

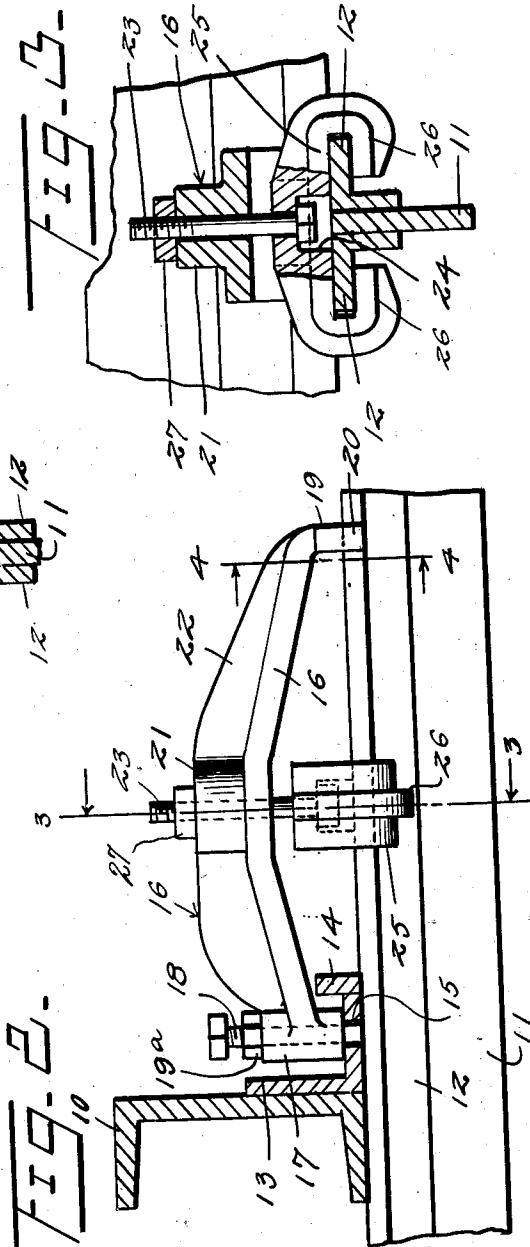
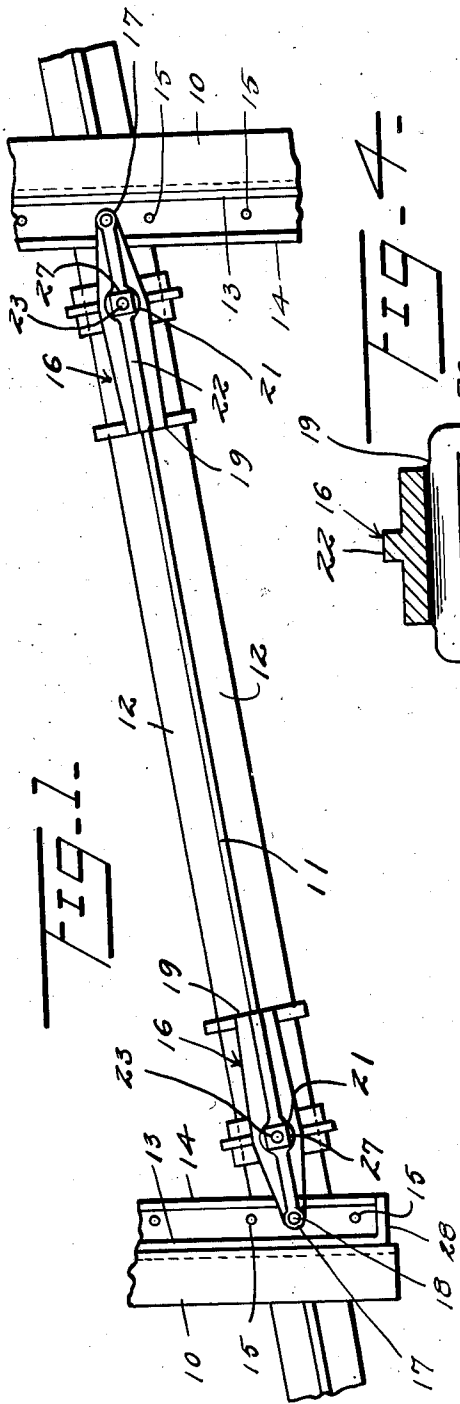
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BLADE SUPPORTING MEANS FOR ROAD SCRAPERS

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BLADE SUPPORTING MEANS FOR ROAD SCRAPERS

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6 Claims. (Cl. 37-143)

This invention relates to road drags or road planers and particularly to means for adjustably supporting a scraping blade upon the frame of the road drag, the blade holding means being particularly adapted, though not necessarily limited, to use with the rear blade of the drag which is the blade ordinarily mounted for adjustment laterally or angularly with relation to the line of draft.

One of the objects of the present invention is to provide a blade supporting and holding means which will permit the blade to be shifted longitudinally of itself either to the right or left of the frame into or out of a projected position and which will permit the blade to be disposed either at right angles to the line of draft or at an angle less or greater than a right angle to the line of draft.

A further and more specific object is to provide means which will positively engage the longitudinal frame beam or beams to hold the blade against movement after it has been adjusted, said means also constituting if desired a pivot upon which the blade may be turned for angularly adjusting it.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawing, wherein:—

Figure 1 is a fragmentary top plan view of the rear end of a drag or road planing machine and rear blade and showing my clamping means engaged with the blade;

Figure 2 is an enlarged sectional view through one of the main beams of the frame showing the blade and clamp in elevation;

Figure 3 is a section on the line 3-3 of Figure 2;

Figure 4 is a section on the line 4-4 of Figure 2;

In the drawing, 10 designates two channel irons or angle irons of the frame. The channel irons extend longitudinally of the frame in spaced relation to each other and are supported upon a rear axle and operatively upon a front axle, not shown. The rear and front axles are provided with means, not shown, whereby the frame may be raised or lowered and the frame beams 10 are braced from each other by any suitable means, not shown. The general structure of this character is shown in my copending application, Serial No. 477,875, filed on the 26th day of August, 1930.

Extending across below the frame beams 10 is the blade 11 which is constructed in the usual

manner of blades of this character, that is, it has angle irons 12 attached to its upper edge and extending longitudinally of the full length thereof to stiffen the blade.

These angle irons are attached to the blade in any suitable manner by riveting, welding or in any other desired manner. The detailed construction of this blade, however, forms no part of this invention.

Riveted, welded or otherwise attached to the inner faces of each of the beams 10 or formed integral with these beams is an angle iron 13 having its outside edge formed with an upwardly extending portion 14 which may be welded or otherwise attached to the horizontal web of the angle iron 13. This horizontal web of the angle iron 13 is perforated at 15, the perforations being disposed in uniform spaced relation along any desired portion of the rear ends of the angle irons 13.

For the purpose of holding the blade 11 to the beams 10, I provide the two clamps designated generally 16, these clamps being alike. Each clamp is bowed and at one end is provided with the hub 17 screw-threaded for the reception of a screw-threaded pin 18. This screw is held by means of a set nut 19 in any projected position. This screw pin 18 is designed to extend into any one of the perforations 15. The opposite end of the clamp 16 is widened so as to form a head 19 having jaws 20 which fit down on each side of the angle irons 12. The clamp 16 is formed with the central hub 21 and a longitudinally extending reinforcing or bracing web 22. Extending through the central hub is a bolt 23. This bolt has its head disposed in a recess 24 formed in a clamp 25 which embraces the angle irons 12 forming the head of the scraper 11, this clamp 25 being formed to provide the two opposed inwardly extending jaws 26 engaging beneath these angle irons.

Nut 27 on the bolt 23 acts to draw this bolt upward through the clamp 16 and, therefore, causes the clamping head 25 to draw the scraper upward into place within the head 19 and hold the scraper up against the under face of the angle iron 13 and the corresponding beam 10.

It will be seen that with a construction of this character, the blade is positively held upon the beams 10 by the screw pins 18 which extend down into the perforations of the flange 13. Gusset plates 28 are formed at the ends of the angle iron or flange 13 so as to prevent the clamps 16 from moving off of the angle irons 13. By retracting the pins 18, one or both ends of

the scraper 11 may be shifted longitudinally of the machine, the nuts 27 being released, of course, so as to permit the scraper blade to slide through the clamping heads 25, if necessary, in making this adjustment. One clamp 16 may be left engaged with the beam 10 and specifically with the angle iron 13 and the other clamp loosened for adjustment, in which case the end of the blade having a loosened clamp may be shifted, the pin 18 of the first named clamp acting as the pivot for this shifting action. By loosening both clamps, of course, the blade may be shifted longitudinally, transversely of the draft axis of the machine so as to project the blade in one direction or the other. By this means, therefore, the blade may be readily held in any adjusted position, either transversely shifted to the right or to the left or rotatively shifted into greater or less angular relation to the line of draft. I am aware that clamps have been provided for holding scraper blades on the frame beams, such as the beams 10, but these clamps have heretofore not been provided with any locking pins, such as the locking pins 18 which positively hold the scraper supporting clamps upon the beams 10, but heretofore friction has been entirely relied upon for holding the scraper or supporting clamps in position on the beams 10.

A further advantage of the present construction lies in the fact that each pin 18, if sufficiently long, will remain in its aperture 15, even though the parts of the clamp work loose, thus maintaining the scraper blade in proper adjusted position.

As has been mentioned above, the gusset plates 28 extend across the ends of the angle iron 13 and the upwardly extending flange 14 thereof, the angle 13 with its flange 14 and gusset plates 28 forming, in effect, a trough closed at its ends, for positively preventing the clamps from moving off the angle irons 13.

In view of the very great strain which comes upon the scraper blades, these blades held upon the beams 10 by friction between the clamps and the beams have tended to shift to a greater or less extent and it has been necessary to provide a transverse supporting beam with a clamp to engage the head of the scraper. It will be seen that this is not necessary with my construction and though the scraper blade is held positively in its adjusted position, yet it can be readily shifted and can be adjusted to any desired position, either laterally projected to one side or the other of the frame of the machine or into any desired angular relation to the line of draft.

While I have heretofore referred to the set screw 18 as extending through perforations in the angle as illustrated in Figure 2, I do not wish to be limited to this as the set screw may be engaged with the flange of the angle iron 13 intermediate the apertures 15 and will in this position also act to clamp the blade or the member 16 in adjusted position.

I claim:—

1. The combination with a longitudinally extending supporting beam having an outwardly projecting flange, a scraper disposed beneath the supporting beam, of means for clamping the scraper and the supporting beam comprising a clamping member having at one end a head engaging over the scraper and at the other end provided with an apertured head, a pin passing through the apertured head and engageable with said flange, and means on the clamping mem-

ber for engaging the scraper and drawing it upward against the under face of the beam and flange and against the head of the clamping member, said flange on the beam having an upwardly extending guard flange within which the apertured head of the clamping member is disposed.

2. The combination with a longitudinally extending supporting beam, having an outwardly projecting flange, a scraper disposed beneath the supporting beam, of means for clamping the scraper and the supporting beam comprising a clamping member having at one end a head engaging over the scraper and at the other end provided with an apertured head, a pin passing through the apertured head and engageable with said flange, and means on the clamping member for engaging the scraper and drawing it upward against the under face of the beam and flange and against the head of the clamping member, said flange on the beam having an upwardly extending guard flange within which the apertured head of the clamping member is disposed, the outwardly projecting flange on the beam being formed at one end with a gusset plate to prevent the clamp from passing off at the end of the flange.

3. The combination with a longitudinally extending supporting beam having an outwardly projecting flange formed at its margin with an upwardly projecting guide flange, and a scraper disposed beneath the supporting beam, of means for clamping the scraper to the supporting beam, comprising a clamping member having at one end a head engaging over the scraper, the opposite end of the clamping member extending over the flange and between said supporting beam and the guide flange and having a clamping element adjustably secured through said head and adapted to bear against the flange on the beam, and means intermediate the ends of said clamping member for engaging the scraper and drawing it upward against the under face of the beam and flange and against the first named head.

4. A road scraping machine comprising the combination with a frame, of a scraper blade, a closed end trough secured to each side of the frame, the said trough having a bottom provided with a series of apertures, and means for adjustably clamping the scraper blade to the frame, the said means comprising releasable clamps engaging the said blade and provided with an adjustable pin for interlocking with a selected opening in the trough bottom for securing the blade in a predetermined position of adjustment, the said closed end trough preventing the clamping means from moving off the frame.

5. A road scraping machine comprising the combination with a frame, of a scraper blade, a closed end trough secured to each side of the frame, and means for adjustably clamping the scraper blade to the frame, the said means comprising releasable clamps engaging the said blade and provided with means for interlocking the clamps to the frame, the closed end trough preventing the clamps from moving off the frame.

6. The combination with a longitudinally extending supporting beam having an outwardly projecting flange, a scraper disposed beneath the supporting beam, of means for clamping the scraper and the supporting beam comprising a clamping member having at one end a head engaging over the scraper and at the other end being provided with an apertured head, a pin

passing through the apertured head and engage-
able with the flange, means on the clamping
member for engaging the scraper and drawing it
upwardly against the upper face of the beam
and flange and against the head of the clamp-
ing member, the flange on the beam having an
upwardly extending guard flange within which

the apertured head of the clamping member is
disposed, the outwardly projecting flange on the
beam being formed at its ends with a gusset
plate forming with the flange a trough closed
at its ends for preventing the clamp from pass-
ing off at the ends of the flange.

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