Nov. 19, 1940. W. C. BIRK 2,221,906

SCARIFYING BLADE

Filed Aug. 29, 1939

FIG. 1.

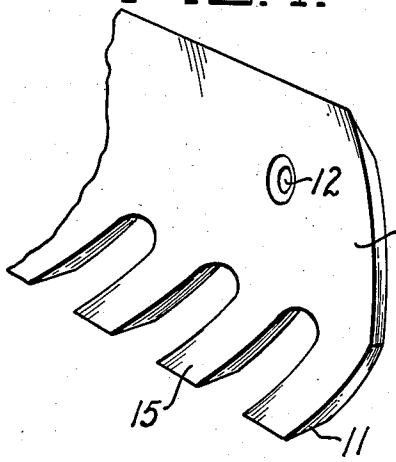


FIG. 4.

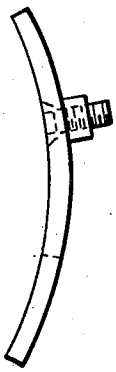
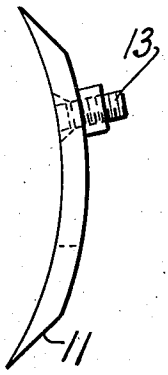


FIG. 3.



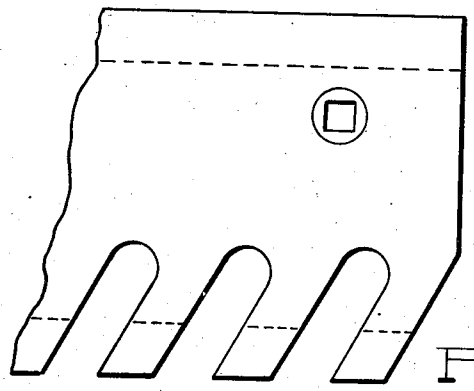


FIG. 2.

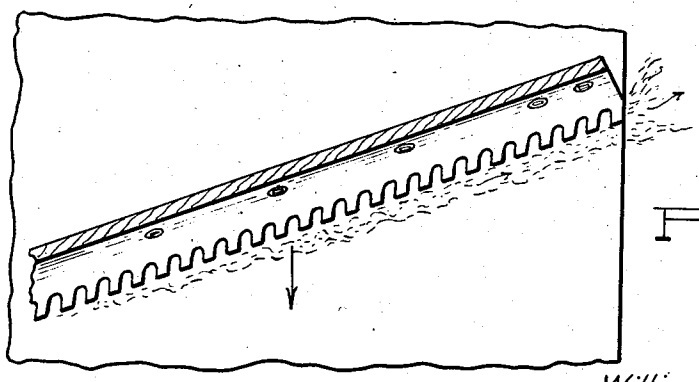


FIG. 5.

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UNITED STATES PATENT OFFICE

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SCARIFYING BLADE

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Application August 29, 1939, Serial No. 292,464

4 Claims. (Cl. 37—177)

This invention relates to blades for attachment to all types of road maintenance equipment for use particularly in connection with the removal of ice, sleet and hard packed snow from road surfaces and for scarifying and assisting in maintenance work on highways.

The primary object of the invention is the provision of a toothed blade of this character having a novel arrangement of teeth which renders it particularly valuable and efficient in the removal of ice and hard packed snow from highways in a comparatively easy, rapid and economical manner.

The invention is fully described in the following specification, and illustrated in one embodiment thereof, in which—

Figure 1 is a fragmentary perspective view of a blade embodying the invention; Fig. 2 is a fragmentary face view thereof; Fig. 3 is an end elevation thereof; Fig. 4 is a similar end elevation with the edges squared, and Fig. 5 is a view of a portion of the blade, showing its operating relationship to a road surface with the direction of travel of the blade thereover indicated by the arrow.

Referring to the drawing, 10 designates a blade embodying the invention and preferably having its front face concaved or curved in a transverse plane for material lifting purposes. The lower or working edge of the blade is preferably beveled at its rear side, as at 11, to provide a sharpened cutting or scraping edge. The body of the blade is provided with holes 12 for receiving suitable bolts or screws 13 for attaching it to road maintenance equipment, as for instance to the moldboards of graders. The lower or working edge of the grade is provided throughout its length with a row of teeth 15 preferably equidistantly spaced with the spacing width substantially equal to the tooth width. The teeth are greater in depth than the depth of the bevel 11 and have their side edges parallel and outwardly inclined lengthwise of the blade with the inclination, for best results, approximately at a 30° angle to the blade edge. The teeth are preferably approximately one inch to one and one-quarter inches wide and two and one-half inches long.

The blades may be of either the right or left tooth-angling type, depending on the end of the blade from which the scraped material is delivered. If the blade is set oblique to a road to deliver material to the left relative to the line and direction of travel of the scraper, as shown in Fig. 5, the teeth incline in the opposite direction or to the right, and the teeth then stand parallel to vertical planes which are lengthwise of and parallel to the line of travel, or in other words perpendicular to the road surface in the direction of travel.

These blades have been used to a considerable extent in northern Michigan and other places where a great deal of difficulty has been experienced in winter in removing hard packed snow and ice from road surfaces and in rendering the road safe for travel, and it has been found that such blades are more efficient for such work than anything heretofore used.

While the invention has been specifically shown and described, it will be understood that it can be varied within the scope of the claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent, is:

1. A road scarifying blade of the class described used crosswise of a road surface at an oblique angle to the line of scarifying movement thereof, said blade having at its lower edge a series of teeth spaced and outwardly inclined longitudinally of the blade in a direction and to an extent that they will stand parallel to planes perpendicular to the road surface in the line of travel of the blade and having forwardly presented scraping end edges in the face plane of the blade.

2. A road scarifying blade of the class described for use crosswise of a road surface at an oblique angle to the intended line of movement of the blade thereover, said blade having a lengthwise extending row of spaced parallel teeth at its lower edge with such teeth outwardly inclined lengthwise of the blade and away from the material delivering end of the blade to stand parallel to planes perpendicular to the road surface in the line of travel of the blade and presenting broad scraping end edges in the plane of the plate face.

3. A road scraping blade of the class described for use crosswise of a road surface at an oblique angle to the intended line of movement of the blade thereover, said blade being of curved form in cross-section with its concaved face forward and having the rear side of its lower edge beveled and also having its lower edge provided with a row of spaced parallel scraping teeth with such teeth inclined lengthwise of the blade at approximately a 30° angle to its edge and away from the delivery end of the blade to cause the teeth to stand perpendicular to the road surface in the line of travel of the blade

when the blade is at a predetermined oblique angle to the line of travel, the teeth being approximately one inch to one and one-quarter inches wide and two and one-half inches long.

4. A road scarifying blade of the class described for use crosswise of a road surface at an angle oblique to the intended line of movement of the blade thereover, said blade having its lower edge provided with a plurality of spaced notches extending inwardly of the blade crosswise thereof and forming spaced teeth therebetween with their side edges substantially parallel and their end edges extending lengthwise of the blade, said teeth being outwardly inclined lengthwise of the blade substantially parallel to planes perpendicular to the road surface in the line of travel of the blade.

WILLIAM C. BIRK.