back plates 2, the lower portion of the back plate 2 being open, as at 3, to allow the discharge of the granular material delivered upon the bottom wall 4. The bottom wall 4 is interposed between the side plates or walls 1 and disposed on a downward and rearward incline.

At a desired distance above the bottom wall 4 the hopper has arranged therein the downwardly and inwardly disposed partition plates 5 extending from the front and back walls 2 and bridging the space between the side walls 1. The lower inner marginal portions of these plates 5 are spaced apart to provide an opening 6 for the passage of the material initially delivered within the hopper. The material as it passes through this opening 6 also passes between the crushing rollers 7 and 8 immediately below the plates 5, thus assuring the material, especially when ashes, to be discharged upon the roadway or other surface in a comminuted condition or free of clinkers or other lumps or masses.

The rollers 7 and 8 are of a material to stand the wear and tear to which the rollers are subjected and the peripheries of such rollers are provided with the outstanding protuberances or lugs 9 to facilitate the action of the rollers 7 and 8 upon the materials passing therebetween. The roller 7 is carried by a shaft 10, the extremities of which being disposed through the end walls or plates 1 and engaged within the bearings 11 carried by and arranged exteriorly of the hopper H, such bearings being of an anti-friction type. One end portion of the shaft 10 carries a worm wheel 12 in mesh with a worm gear 14 carried by a shaft 13. This shaft 13 is adapted to be rotated from the transmission shaft of the motor for the truck or wagon or from any other effective moving part comprised in the assembly of the truck or wagon.

The opposite end portion of the shaft 10 carries a sprocket wheel 16 with which is engaged a sprocket chain 17 which in turn is operatively engaged with a sprocket 18 fixed to the shaft 19 for the second roller 8. The engagement of the sprocket chain 17 with the sprockets 16 and 18 is such as to cause said rollers 7 and 8 to rotate in unison but inwardly from above one toward the other, thus effectively carrying therebetween the material initially deposited or discharged within the hopper H. The shaft 19 is freely disposed through the arcuate slots 20 in the end walls 1 of the hopper and is rotatably engaged with the bearings 21 carried by the discs 22. The bearings 21 are of an anti-friction type and each of the discs 22 has its axial center rotatably connected to the adjacent end wall 1 with the discs 22 exterior of the hopper. By rotation of the discs 22 the roller 8 may be readily adjusted toward or from the roller 7 as the requirements of practice may prefer.

Each of the discs 22 is provided with an arcuate slot 23 through which is directed a holding member 24 operatively engaged with the adjacent end wall 1 whereby the disc 22 may be effectively held in its selected adjusted position.

The sprocket chain 17 hereinbefore referred to is also operatively engaged with an idle gear 25 rotatably carried by a block 26. The block 26 is slidably mounted within a trackway 27 whereby the idle gear 26 may be readily adjusted to assure the sprocket chain 17 maintaining its effective engagement with the sprockets 16 and 18 as the roller 8 is selectively adjusted toward or from the roller 7.

The block 26 may be moved lengthwise of the trackway 27 in any desired manner but I prefer to thread through the block 26 a threaded shank 28, the outer end of which being in swiveled connection with the end plate 29 carried by the trackway 27. By proper turning of the shank 28 the block 26 may be readily moved in the direction desired lengthwise of the trackway. As herein illustrated, the outer end of the threaded shank 28 carries an angular head 30 with which a wrench or other desired implement may be readily engaged to effect the desired rotation of the shank.

The hopper H from end to end may be of such length desired and as ashes or other granular material are dumped or discharged from the body B into the hopper H, such material will pass between the rollers 7 and 8, the adjustment of such rollers one with respect to the other being such to assure effective crushing action upon the material to break up any clinkers or other masses of material which may be present so that the material as it drops upon the bottom wall 4 and passes out through the opening 3 is in a proper comminuted condition.

My improved device as hereinbefore disclosed is intended for use in the spreading of granular material over icy roadways or other slippery surfaces to minimize the liability of skidding of vehicles passing over such surfaces.

From the foregoing description it is thought to be obvious that a spreading device for a dump wagon 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. As a new article of manufacture, a hopper adapted to be carried by a vehicle to receive the material carried thereby, a wall of the hopper being provided with a discharge opening, a bottom wall for the hopper inclined toward the discharge opening, a crushing roller within the hopper and rotatably supported by opposed walls of the hopper, discs rotatably supported by said walls of the hopper exteriorly of the hopper, means carried by said walls and engaging the discs for holding the discs against rotation, a second crushing roller within the hopper rotatably supported by said discs at points eccentric to the axial centers of the discs, the walls of the hopper carrying the discs having openings so that said second roller may be adjusted toward or from the first roller upon rotation of the discs, and means for rotating the rollers.

2. A spreading device for dump wagons comprising a hopper adapted to be carried by a vehicle to receive the material carried thereby, a wall of the hopper being provided with a discharge opening, a crushing roller within the hopper and rotatably supported by opposed walls of the hopper, said walls having slots, a second crushing roller within the hopper having shaft extensions extending out through the slots in the walls of the hopper, bearings for said shaft extensions positioned exteriorly of the hopper, and means for supporting said bearings for movement in an arcuate path to adjust the second crushing roller relative to the first crushing roller.

3. A spreading device for dump wagons comprising a hopper adapted to be carried by a vehicle to receive the material carried thereby, a wall of the hopper being provided with a discharge opening, a crushing roller within the hopper and rotatably supported by opposed walls of the hopper, said walls having slots, a second crushing roller within the hopper having shaft extensions extending out through the slots in the walls of the hopper, bearings for said shaft extensions positioned exteriorly of the hopper, means for supporting said bearings for movement in an arcuate path to adjust the second crushing roller relative to the first crushing roller, and means for holding said bearings in selective adjusted positions.

4. A spreading device for dump wagons comprising a hopper adapted to be carried by a vehicle to receive material therefrom, a wall of the hopper being provided with a discharge opening, a crushing roller within the hopper and rotatably supported by opposed walls of the hopper, discs rotatably supported by said walls of the hopper exteriorly of the hopper, means for holding the discs against rotation, a second crushing roller within the hopper rotatably supported by the discs at points eccentric to the axial centers of the discs, the walls of the hopper carrying the discs having openings to allow the second roller to be adjusted toward or from the first named roller upon rotation of the discs.

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