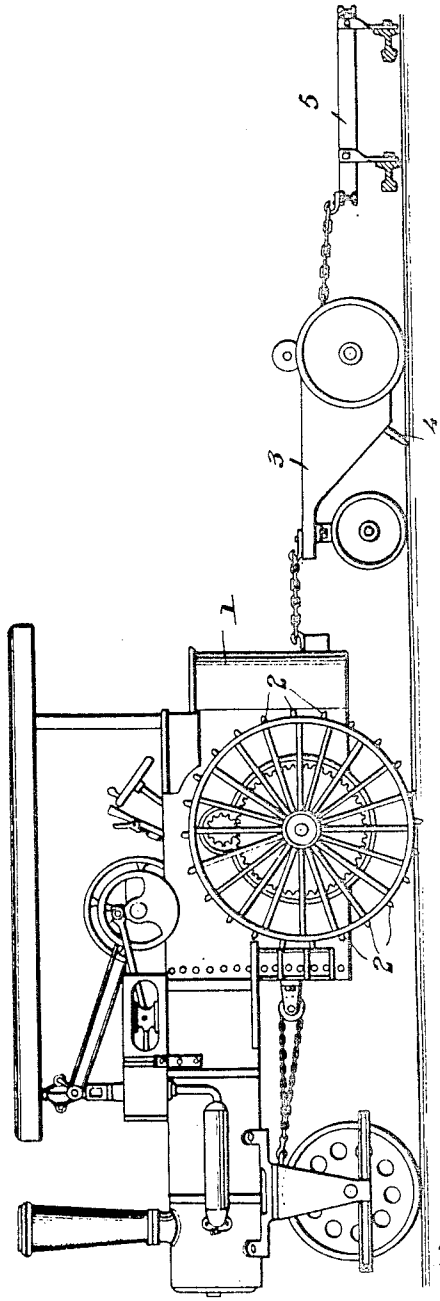
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APPARATUS FOR BUILDING ROADS.

APPLICATION FILED AUG. 5, 1913.

1,124,847.

Patented Jan. 12, 1915.



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APPARATUS FOR BUILDING ROADS.

1,124,847. Specification of Letters Patent. Patented Jan. 12, 1915.

Application filed August 5, 1913. Serial No. 783,104.

To all whom it may concern:

Be it known that I, THOMAS BREWER, a citizen of the United States, residing at Homestead, in the county of Dade and State of Florida, have invented new and useful Improvements in Apparatus for Building Roads, of which the following is a specification.

This invention relates to apparatus for building roads and it includes the novel features hereinafter described and claimed.

An object of the invention is to provide apparatus to be used in a method for economically building roads in localities where surface rock of comparatively soft texture prevails.

In some sections of the country at or immediately below the surface of the soil there exists solid rock formation as for instance phosphate rock or lime stone. This rock is of comparatively soft texture but at the same time fissures, crevices, holes and stumps of trees are found at more or less frequent intervals in and upon the same. In constructing roads over this character of land it has heretofore been the practice to remove the stumps of the trees by blasting or otherwise and after this has been done comparatively small pieces of rock have been hauled in and filled into the crevices, holes and fissures and into the holes left by the removal of the stumps. After a foundation has thus been constructed a road bed is laid upon the same and is rolled or smoothed in any convenient manner. This method is extremely expensive for the reason that much of the material in the foundation must be handled manually in order to properly place the same preparatory to the laying of the surface.

It is the object of the present invention to prepare the road bed or foundation and spread and smooth the surface at one and the same operation thereby eliminating much labor and consequently reducing the expense of building the road.

The apparatus employed comprises a heavy traction engine provided upon the periphery of its drive wheels with radially disposed spikes which are adapted to crack or fracture the surface of the rock. Hitched to the traction engine and drawn immediately behind the same is an extremely heavy scarifier and hitched to the scarifier and drawn immediately behind the same is a drag of heavy pattern. Therefore as the engine travels over the line along which the road is to be constructed the spikes break up the surface portion of the rock and at the same time they afford sufficient traction between the wheels of the engine and the ground to prevent the wheels from slipping. The scarifier following immediately behind the engine breaks and disintegrates the material into comparatively small rocks or particles and the drag following immediately behind the scarifier levels and spreads the material whereby the surface of the road is formed.

In the accompanying drawings:—The figure is a side elevation of the apparatus.

As hereinbefore stated the method as improved for building roads is simplified over the methods heretofore in vogue in that the material is distributed and placed by the use of machinery along the road instead of being placed manually as explained.

The present method consists in removing by blasting or otherwise the stumps of trees from the right of way over which the road is to be laid. The holes thus produced are left open and no attempt is made to fill the natural holes or crevices in the surface rock. The heavy traction engine having radially disposed spikes at the peripheries of its driving wheels is passed over the right of way. These spikes break up the surface rock to a certain extent and leave comparatively small crevices or fissures in the same. Drawn immediately behind the traction engine and by the same is a scarifier having teeth which enter the surface rock and fracture or break the same into small particles. Drawn immediately behind the scarifier and by the same is a drag which spreads the material and fills the same into all of the fissures, holes and crevices, thus the surface of the road is formed at a single operation and at the time that the foundation for the surface is prepared for its positioning thereon. Subsequent to the spreading of the material as above indicated the surface of the road may be rolled around if desired. Furthermore the drag may be disposed at an acute angle to the line of draft of the traction engine in order that the material may be moved toward the middle of the road or toward the side thereof as desired.

As shown in the accompanying drawing the traction engine 1 is of extremely heavy type and the said engine is provided about the periphery of its driving wheels with

radially disposed spikes 2. A scarifier 3 is hitched to the traction engine 1 and is adapted to travel immediately behind the same. The scarifier 3 is provided with a series of teeth 4 which are adapted to enter the surface portion of the rock and effectually break or reduce the same to comparatively small particles. A drag 5 is hitched to the scarifier and travels immediately behind the same. This drag may be of any approved pattern, care being taken however that it must be of a very heavy type.

Therefore it will be seen that by following the steps of the method hereinbefore described and by using the apparatus shown and described a great saving may be effected in building roads inasmuch as the material is reduced to small particles and properly positioned upon the road bed at one operation.

The apparatus hereinbefore described may also be used economically for reducing the surface rock to comparatively small bodies or particles when it is desired to convert the rock into soil adapted to be used for agricultural purposes.

A field which is treated as hereinbefore described is not rolled or packed and consequently the air and rain may permeate the loose particles of rock at the surface and soften or rot the same whereby it is converted into a rich soil. This method may also be used for repairing or rebuilding roads whereby the roads may be kept in a good serviceable condition and free of ruts etc.

Having described the invention what is claimed is:—

Apparatus for transforming surface rock into a road while the rock remains in its natural position, comprising means for cracking the surface of the rock, means for scarifying the surface of the rock transversely of the cracks, and means for distributing the material loosened at the surface of the rock to fill the crevices and depressions in the same and to produce a comparatively smooth roadway, all of said means being connected together and adapted to perform their functions successively in the order named as all of the means are simultaneously moved over the rock.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS BREWER.

Witnesses:
H. P. CLEMENTS,
W. J. TWEEDELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."