Nov. 28, 1933. O. E. PEARCH 1,937,243

DETACHABLE ROAD SCRAPER BLADE

Filed Feb. 11, 1932

FIG. 1.

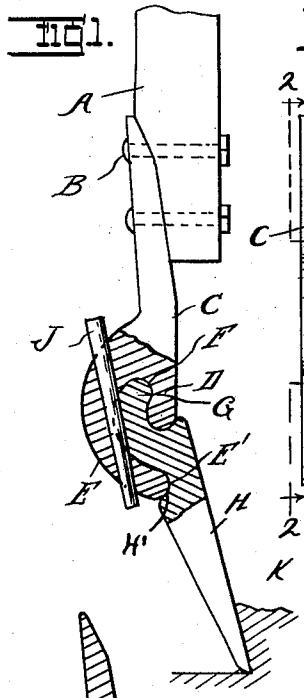


FIG. 2.

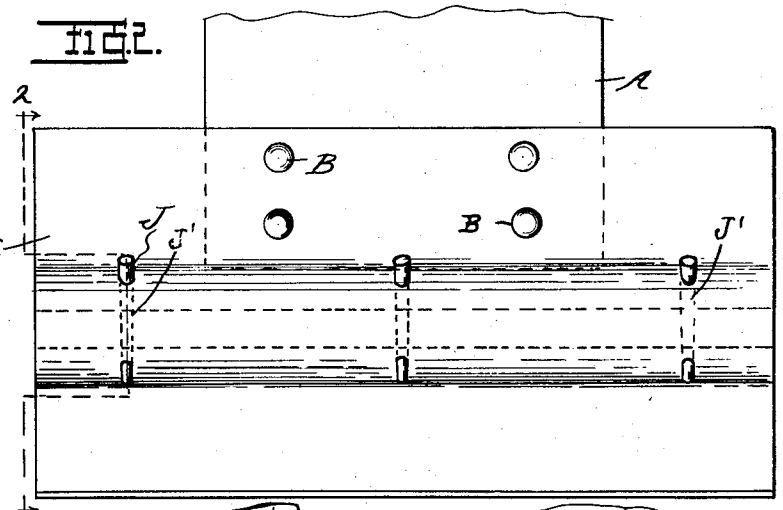


FIG. 3.

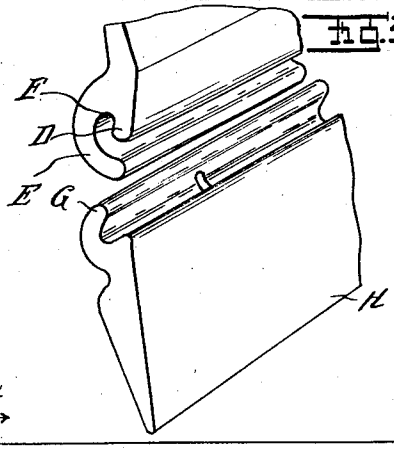
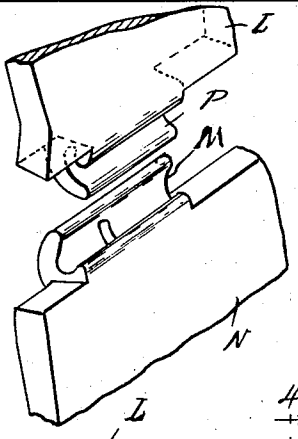


FIG. 6.



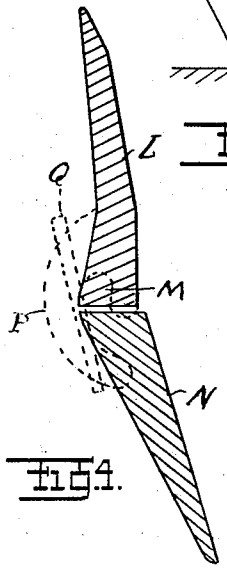


FIG. 4.

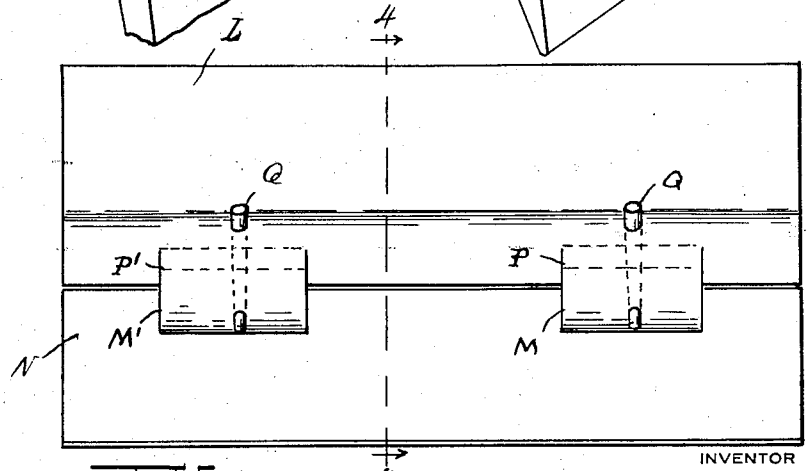


FIG. 5.

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DETACHABLE ROAD SCRAPER BLADE

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Application February 11, 1932. Serial No. 592,355

5 Claims. (Cl. 37—143)

This invention relates to an improved form of road scraper blade, particularly to the means employed for effecting the structural union thereof with the frame of the vehicle, from which such an article is supported for action upon irregular and unduly high surface portions of a gravel or dirt road, or piles of snow or ice. It has for its object the avoidance of the now frequently encountered objections in connection with the use of such a blade, due to the fact that, incident to its use, as well as to the fact that the whole vehicle upon which it is mounted is often left out in the weather for protracted periods, and such a blade when attached to the vehicle frame by means of bolts or similar instrumentalities often becomes rusted or "frozen", to such a degree that, when it is desired to remove a worn down or bent blade, it is often difficult to the degree of impossibility to do so without breakage of the parts, because of the rusted adhesion above referred to. In the construction forming the subject matter of my invention, these features of objection are avoided, while leaving both the serviceability of the blade, when installed on the vehicle, and its easy removal when desired, unimpaired.

In the drawing:

Figure 1 is an end or edge elevational view, partly in section, of one of my improved scraper blades, shown in position on a fragmentary portion of a vehicle frame.

Figure 2 is an elevational view taken from the rear of the machine, namely, at right angles to the position shown in Figure 1, though of abbreviated length from top to bottom.

Figure 3 is a fragmentary perspective of the meeting and interlocking edges of the scraper blade and of the adjacent supporting part of the frame, shown in disassembled relation to one another.

Figure 4 is a partly sectional end view similar to Figure 1, though illustrating a slightly modified form, being taken along the line 4—4 of Figure 5 and looking in the direction of the arrows there shown.

Figure 5 is a view from the rear of the vehicle illustrating this modified form, similarly to the manner in which Figure 2 illustrates the form first disclosed.

Figure 6, similarly to Figure 3, is a perspective of the detached but juxtapositioned parts of this modified form of blade and its supporting vehicle frame element, showing the interlocking means therein employed.

At A in Figure 1 is shown fragmentarily a portion of a vehicle frame, from which is dependingly supported, as by bolts B, the plate C, which, as brought out in the sectional central part of Figure 1 is cross sectionally contoured into the branches D and E, of which the branch D might roughly be compared to the thumb of one's hand, while the overreaching branch E would represent the index finger, viewed from one side. This contouring leaves a grooved space or bay, F, which, in the form of construction shown in Figures 1, 2 and 3, extends across the entire width of the supporting plate C.

Into this bay or recess F, between the points D and E, there is adapted to be inserted the complementarily contoured top edge G of the scraper blade proper H. This insertion of the blade within the recessed lower edge of the supporting plate C is accomplished by first moving the blade H toward the recessed lower end of the plate C in a position more or less transverse of the plane thereof, and after the point G has partly entered the space F, tracking the free lower edge of the scraper blade H thereabout as a center or sort of knuckle, so that by the time the blade H has reached the position shown in Figure 1, substantially coincident with the extended plane of the supporting plate C, the point E' of the latter has engaged in the slight inbent H' contouring on the corresponding part of the rear surface of the blade H. A firm structural interlock of these parts has now been effected, and, since the main part of the knuckle or entering top edge G of the scraper blade H is well within the recess F, a minimum of moisture, if indeed any, can enter in a manner to cause any "freezing" of the surface parts of these interlocking portions. When the blade H has attained the position described and shown, its unintentional displacement may be provided against by passing one or more of the pins J each through a suitable bore or recess J' in the supporting plate C, such stem or pin J also traversing a correspondingly deformed or grooved portion of the convex surface of the interlocking top edge G. These pins J serve no function as regards aiding the resistance of the blade H to displacement pressure by such road surface irregularities, as are indicated at K in Figure 1, but merely serve as an easily removable locking or clinching element after the blade has been swung into position in the manner described, preventing its being swung in the opposite direction and thus loosened.

In the modified form shown in Figures 4, 5, and 6, the same principles of construction are followed as regards the interlocking of the scraper blade N and the supporting plate L, but in place

of the complementary grooving of the lower edge of the supporting plate L and of the top edge of the scraper blade N extending completely from side to side of the vehicle frame, and fully lengthwise of each, I merely provide two or more complementary locking surfaces, as M and P and M' and P', at suitably spaced positions along the meeting edges of these two plates. And since the several pairs of interlocking knuckled surfaces M and P must be in axial alignment when finally positioned, it will be obvious that the driving of a locking pin, as Q, through the meeting portion of either pair, similarly to the construction of the pin J shown in Figures 1 to 3 inclusive, would be amply adequate to prevent undesired displacement of the scraper blade from its effected support by the lower edge of the supporting plate. As in the form first described, the greater and more prolonged the pressure against the forwardly facing surface of the scraper blade N the more firmly will it tend to interlock along its top edge with the prepared lower edge portions of the supporting plate L. The contrast between the approximate meeting of the adjacent edges of the plates L and M along most of their length, particularly along the line 4—4 of Figure 5 of which sectionally elevational Figure 6 is taken, and the interlocking of two of the complementary surfaces, as M and P, is brought out in this latter figure by the dotted-in representation of these parts.

What I claim is:

1. Means for detachably supporting a road scraper blade, comprising a supporting plate and a scraper blade having portions angularly disposed relatively to each other, said plate and blade being provided along their meeting edges with complementarily interfitting edge portions curved about an axis extending longitudinally of the blade and on a radius shorter than the width of the blade, whereby the blade is adapted to be structurally integrated with the plate by angular movement of said blade relatively to said supporting plate after their edges have been brought into juxtaposition.

2. A removable scraper blade adapted for installation upon a vehicle frame, comprising, in combination with a permanent supporting plate carried by the vehicle frame, a detachable scraper blade adapted for marginal interlocking union therewith through the medium of an angular swinging movement of the scraper blade relatively to the plane of the supporting plate when their adjacent edges have been brought into juxtaposition, said edges being complementarily contoured as entering and receiving elements, and a removable locking pin adapted to operatively engage said contoured edges of the plate and blade when thus interlocked, thereby preventing their unintended disengagement.

3. In combination with a supporting plate normally forming a permanent part of a vehicle frame, the lower edge of said plate being formed at selected points into a cross-sectionally concaved shape resembling a socket, a scraper blade adapted for detachable association therewith, being correspondigly contoured along its top edge for interlocking engagement with the described lower edge portions of said supporting plate, and locking pins removably engageable with the described interlocking portions of said parts, whereby the displacement of said scraper blade from its engagement with said supporting plate is prevented.

4. In combination, a scraper blade having a selectively contoured top edge portion, a supporting element therefor adapted to be positioned on a vehicle frame, said supporting element having its lower edge formed complementarily to the contourings of the top edge of said scraper blade for interfitting assembly therewith, said interfitting parts being curved about a radius shorter than the width of the blade, and one having an abutment limiting swinging movement of the other relatively thereto when they are assembled, whereby they may be interlocked by inserting one part in the other and rocking the blade.

5. In combination with a scraper blade supporting element, a scraper blade for detachable affixing thereto, said support and blade being provided with complementarily interfitting contourings on their meeting edges curved about a radius shorter than the width of the blade, whereby the blade is adapted to be moved to and from positions of engagement with and disengagement from the support by angularly swinging movement of the scraper blade relatively to its support with the described interfitting contourings of each operatively interfitting.

OLIVER E. PEARCH.