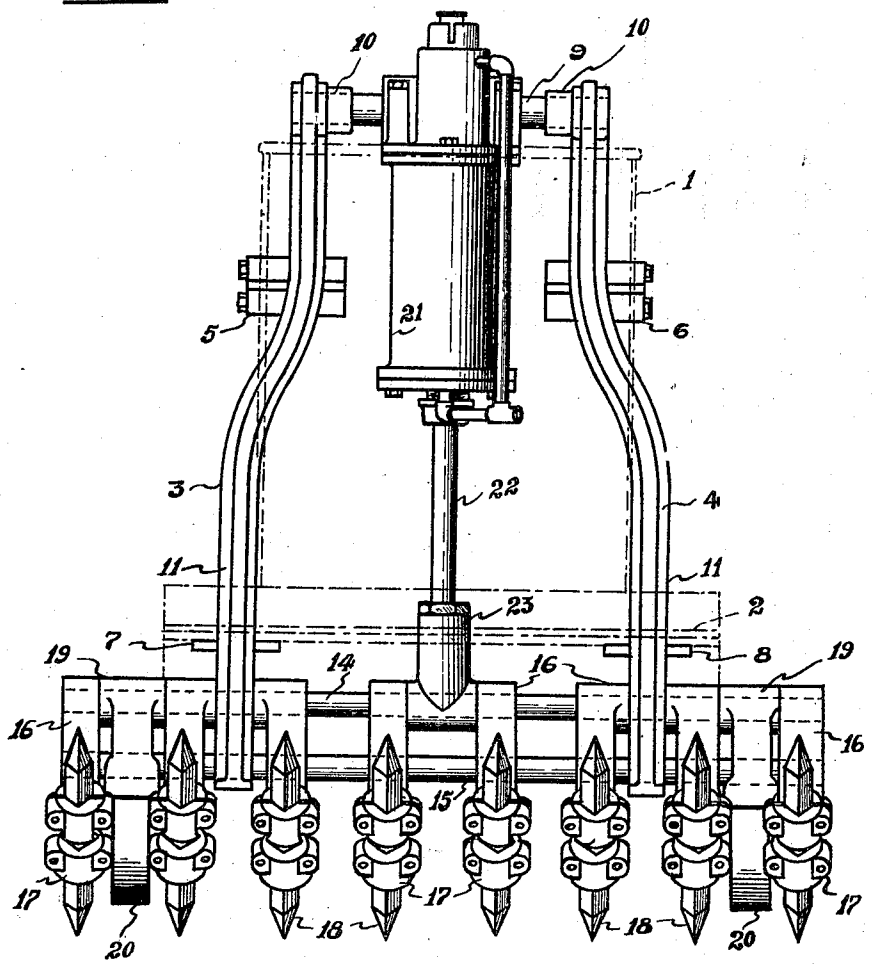
May 27, 1924. 1,495,277

H. M. THOMPSON

SCARIFIER FOR ATTACHMENT TO ROAD ENGINES

Filed Sept. 21, 1923 2 Sheets-Sheet 1

Fig 1.



INVENTOR,
Harold Moyin Thompson
BY, Frederick C. Bromley
ATTY.

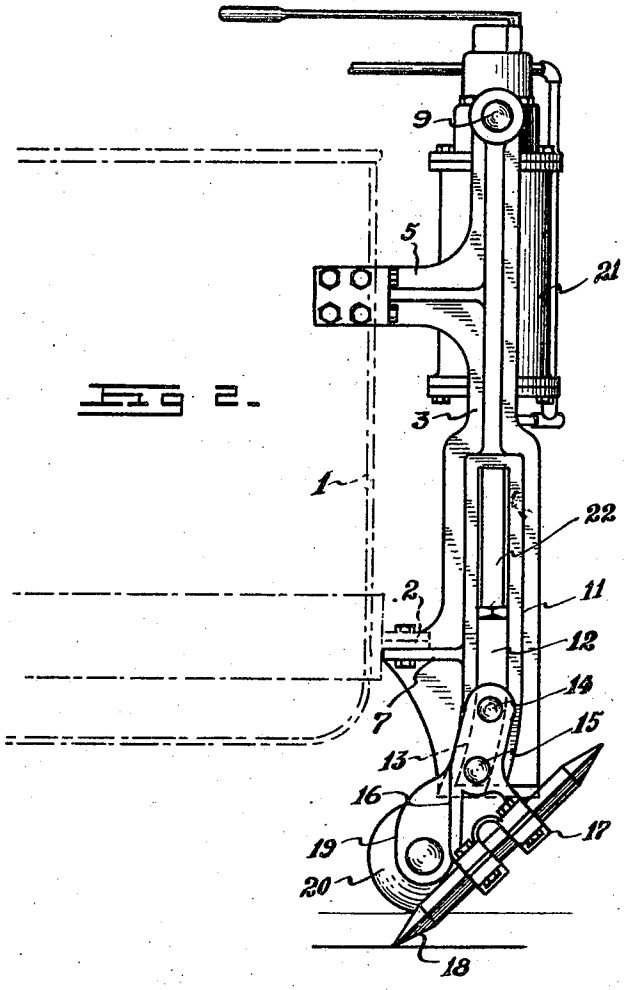
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Fig 2.



INVENTOR
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ATTY.

Patented May 27, 1924. 1,495,277

UNITED STATES PATENT OFFICE.

HAROLD MORFIN THOMPSON, OF HAMILTON, ONTARIO, CANADA, ASSIGNOR TO THE SAWYER-MASSEY COMPANY LIMITED, OF HAMILTON, ONTARIO, CANADA.

SCARIFIER FOR ATTACHMENT TO ROAD ENGINES.

Application filed September 21, 1923. Serial No. 664,061.

To all whom it may concern:

Be it known that I, HAROLD MORFIN THOMPSON, a subject of the King of Great Britain, and resident of the city of Hamilton, in the Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Scarifiers for Attachment to Road Engines, of which the following is a specification.

The invention relates to certain new and useful improvements in scarifiers for attachment to road engines as described in the present specification and shown in the accompanying drawings that form part of the same.

The device consists essentially of a vertical frame adapted to be securely connected to the rear end of a road engine, a pick unit slidably mounted therein and a fluid actuated apparatus connected thereto for the purpose of exerting pressure thereon and forcibly engaging the said pick unit with the road surface and effectively scarifying the same.

One object of the invention is to provide a scarifier attachment wherein the scarifying picks upon contacting with an obstacle, such as a manhole, will automatically recede therefrom, thus precluding their becoming injured thereby.

A further object of the invention is to provide a road scarifier having gauge wheels arranged to accommodate undulations of the road surface, and, furthermore, that the lateral disposition of these gauge wheels permits of scarifying the roadway in its entirety right up to the curb edge.

The invention still further provides a generally efficient and thoroughly durable scarifier, one comparatively inexpensive to manufacture and economical in its operation.

Referring to the drawings, Figure 1 is an elevation of the scarifier attached to a road engine as shown in dot and dash lines.

Figure 2 is a side elevation of Figure 1.

Like numerals of reference indicate corresponding parts throughout each figure of the drawings.

In the drawings, the road engine is designated by the character 1; a draw-bar 2 forms part of the equipment and is utilized in conjunction with other means of attachment hereinafter described for the purpose of securing the scarifier thereto.

The scarifier frame comprises opposing members 3 and 4 having their upper ends inwardly offset reducing the upper portion of the frame to a lesser width than the road engine. Extending from each of such reduced portions are brackets 5 and 6, preferably integral therewith as shown in the drawings, the extremities thereof being constructed to fit the respective corners of the road engine rear and being there secured by bolts or analogous fastening means.

7 and 8 are brackets extending from each member of the frame subjacent the aforesaid brackets and similarly affixed to said draw-bar 2.

9 is a shaft connecting the upper termini of the frame members 3 and 4 and having rigidly affixed collars 10 abutting the inner sides of the aforesaid members; said shaft being provided for the purpose of carrying a fluid pressure cylinder which is hereinafter more fully described.

The lower portion of each of the aforesaid frame members are formed into guides as at 11 comprising elongated slots 12 having forwardly curved lower ends 13, such slots constituting ways in which the pick unit operates.

14 and 15 are a pair of spaced transverse shafts operatively disposed in said slots 12, such shafts forming a part of the pick unit. As these shafts slide in the guide slots they are naturally subjected to a certain amount of wear and it will be manifest that bearing blocks or rollers may be made use of at this point if so desired.

16 are a plurality of pick arms rigidly secured on aforesaid shafts 14 and 15 by means of keys, or otherwise secured as may be found convenient; such arms being relatively spaced preferably and equidistance apart, and are provided with obliquely disposed split bearings 17 receptive to and receiving picks 18, said picks being downwardly and forwardly inclined.

19 are a pair of gauge wheel brackets, one of which is rigidly affixed on each end of the shafts 14 and 15 interposing the two extreme pick arms at each side of the frame, such brackets having their lower ends forwardly projecting in advance of said pick arms 16 and bifurcated receptive to gauge wheels. 20 are the gauge wheels, one being rotatably mounted in the bifurcations of each of said brackets and adapted to en-

gage the road surface to limit the penetration of said picks.

21 is a cylinder secured to shaft 9 intermediate of the length thereof and depending therefrom, such cylinder being provided with necessary fittings and connected to a fluid pressure source of supply such as steam from the road engine.

22 is a rod extending from the cylinder piston to the shaft 14 by a crosshead 23 so that upon the motive fluid entering the cylinder such rod will be actuated thereby thus elevating or depressing the pick unit.

In the operation of this invention, the pick unit is held in a normal inoperative position by the motive fluid contained in the lower end of the cylinder. Upon release of this motive power and its passage into the upper portion of the cylinder, the piston rod 22 is depressed, thereby lowering the shafts 14 and 15 bearing the picks 18 which penetrate the road surface to a depth controlled by the gauge wheels 20. Should the said picks encounter any considerable obstruction the curvature 13 of the slots of the guides 11 permits such picks to recede against the pressure thereon thus precluding injury to the same.

Having now described the preferred form of the embodiment of the invention capable of carrying the same into practical operation, it being understood that changes in shape, proportion and general assemblage of the parts may be resorted to without departing from the spirit and scope of the invention, and the right is accordingly reserved of making such changes and modifications as may fairly come within the spirit of the invention and the claims hereinafter following.

What I claim is:—

1. In a device of the class described, a frame having guides comprising slots forwardly curved at their lower ends, transverse shafts slidably disposed in such guide slots and bearing pick arms, picks obliquely disposed in said arms, brackets rigidly secured on said shafts bearing gauge wheels disposed in advance of said picks, and a fluid pressure cylinder depending from the frame having a piston rod connected to one of said shafts to elevate and depress said picks.

2. In a device of the class described, a frame comprising vertical side members having inwardly offset upper ends forming a frame of a lesser width than the road engine and having guides comprising slots forwardly curved at their lower ends, transverse shafts slidably disposed in such guide slots and bearing pick arms, picks obliquely disposed in said arms, brackets rigidly secured on said shafts bearing gauge wheels disposed in advance of said picks, and a fluid pressure cylinder depending from the frame having a piston rod connected to one of said shafts to elevate and depress said picks.

3. In a device of the class described, a frame having a reduced upper end, brackets extending from such upper end thereof having extremities adapted to fit and bolt to the respective rear corners of the road engine, brackets extending from said frame subjacent thereto and adapted to bolt to the draw-bar of the road engine, guides integral with said frame comprising slots forwardly curved at their lower ends, transverse shafts slidably disposed in such guide slots and bearing pick arms, picks obliquely disposed in such arms, brackets rigidly secured on said shafts bearing gauge wheels disposed in advance of said picks, and a fluid pressure cylinder depending from the frame having a piston rod connected to one of said shafts to elevate and depress said picks.

4. In a device of the class described, a frame having guides comprising slots forwardly curved at their lower ends, a pair of transverse shafts slidably disposed in such guide slots, pick arms rigidly secured on said shafts in spaced relation and bearing obliquely disposed split bearings, picks secured in such arm bearings and inclined downwardly and forwardly therefrom; gauge wheel brackets, one of which is rigidly affixed on each end of said shafts interposing the two extreme pick arms at each side of the frame, gauge wheels rotatably mounted in aforementioned gauge wheel brackets, and a fluid pressure cylinder depending from the frame and having a piston rod connected to one of said shafts to elevate and depress said picks.

5. In a device of the class described, a frame having guides comprising slots forwardly curved at their lower ends, transverse shafts slidably disposed in such guide slots bearing pick arms, picks obliquely disposed in said arms, brackets rigidly secured on said shafts bearing gauge wheels disposed in advance of said picks, a fluid pressure cylinder pivotally secured to said frame and depending therefrom, and a piston-rod extending from said cylinder connected to one of said shafts by means of a crosshead to elevate and depress said picks.

Signed at Hamilton, Canada, this 31st day of August, 1923.

HAROLD MORFIN THOMPSON.

Witnesses:

THOMAS B. CHRISTIE,

ADELBERT JAMES YOUNG.