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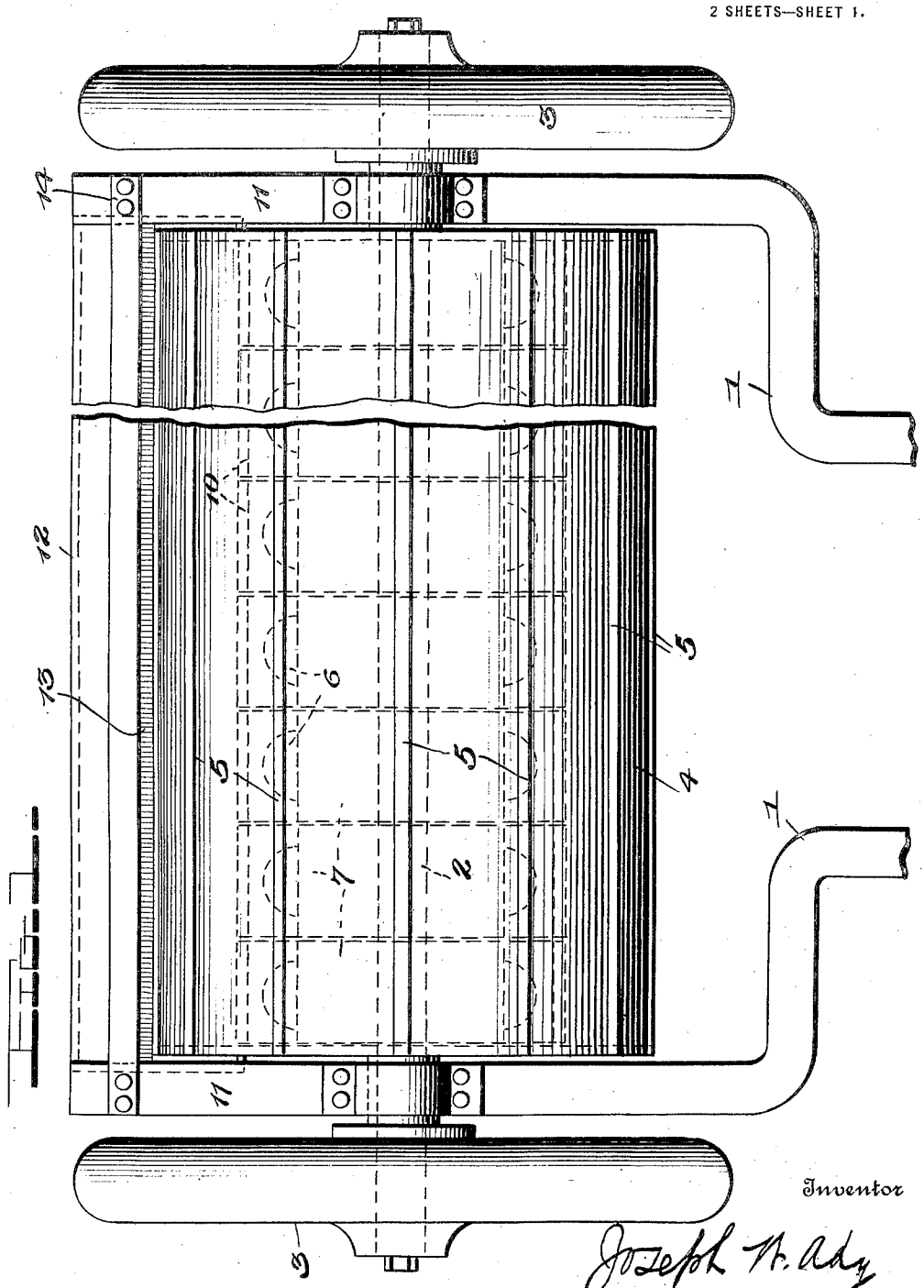
ROAD CLEARER.

APPLICATION FILED MAY 15, 1919.

1,326,561.

Patented Dec. 30, 1919.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

FIG. 2

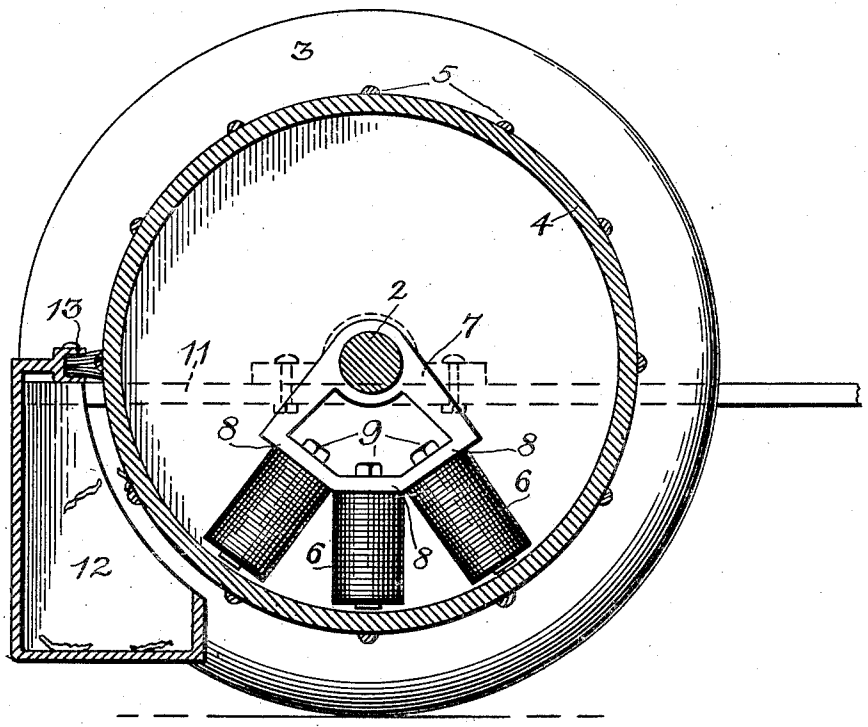
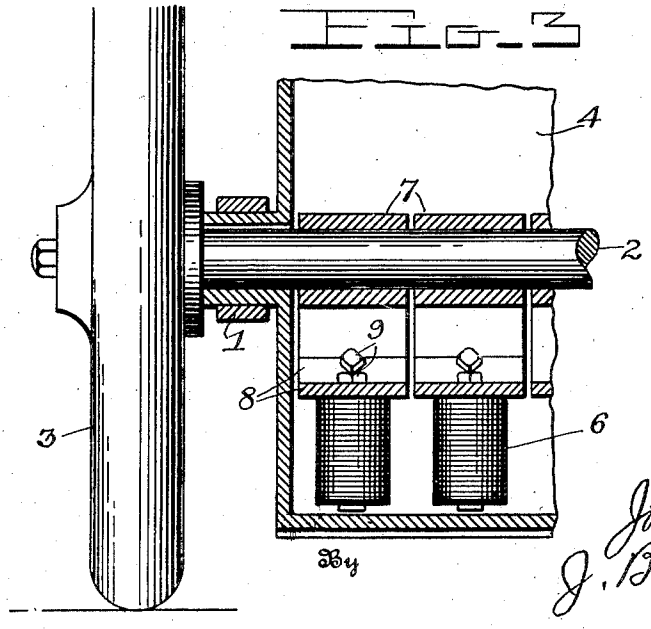


FIG. 3



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UNITED STATES PATENT OFFICE.

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ROAD-CLEARER.

1,326,561. Specification of Letters Patent. Patented Dec. 30, 1919.

Substitute for application Serial No. 55,451, filed October 12, 1915. Abandoned January 19, 1917. This application filed May 15, 1919. Serial No. 297,443.

To all whom it may concern:

Be it known that I, JOSEPH W. ADY, citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented certain new and useful Improvements in Road-Clearers, of which the following is a specification.

The primary object of this invention is to provide a simple and compact construction of the electro-magnetic type for picking up metal particles from the road during travel of the vehicle to which it is attached.

Another aim resides in a cylinder rotatable with the wheels and inclosing magnets for attracting particles to the cylinder for deposition in a receptacle suitably disposed.

For a full understanding of the invention, reference is had to the following specification, claims, and the annexed drawings, wherein like characters of reference denote corresponding parts throughout the several views, of which:

Figure 1 is a fragmentary top plan of the invention in practical use;

Fig. 2 is a transverse section through the cylinder as applied to a vehicle; and

Fig. 3 is a fragmentary section thereof longitudinal of the cylinder.

Referring particularly to the drawings showing the preferred embodiment of the invention, numeral 1 designates the side bars of a vehicle chassis, 2 an axle journaled thereon and 3 the wheels fixed on the axle.

Between the side bars 1 and extending practically the length of the intervening space, is a cylinder 4 forming a part of the invention and being fixed on the axle 2 for rotation therewith. Peripherally arranged on the cylinder is a series of longitudinal strips or cleats 5 which carry attracted metal particles from the influence of electro-magnets 6 and thereby prevent the cylinder indefinitely slipping relative to the attracted particles which the magnets tend to hold.

Loose on the axle 2 and within the cylinder are a plurality of supporting frames 7 having depending portions each provided with angularly related faces 8 to which the sets of magnets 6 are secured, as by fasteners 9, one magnet being secured to each face 8. Thus the magnets diverge relative to each other and preferably radiate as depicted in Fig. 2. The loose mounting of the frames 7 allows each set of magnets to gravitate to normal position wherein the magnets extend in divergent rows and combinedly form a substantially large and curved magnetic surface extending the length of the cylinder with the central point of curvature nearest the road. Thus, sufficient magnetic surface extends forwardly to always present a portion at the nearest point of the road even though the frames 9 may swing rearwardly by the frictional contact with the rotating axle.

Fixed on the rear extensions 11 of the side bars 1 is a collection receptacle 12 the forward edge of the opening of which extends beneath the rear edge of the magnetic surface provided by the magnets and cylinder to insure the collection of the particles when moved beyond the magnetized area by the cylinder. The opening of the receptacle is curved to conform with the cylinder which extends thereover, and on the upper edge of the receptacle opening is a scraper in the form of a brush 13 which constantly engages with the periphery of the cylinder to remove therefrom all particles that remain thereon. This is especially advantageous, for in some instances, as when the vehicle is moving at a high rate of speed, the frames 9 with their magnets may swing to such an extent that the magnetic surface will be projected beyond the receptacle and when the particles would be released they would fall outside of the receptacle.

As shown the brush is set in a channel formed integral with the top of the receptacle, said channel portion having its ends extended, as at 14, and secured to the rear extensions 11.

In operation, the cylinder 4 will rotate with the wheels 3. Metal particles on the road over which the vehicle passes will be attracted by the magnets 6 to the periphery of the cylinder and moved to the receptacle where, having been carried beyond the magnetized area, they will fall off into the receptacle. Certain particles which adhere to the cylinder will be removed by the scraper or brush 13. The tendency for the magnets to hold the particles is overcome by the cleats 5 which prevent slippage between the cylinder and particles.

Suitable means may be employed for energizing the magnets 6, as is obvious.

Having now described this invention and

explained its mode of operation, what I claim is:—

1. In a road clearer, a vehicle having an axle and supporting wheels thereon, a cylinder arranged concentrically on the axle and between the wheels, a plurality of frames mounted loose on the axle within the cylinder for relative free and independent movement, and a magnet carried by each frame, said magnets forming a row when the frames are in normal position.

2. In a road clearer, the combination with a frame, of an axle journaled in the said frame, a cylinder carried by the said axle and revoluble therewith, a plurality of sets of magnets arranged side by side within the said cylinder, each set of magnets having one end pivotally connected with the said axle whereby the weight of the magnets keeps the pole of the magnets downwardly as the cylinder revolves, vehicle wheels attached to the said axle whereby the cylinder is supported above the ground and whereby the whole may be moved from place to place, and means for detaching as the cylinder revolves particles of iron magnetically attracted by the said cylinder.

3. In a road clearer, the combination with a frame, of a revoluble axle supported by the frame, wheels attached to the axle at the ends whereby the whole may be moved from place to place, a cylinder carried by the said axle and revoluble therewith, a plurality of sets of magnets arranged side by side within the cylinder, means for pivotally connecting the said sets of magnets, each set independently, with the said axle and for holding the magnets with their cores radially disposed with respect to the said axle and the poles of the magnets near the inner wall of the cylinder, and means for clearing the cylinder of attracted material.

In testimony whereof I affix my signature.

JOSEPH W. ADY.