J. W. ADY.

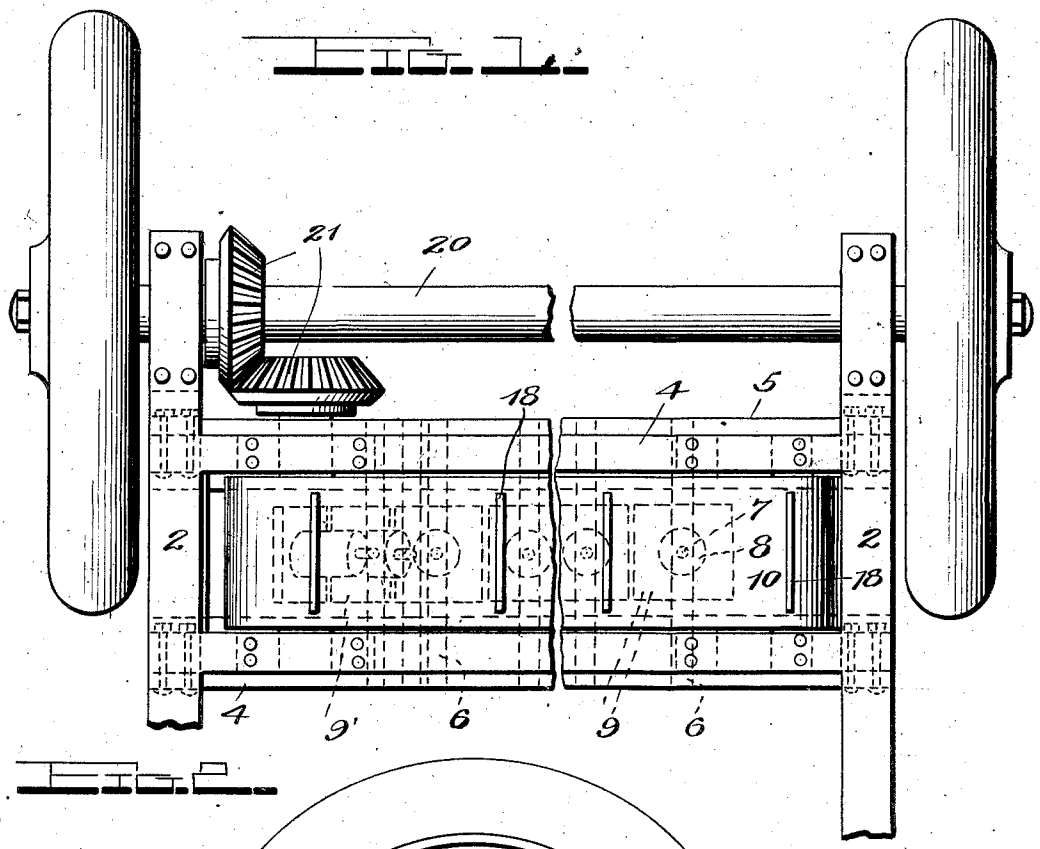
ROAD CLEARER.

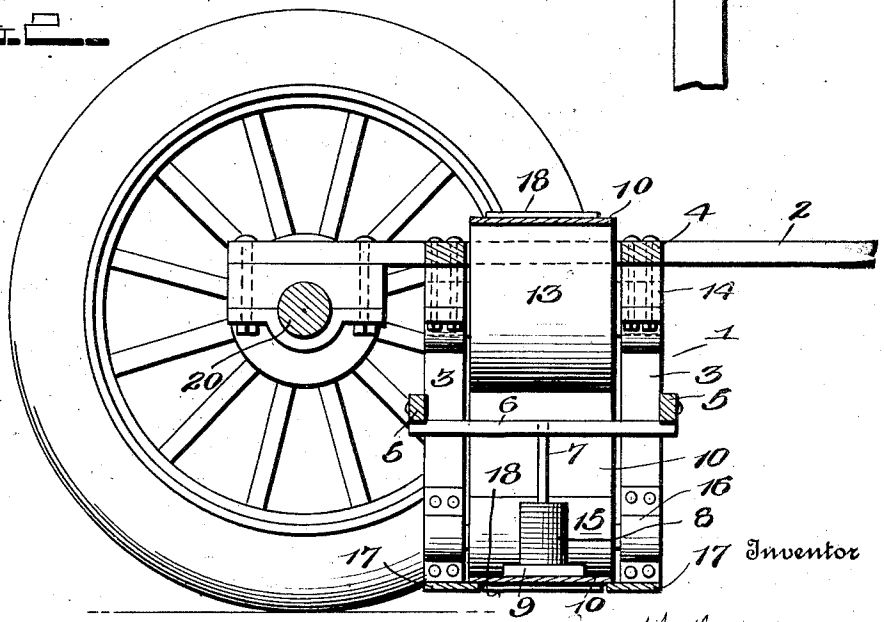
APPLICATION FILED APR. 18, 1919.

1,326,559.

Patented Dec. 30, 1919.

2 SHEETS—SHEET 1.





Inventor

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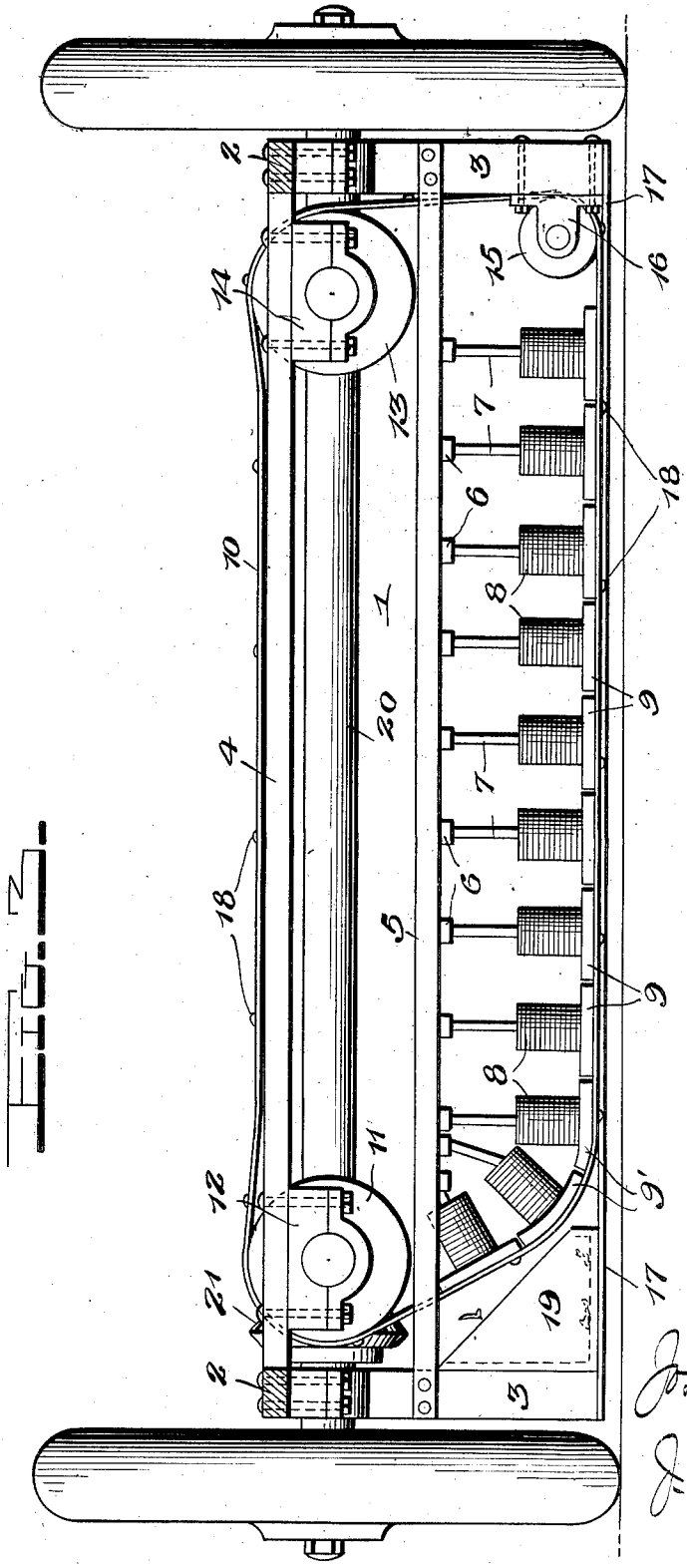


Fig. 2.

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UNITED STATES PATENT OFFICE.

JOSEPH W. ADY, OF COLORADO SPRINGS, COLORADO.

ROAD-CLEARER.

1,326,559. Specification of Letters Patent. Patented Dec. 30, 1919.

Application filed April 18, 1919. Serial No. 291,175.

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 present invention relates to certain new and useful improvements in road clearers and especially to electro-magnetic road clearers by which bits or particles of metal may be removed from road-ways, and it has for its primary aim to provide a device of the above character and in the nature of an attachment for vehicles which device will operate efficiently in picking up pieces of metal from the road and depositing the same at a suitable point.

The invention further resides in the salient features of construction, arrangements and combinations of parts hereinafter described and claimed, the preferred embodiment being illustrated by the accompanying drawings in which like reference characters designate corresponding parts and wherein;

Figure 1 shows, in fragment, a plan of the invention applied to the chassis of a vehicle;

Fig. 2 is a vertical section thereof; and

Fig. 3 depicts the invention in front elevation as practically applied.

More in detail the invention comprises a rectangular frame 1 secured to the side bars 2 of the chassis to depend therefrom, said frame 1 consisting principally of vertical corner posts 3, upper connecting bars 4 and intermediate side frame members 5, which latter are joined to each other by a series of parallel transverse supports 6.

From the center of each transverse support 6 depends an electro-magnet support 7 carrying on its lower end one of a series of electromagnets 8. The core of each electromagnet passes through a non-conducting plate 9, which is preferably of rectangular formation and forms with the other plates 9 a substantially continuous electro-magnetic support for a belt 10 to travel under.

The belt 10, aside from receiving support from the non-conducting plates, takes over a drive pulley 11, mounted in bearings 12 on the under side and at one end of the upper bars 4, an idler pulley 13, mounted in bearings 14 similarly disposed at the opposite ends of the bars 4, and a second idler pulley 15 journaled in bearings 16 arranged at the lower end of the corner posts 3.

Spaced strips or guides 17 are supported on the lower ends of the corner posts 3 and constitute means for maintaining the belt, during travel, in proximity to the plates 9 and thereby eliminate practically all sagging of the belt. On the outside surface of the belt are provided parallel cross strips 18 which serve a dual function in stiffening and thereby holding the belt on the guides 17 and also in preventing any metal attracted by the magnets 8 from adhering to the latter while the belt 10 is moving and slipping by.

One end of the series of magnets is deflected upwardly toward the driving pulley 12, the corner magnets having their non-conducting plates 9 curved, as at 9′, to provide an even and gradual curved magnetic surface under which the belt 10 travels.

A receptacle 19 is supported by the guides 17 and adjacent corner posts 3 underneath the upwardly directed end of the magnetic series which latter terminates over the receptacle and, consequently, permits of the metallic particles picked up from the road to drop from the belt into said receptacle. By this arrangement, almost the entire series of magnets are positioned to pick up particles from the road, and owing to the angular terminal of the series, said particles are carried upwardly over the receptacle before being released.

In operation, the magnets are energized by any suitable means (not shown) and the belt driven from the axle 20 connected to the drive pulley 12 by bevel gearing 21. As the vehicle moves over the road, the magnets 8 will attract any metal particles to the belt 10 which carries them over the receptacle 19 for deposition therein. From time to time, the receptacle may be emptied, as is obvious.

Having now described this invention and explained its mode of operation, what I claim is:—

1. An apparatus of the character described comprising, in combination with the frame and axle of a vehicle, of a clearer frame depending from the first frame and consisting of vertical corner posts, upper connecting bars, side frame members connecting the posts, transverse supports connecting the side frame members, magnetic

means depending from the transverse support, an endless belt passing beneath the magnetic means, a drive pulley mounted on upper connecting bars and supporting the belt, a driving connection between the pulley and axle, cross strips on the outer surface of the belt, spaced belt guides supported by the corner posts and holding the belt in proximity to the magnetic means, and a collection receptacle mounted beneath the magnetic means.

2. In a road clearer, a supporting frame, spaced pulleys journaled thereon, a series of depending magnet supports carried by the frame, a downwardly facing magnet on each support, a non-conducting plate on each magnet forming with the other plates a substantially continuous support one end portion of which is deflected toward one of the pulleys, and an endless belt supported and guided by the support of plates and taking over the pulleys.

3. In a road clearer, a wheeled vehicle, a gear on the axle of the wheels of the vehicle, a supporting frame, a series of magnets arranged between the wheels in a row transverse to the direction of travel, an endless belt guided across the magnets longitudinal of the series, a driving pulley over which the belt takes, and an operative drive connection between the pulley and gear.

4. In a road clearer, the combination with a wheeled road vehicle, of a series of magnets having downwardly directed magnetic faces, a belt taking under the faces of the magnets, means for transmitting power from the moving vehicle to said belt, guides for the edge portions of the belt, and a plurality of cross strips on the under side of the belt each extending substantially across the space between the guides to maintain the belt flat.

In testimony whereof I affix my signature.

JOSEPH W. ADY.