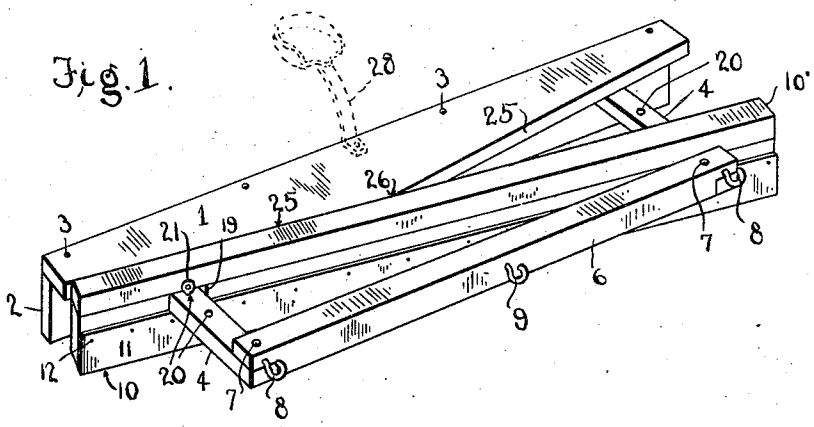
J. A. SMITH.

ROAD SCRAPER.

APPLICATION FILED JAN. 6, 1913.

1,066,332. Patented July 1, 1913.

Fig. 1.



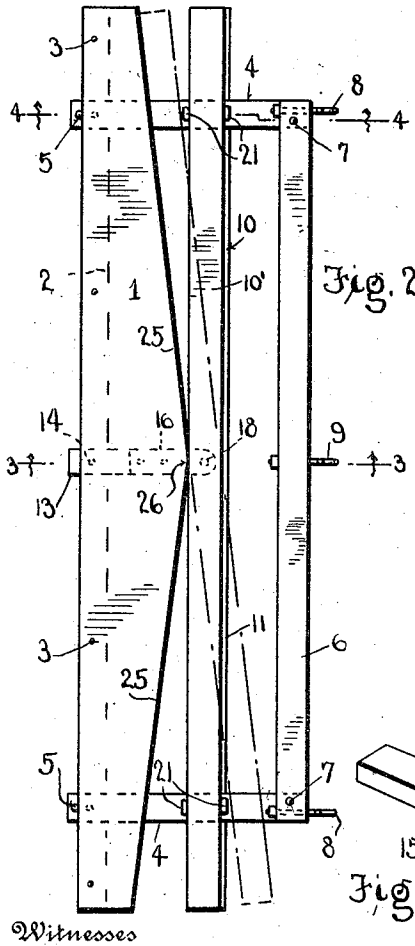


Fig. 2.

Fig. 3.

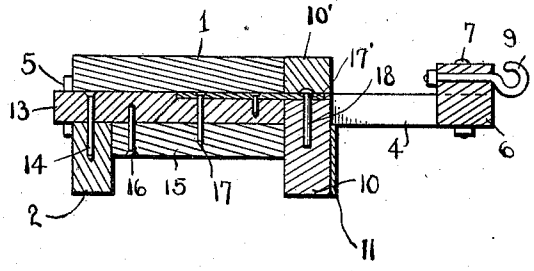
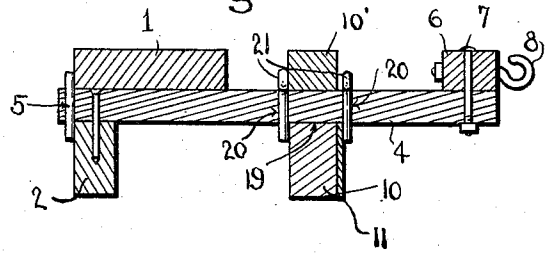


Fig. 4.



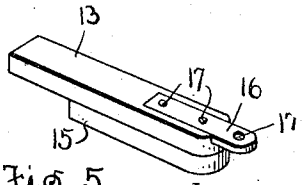


Fig. 5.

Witnesses

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ROAD-SCRAPER.

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To all whom it may concern:

Be it known that I, JAMES ANDREW SMITH, a citizen of the United States, residing at Carthage, in the county of Hancock and State of Illinois, have invented certain new and useful Improvements in Road-Scrapers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to road scrapers, and more especially to those which have the scraping blade movably connected with the frame so that it may be set at either oblique angle to the line of travel; and the object of the same is to improve the construction of the framework and of the pivot and support of the blade thereon so that the latter is borne firmly to its work and side lash is eradicated as far as possible. This object is carried out by constructing the scraper in the manner hereinafter more fully described and claimed and as shown in the drawings wherein—

Figure 1 is a perspective view of this scraper complete; and Fig. 2 is a plan view thereof, the dotted lines in the latter view showing the blade set at one oblique angle. Figs. 3 and 4 are cross sections on the lines 3—3 and 4—4 respectively of Fig. 2. Fig. 5 is an enlarged perspective detail of the pivot for the scraper blade.

In the drawings the framework of this improved scraper is shown as composed of a transverse rear bar 1 which is by preference a heavy piece of planking lying flat, and possibly supported at its rear edge by an upright shoe 2 which is another piece of planking secured to the rear bar by any suitable means such as screws or nails 3. Attached to this structure near its extremities are two end bars 4 which by preference pass beneath the rear bar 1 and through holes in the shoe 2 and are connected therewith by keys 5 as best seen in Figs. 3 and 4; and the front ends of said end bars 4 are connected by a front bar 6 standing some distance forward of and parallel with the shoe 2 and secured to the front ends of said end bars 4 by any suitable means such as screws or bolts 7. Said front bar carries a plurality of bolt hooks whereof two numbered 8 are disposed near its extremities and a third one numbered 9 is at its center as seen in Fig. 2, and to one or more of these hooks the draft may be attached as by means of a swingletree or whiffletree not necessary to illustrate. When the road is very muddy or the scraping is heavy two horses or two pairs of horses may be attached to the end-most hooks 8; when the work is lighter a team or a three-horse evener may be attached to the intermediate hook 9; and if desired a team may be attached to the intermediate hook and a single horse to either of the end hooks. This matter, however, may be left to the user, and in fact there might be more hooks than shown.

The principal feature of the present invention lies in the specific manner of mounting and bracing the scraper bar. The latter bears the numeral 10 and its front face is protected for a distance from its lower edge upward by means of a metallic wear plate 11 secured thereto by nails or screws 12. Above this plate the scraper rises to a line about flush with the top of the rear bar 1 as shown in Figs. 3 and 4, and by preference it is connected with said bar by means of the pivot as seen in Fig. 5. This consists of an intermediate or central bar 13 which underlies the rear bar and overlies the upper edge of the shoe 2, to which it is secured as by a stout screw or nail 14, a brace 15 by preference being disposed forward of the shoe 2 and beneath the rear bar 1 to which it is secured by a screw or nail as seen in Fig. 3. Finally, the pivot includes a metallic strap or plate 16 nailed as at 17 upon, or set into a recess in, the upper face of the bar 13 and projecting forward of the same and pierced with an eye 17′, and through said eye passes a king bolt 18 which engages the scraper 10 at a point midway between its ends. Such scraper may in fact be made of two members as best seen in Fig. 3, and the uppermost member 10′ overlies the head of the king bolt and protects the same from loss. The lower member is notched out as seen at 19 in Fig. 1, and the uppermost member 10′ overlies the notches to form openings through which the end bars 4 pass freely, said bars being provided with eyes 20 into which may be dropped pins 21 in front and in rear of the end of

the scraper to hold the latter at any angle to the framework desired. It is quite obvious that by removing and resetting these pins, the angle may be adjusted, the scraper turning meanwhile over the king bolt 18. The most important feature of my invention, however, lies in the specific shape of the rear bar 1. That is to say, while its rear edge is straight, its front edge is inclined slightly forward from its end to its center as at 25, making an angle 26 at said center directly in rear of the king bolt 18; and against this angle the center of the scraper 10 rests constantly, rocking over the same as it is adjusted by means of the pins in the manner above set forth. It follows from this construction that when the scraper is adjusted with one end as far to the rear as possible, as seen in dotted lines in Fig. 2, this part or entire half of the scraper rests against the beveled front edge 25 of the rear bar 1 and is rigidly supported thereby, while the outer end of the other part or half is held toward the front by one of the pins 21 above referred to. When now draft is applied to the hooks and the scraper is drawn forward over the road or surface to be treated, it may be assumed that as much resistance is met with by one half of the scraper as the other, but it is clear that the scrapings will travel laterally along the wear plate and will soon pass the pivot and accumulate against the front face of that end of the scraper which stands farthest to the rear. Therefore there is more work thrown onto this end of the device than the other end, and the additional strain is firmly resisted by the shape of the rear bar. I have found by experience that a device as thus constructed will have little if any side lash—due possibly to the presence of the shoe 2 whose lower edge rests upon the scraped ground or road over which the scraper bar has passed. The flat upper face of the rear bar serves also as a convenient platform on which one or more operators may stand in case it is desired to give the scraper more weight, and it is not inconsistent with my invention that standards 28 might rise therefrom to serve as a handrail or support a seat as seen in dotted lines in Fig. 1.

By preference the device is entirely of wood excepting its hardware, and its proportions are immaterial.

What is claimed as new is:

1. The herein described road scraper consisting of a framework including a rear bar whose front edge is cut on two lines converging from its ends to an obtuse angle at its center, a straight scraper bar whose center rests against said angle and whose body is pierced with holes near its extremities, end bars secured to said rear bar and passing loosely through said holes, means for adjusting the extremities of said scraper bar on said end bars, and draft appliances connected with the latter.

2. The herein described road scraper consisting of a framework including a rear bar whose front edge is cut on two lines converging from its ends to an obtuse angle at its center, a straight scraper bar whose center rests against said angle and whose body is pierced with holes near its extremities, end bars secured to said rear bar and passing loosely through said holes and each pierced with a series of eyes, a front bar connecting the front ends of said end bars and carrying draft appliances, and pins removably inserted in said holes.

3. The herein described road scraper consisting of a framework including a rear bar whose front edge is cut on two lines converging from its end to an angle at its center, a straight scraper bar whose center rests against said angle and whose body is pierced with holes near its extremities, end bars secured to said rear bar and passing loosely through said holes, means for adjusting the extremities of said scraper bar on said end bars, draft appliances connected with the latter, an intermediate bar secured beneath said rear bar, a metallic plate between said intermediate bar and rear bar and projecting forward of the angle of the latter and pierced with an eye, and a king bolt through the center of the scraper bar and said eye.

4. The herein described road scraper consisting of a framework including a rear bar whose front edge is cut on two lines converging from its ends to an oblique angle at its center, a straight scraper bar resting against said angle, a shoe secured beneath and depending from the rear edge of said rear bar, end bars underlying said rear bar near its ends and passing through said shoe, keys in rear of the latter passing through said end bars, the latter having series of eyes through their bodies and the scraper bar having holes near its extremities through which said bodies pass loosely, pins removably inserted in said eyes, and draft appliances connected with the end bars, for the purpose set forth.

5. The herein described road scraper consisting of a framework including a rear bar whose front edge is cut on two lines converging from its ends to an obtuse angle at its center, a metallic strap secured beneath said rear bar and projecting forward of its angle and pierced with an eye, a straight scraper bar resting against said angle over said strap, a king bolt through the scraper bar and eye in the strap, a shoe secured beneath and depending from the rear edge of said rear bar, end bars underlying said rear

bar near its ends and passing through said shoe, keys in rear of the latter passing through said end bars, the latter having series of eyes through their bodies and the scraper bar having holes near its extremities through which said bodies pass loosely, a front bar bolted to and connecting the front ends of said end bars, a plurality of hooks projecting forward from said front bar, and pins removably inserted in said eyes for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES ANDREW SMITH.

Witnesses:
JENNIE E. MAGILL,
JOHN M. OWEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."