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FORM PULLER

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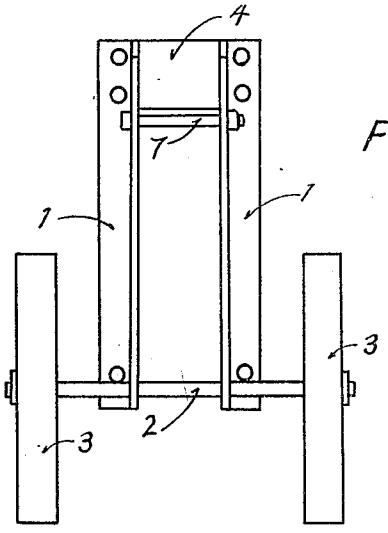


Fig. 2

Fig. 1

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FORM PULLER

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This invention relates to form pullers for use in pulling away forms used in the construction of concrete pavements.

Objects of the invention are to provide a form puller for the purpose indicated having a lever pivoted upon a vehicle and provided with a member for engaging the form to be pulled, arranged in a novel relationship to obtain mechanical and leverage advantages in detaching the form from the concrete; to provide a construction whereby the form will be forced away from the side of the pavement during the initial withdrawal movement of the form from the pavement; and to obtain other advantages which will be readily apparent from the description read in connection with the annexed drawing, in which—

Fig. 1 is a side elevation of my improved form puller, a part of the wheel being broken away to disclose other features.

Fig. 2 is a top plan view of the wheel and frame structure.

In the specific embodiment of the invention illustrated, the frame comprises a pair of angle bars 1 arranged in a relationship so that one leg of each bar extends vertically and the other legs extend laterally. The axle shaft 2 extends through holes in the upwardly extended legs of the angle bars and above the laterally extended legs of said bars. A pair of wheels 3 are mounted on the ends of the axle 2 and serve as a support for the rear end of the machine and also facilitate the movement of the machine from place to place.

A bar plate 4 is rigidly attached to the under side of the laterally extended legs of the angle bars 1 at their front ends and may have its under surface covered with appropriate cushioning material, such as rubber 4^a to avoid marring the pavement when the machine is used. The wheels 3 may be provided with rubber tires 3^a for a similar purpose.

A lever 5 is attached to a bearing 6. The bearing 6 is pivoted upon a rod 7 supported by the vertical legs of the angle bars 1 near their forward ends. A hook 8 extends through the forward end of the lever 5 and is attached thereto by nuts 9 and 10 screwed on the stem of said hook and clamping against the reinforcing strap 12 attached to the front end of said lever 5. The hook 8 is designed and adapted to engage the outwardly and downwardly extended flange at the upper end of the pavement form member 11 while the cushioned plate 4 seats upon the upper marginal portion of the pavement, as clearly indicated in Fig. 1 of the drawing.

A block 13 is mounted above the axle 2 and extends between the vertical legs of the angle bars 1 and holds the rear ends of said angle bars 1 in proper spaced relationship. The lower portion of the block 13 has grooves receiving the vertical legs of the angle bars 1, so that a rigid construction is obtained. The upper portion of the block 13 is attached to the vertical legs of the angle bars 1 by braces 14 and the lower portion of said block 13 is attached to the laterally extended legs of said angle bars by bolts 15.

In operation, the machine is placed in position near the side of the pavement, the cushioned wheels 3 resting upon the pavement and the cushioned plate 4 resting upon the upper surface of the marginal portion of the pavement. The forward end of the lever 5 is extended downwardly beyond the side edge of the pavement and the hook 8 is engaged under the outwardly and downwardly extended upper portion of the form 11. Then the rear upper end of the lever 5 is forced downwardly, thereby swinging the forward end of said lever outwardly and upwardly, so that the first movement of the form 11 is away from the side edge of the pavement. In this way, the adhesive union of the form member 11 to the pavement is broken and said form is detached from the pavement and lifted outwardly and upwardly, so that it may easily be removed by the workmen. Thus, all of the mechanical and leverage advantages, constituting the principal objects of the present invention, are obtained.

This machine may be manufactured at low cost and, being of sturdy construction, will last indefinitely.

I do not restrict myself in unessential par-

ticulars but contemplate such variations in the construction and arrangement of the machine as may be necessary to adapt the machine to all the uses to which it should be applied.

I claim:

1. A machine of the character described comprising a frame, wheels supporting the rear end of said frame, a bearing member attached to the forward end of said frame adapted to rest upon the upper surface of a marginal portion of a pavement, a lever pivoted to the forward portion of said frame and extending forwardly beyond said bearing member, and a device in connection with said lever adapted to engage a form at the side of the pavement.

2. A machine of the character described comprising a frame having a forward end adapted to rest upon the upper surface of a marginal portion of a pavement, rotary means supporting the rear portion of said frame, a lever pivoted to the forward portion of said frame and having a forward end adapted to extend downwardly below said frame, and a device in connection with the forward end of said lever adapted to engage a form at the side of the pavement.

3. A machine of the character described comprising a frame having a forward end adapted to rest upon the upper surface of a marginal portion of a pavement, rotary means supporting the rear end of said frame, a pivot near the forward end of said frame, a lever mounted on said pivot and having a forward end adapted to extend downwardly beyond the forward end of said frame and to swing outwardly and upwardly beyond the marginal edge of the pavement, and a device in connection with the forward end of said lever adapted to engage a form at the side of the pavement.

4. A machine of the character described comprising a frame, a part in connection with the forward end of said frame adapted to rest upon the upper surface of a marginal portion of a pavement, rotary traction means supporting the rear end of said frame, a fulcrum supported by the forward portion of said frame, a lever, a bearing attached to said lever and engaging said fulcrum and supporting said lever on said fulcrum, and a device in connection with the forward end of said lever beyond said fulcrum adapted to extend downwardly below said frame and engage a form at the side of the pavement and to swing outwardly and upwardly to detach said form from the pavement when the rear end of said lever is lowered.

5. A machine of the character described comprising angle bars forming a frame and each having a leg extending vertically and another leg extending laterally, a member attached to the under side of the forward ends of said bars adapted to rest upon the upper surface of a marginal portion of a pavement, an axle extending through the rear ends of said vertical legs of said angle bars, rotary traction means mounted on said axle, a spacer holding the rear ends of said bars spaced apart, a fulcrum supported by said vertical legs of said angle bars near their forward ends, a bearing engaging and supported by said fulcrum, a lever attached to said bearing and having one end extending forwardly beyond said angle bars and adapted to be extended downwardly below the forward end of said frame and to be swung upwardly and outwardly with respect to the forward end of said frame, and a hook attached to the front end of said lever and adapted to engage a form at the side of the pavement and to move said form upwardly and outwardly from the pavement.

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