DRINNEN et al. v. WESTERN WHEELED SCRAPER CO.

(Circuit Court of Appeals, Seventh Circuit. March 23, 1898.)

No. 352.

PATENTS—CONSTRUCTION—INFRINGEMENT—ROAD GRADERS.

The Welch patents, Nos. 379,550 and 380,068, for new and useful improvements in road graders, consist of a combination of old elements to produce a machine in which vertical, horizontal, and angular adjustments of the scraper blade may be made without stopping the machine, and are so limited by the prior state of the art as to claim 1 of the former patent and claim 2 of the latter that they are not infringed by a machine made according to the Houser patent, No. 454,048. 77 Fed. 194, reversed.

Appeal from the Circuit Court of the United States for the Southern Division of the Northern District of Illinois.

The Western Wheeled Scraper Company exhibited its bill in the circuit court alleging infringement by the defendants of certain patent rights secured by letters patent as mentioned in the opinion below. Among the devices shown in the prior art, the following were dwelt on by counsel in their arguments in this court: The patent to McCall, Watkins & Scott, No. 160,535, for a road scraper; the patent to M. E. Lasher, No. 242,659, for a grading, ditching, and leveling machine; the patent of G. W. Taft, No. 276,093, for a machine for making and repairing roads; the patent to M. E. Cook, No. 296,138, for a road scraper; the patent to S. Pennock, No. 344,197, for a road grader; the patent to M. E. Cook, No. 359,848, for a road scraper; the patent to H. G. Moats, No. 363,342, for a road grader; the patent to G. and O. E. Moats, No. 370,806, for a road grader; the patent to Paulson and Lathrop, No. 370,655, for a road grader; the patent to Barraclough and Pritchard, No. 160,253, for a fifth wheel; the patent to D. D. Hayes, No. 202,169, for an extension ladder; the patent to Cyrus Smith, No. 120,337, for an improvement in lubricating car wheels; the patent to P. Smith, No. 17,525, for a steering apparatus for ships; and the patent to B. F. Opp, No. 287,709, for a road engine. The opinion of the judge who presided at the hearing in the circuit court is in 77 Fed. 194.

R. S. Taylor, for appellants.
L. L. Bond, for appellee.

Before WOODS, JENKINS, and SHOWALTER, Circuit Judges.

SHOWALTER, Circuit Judge. This is an appeal from a decree wherein appellants were adjudged infringers of the first claim of letters patent of the United States No. 379,550, issued March 13, 1888, and of the second claim of letters patent of the United States No. 380,068, issued March 27, 1888. S. F. Welch (assignor to appellee) was the patentee in each instance. Each of these patents is for a "new and useful improvement in road graders." In the specification of the first, the patentee says:

"My invention relates to that class of road graders in which the scraper is supported by a frame mounted on wheels, and in which it can be adjusted vertically and laterally, and can be set at different angles of diagonal adjustment to the roadbed."

Following are two of the drawings forming part of the specification of this patent:

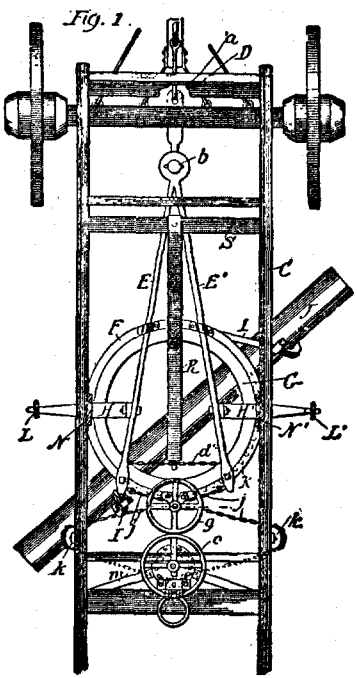


Fig. 1.

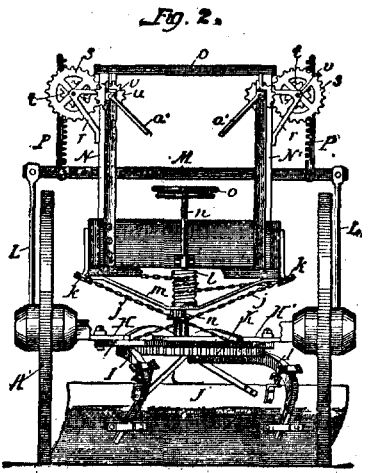


Fig. 2.

These drawings show much more than the combination of the claim sued on, but from them that combination can be readily understood. The claim reads:

"(1) In a road grader, the combination of a frame supported by wheels; a draft bar for the scraper, as E, E', pivotally supported at its forward end; a ring, F; a ring, G; a rack, K, secured to said ring G; a scraper blade supported by the ring G, and a pinion engaging with said rack; substantially as and for the purposes specified."

Fig. 1 is a plan view, showing a portion of the rigid frame of the wagon, also the forward wheels and axle. Fig. 2 is a rear elevation, with the rear end of the wagon frame and the rear axle cut away. The curved scraper, J, is best seen from its convex side, as in Fig. 2. It is rigidly attached by the curved arms, I, to the under surface of the ring G. This ring is best seen in Fig. 1. It fits into the ring F somewhat as a stove lid fits into the hole made for it in the upper face of the stove; that is to say, these rings are interflanged. They are of the same thickness, and the smaller ring turns freely in the larger. Assuming a horizontal position for these rings, a vertical central cross section would show the line of junction between them as, first, a vertical line extending across the outer edge of the flange of the inner ring, thence a horizontal line crossing the plane of contact between the flanges, then a vertical line to the under surface of the two rings. The draft bar is divided like the letter V into two prongs, marked E and E', pivotally attached at the junction of the prongs to

the front axle at b, and rigidly secured at four points of connection to the larger of the two rings, that marked F. The teeth or indentations, shown in Fig. 1 as projecting from a rearward segment of the inner ring, indicate the location underneath the outer ring of a segmental rack bar which is securely fastened on the underside of the rear portion of the inner ring. This rack bar is best seen in Fig. 2. Underneath the hand wheel marked g, in Fig. 1, and concealed from view by that handwheel, is a pinion, the shaft of which turns in a bearing secured to the larger ring. This pinion engages with the rack bar mentioned. By turning the handwheel, g, the ring G, with the scraper blade attached, is turned to any desired angle with the line of draft. The structure here described, and which is the subject-matter of the combination of the claim, is underneath the frame of the wagon, and entirely disconnected therefrom except by the pivotal attachment at b; that is to say, the claim in suit is not concerned with the chain connection to bar, R, for additional support, or the chain connection for lateral movement, or the rod connection for vertical movement, described in the specification; but the structure of the combination has the capability of being moved up or down or laterally, and the scraper blade may be adjusted angularly to the line of draft.

A characteristic feature of the structure above described, it will be noticed, is that the draft ring, F, is not connected to the scraper-blade ring at their common center, but only at the periphery of the smaller ring, the bearing or impact when the machine is in operation being between the rearward halves of the two rings; that is to say, the connection whereby the draft bar pulls the scraper blade is the bearing between the rearward half of ring G and the rearward half of ring F. The rack and pinion of the claim, it may be here added, combine to the one function of turning ring G on ring F to secure angular adjustment of the scraper blade. Suppose the factors of the claim, leaving out the rack and pinion, to be united as shown, and that a bar be fastened to and across ring G, that a vertical shaft be planted firmly in this bar at the center of ring G, and that a handwheel be fixed horizontally on the upper end of this shaft; by turning this handwheel, ring G would be revolved in ring F, and the angular adjustment of the scraper blade effected. The crossbar, shaft, and handwheel together would have the only function of that subcombination in the patent which includes the rack, pinion, shaft, and handwheel, g. The rack is functional in the combination of the claim in suit only as joined with the pinion, and the pinion only as joined with the rack. The rack and pinion constitute one factor of the combination. Would not a crossbar, shaft, and handwheel be the corresponding factor in the combination above suggested, and would not such a combination infringe the claim?

Many devices of the prior art illustrating road scrapers of various kinds are disclosed in the record. The machine shown in a patent (No. 363,342) issued May 17, 1887, to H. G. Moats, will be sufficiently understood from Figs. 1 and 2 of the drawings of that patent, which appear on opposite page:

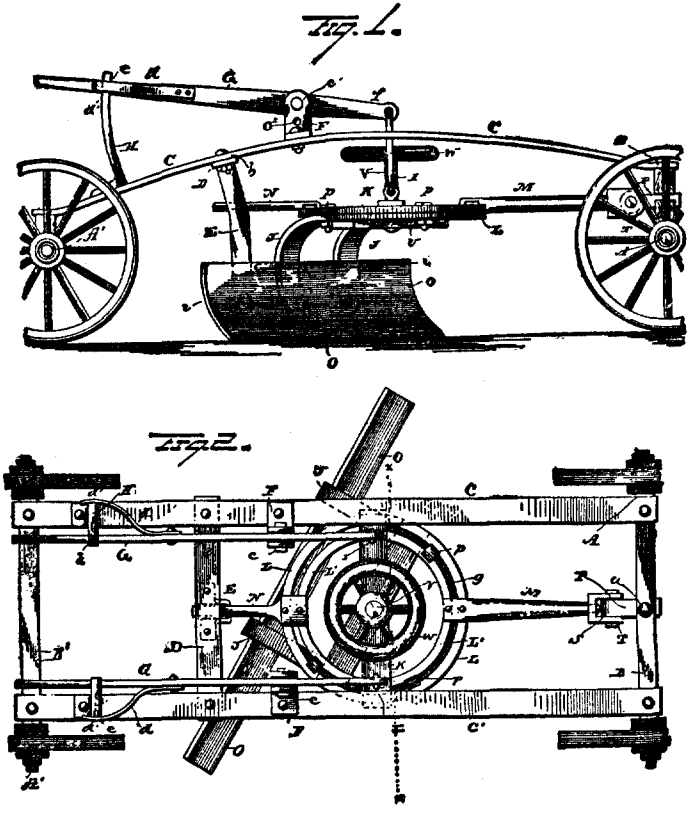


Fig. 1 is a side elevation and Fig. 2 is a plan view. C is the frame of the wagon. The downward projection, E, as seen in the first figure, is the one in sight of two parallel guides between which the beam, N, projects and moves freely up and down, but not laterally, the purpose being to prevent lateral movement of the scraper blade and its connections. If we suppose these guides to be cut away, or the end of the beam, N, to be cut off, and detach the links carried by the forward ends of the levers, G, then the scraper, with its immediate mechanism, as seen in Fig. 2, will have no other connection with the wagon frame than at the forward end of the draft bar, M, which connection, as will be seen from Fig. 2, has the capability of a universal joint. The draft bar is firmly fixed at its rear end to the two concentric horizontal rings marked, respectively, L and L'. These rings, which have an annular space between them, are held rigidly in position by bolts through the draft bar, M, bolts through the beam, N, and bolts through the crossbar, K, as will be seen in the figure. The curved scraper blade, seen best and from its concave side in Fig. 1, is attached to the arms, J, J. These arms are the downwardly bent ends of a single flat bar, curved at its central portion to form the half of another flat ring which lies immediately under, and is concentric with, rings L and L', and is held in place by vertical bolts through the annular space between rings L and L'. The flattened heads of

these bolts engaging the upper surfaces of rings L and L′ are marked p. The wooden crossbar, K, as will be seen in Fig. 1, lies above the rings, L, L′. It aids in holding these two rings in position. Underneath the loop or horizontal ring portion of the flat metal bar which terminates in the arms, J, J, and bolted to the opposite sides of said loop where the curvature in a horizontal plane ceases, and below the crossbar, K, and the center of rings, L, L′, extends another crossbar, seen in both figures, and marked U in Fig. 1. From the center of this bar, U, extends "loosely through crossbar, K," a vertical shaft, V, upon the upper end of which is fixed horizontally a handwheel, W. This shaft, V, is firmly planted in bar U. Its vertical position is not maintained or aided by any compact bearing against the sides of the hole in bar K, through which it passes. Apart from the clamping action of nuts on the lower ends of bolts, p, which holds the upper surface of the scraper-blade loop against the lower surface of rings L′ and L, the backward pull of the scraper blade in operation is against the forward portion of the periphery of ring L′; not against the vertical shaft, V, by impact from the rearward side of the hole in bar K. The function of bar U, shaft V, and handwheel W, as here combined, is to slide the upper surface of the half ring or loop which carries the scraper blade and the bolts, p, in the annular space concentrically against or over the under surface of rings L and L′, and so effect the angular adjustment of the scraper blade. If we suppose a curved rack bar to be fastened to the under surface of the forward portion of the segment or loop formed by the arms, J, J, and if we suppose the end of the draft bar, M, to be extended slightly beyond the inner ring, and a perpendicular shaft to be passed through such extension, having a pinion on the lower end and a handwheel on the upper, then the wheel, W, shaft, V, and bar, U, may be dispensed with in this machine, and the handwheel above proposed, in connection with the pinion and the rack, may be used to turn the lower or half ring, for the angular adjustment of the scraper blade. A rack and pinion is a common and well-known mechanical expedient, and, as the record shows, has been repeatedly used in making the angular adjustment of the scraper blade in grading machines.

In the forward movement of the Moats machine the bearing of the loop or half ring is against the forward portion of ring L′ by means of the bolts, p. The operation would be the same if the boltheads did not extend over ring L, but only over ring L′; nor would the action be changed if the bolts, as to the portions thereof which pass through the annular space, were extended to fill the entire annular space, and the portions of the boltheads which pass over ring L′ were likewise extended along the outer edge of ring L′, even into a complete circle. The horizontal extension within the annular space of any one bolt is not limited otherwise than by said annular space, or the presence therein of other bolts. Or, putting the matter in another way, there is in the Moats machine no limit on the number of bolts, p, other than the annular space in which they must be placed. The portions thereof in the annular space may, therefore, form a continuous segment surmounted

by a continuous horizontal projection over the edge of ring L', and there is no reason why this segment and projection, parting from the arms, J, J, where their curvature in a horizontal plane ceases, may not extend to a complete circle. The mode of operation in the Moats machine would be in no wise altered by such structural modification. Ring L' would then be in a groove of that ring to which the arms, J, J, are attached, instead of being in several short segments of that groove. The latter ring would then be supported by and turn on ring L'. It would be drawn forward pulling the scraper blade in the operation of the machine, as already said, by the bearing or impact of its forward half against the forward half of the ring L'. The portions of the upper horizontal surface of the scraper-blade loop or half ring extending from the bolts towards the center of ring L', the portions of the bolts extending upward through the annular space, and the portions of the boltheads extending over ring L' form segments of a groove engaging the forward portion of ring L', whereby, when ring L' is drawn forward, it pulls the scraper blade, and whereby the loop or half ring may be made to turn on ring L', and concentrically with it for angular adjustment of the scraper blade. If ring L be left out of the combination, or if it be thought of as merely a means aiding the rigidity between ring L' and the draft bar, then ring L' would seem to have the function of ring F of the patent in suit, the scraper-blade loop or half ring with its bolts and boltheads, p, would seem to have the function of ring G of the patent in suit, and crossbar U, in combination with shaft V and handwheel W, would seem to have the function of the rack bar and pinion of the combination in suit. A structural difference is that in the Moats machine the draft ring is within the scraper-blade ring, whereas in the patent in suit the latter ring is within the former, and the bearing or impact, as the machine of the patent is pulled forward, is between the rear half circles instead of between the front half circles, as in the Moats machine. Again, in the latter machine neither the draft ring nor the ring attached to the scraper blade has flanges as in the machine of the patent in suit. They are not interflanged, but the bolts and boltheads, p, on the scraper-blade ring, make, in connection with that ring, segments of a groove wherein is contained the forward portion of the draft ring. Again, in the Moats structure the ring attachment to the scraper blade is not a complete circle, but it remains concentric with the draft ring, and its action is the same as though it were a complete ring with the arms, J, J, bolted to its underside. And, still further, the draft bar is not divided into V-shaped prongs from its place of connection with the front axle; but ring L may be thought of as a mere expansion of the draft bar, and the four connections between the two rings as the connections between ring L' and the draft bar so prolonged and expanded at its rear end. The imagination will be aided on this last suggestion if we suppose that portion of the draft bar, M, which lies above the annular space between rings L' and L to be cut away. It may be added in this connection that ring L, thought of as an extension, expansion, or bifurcation of the draft bar, holds the bolts and bolt-

heads, p, against and over ring L'; that is, by its fastenings to the draft ring L' it holds said draft ring and the scraper-blade ring in relation to each other, preventing the latter from slipping away from the former, as the fastenings of the arms of the draft bar, E, E', over ring F, which is the draft ring of the patent in suit, prevents ring G, which is the scraper-blade ring of the patent in suit, from slipping out of its position in ring F.

The broad analogy between the structure of the claim and that of the Moats patent is too obvious to be disregarded when the limitations of the combination in suit are to be considered on the charge of infringement by a later patented machine. The alleged infringing device is shown in patent No. 454,048, issued June 16, 1891, to J. A. Houser. Figs. 1 and 2 of that patent, which illustrate the structure complained of, are shown below:

Fig. 1.

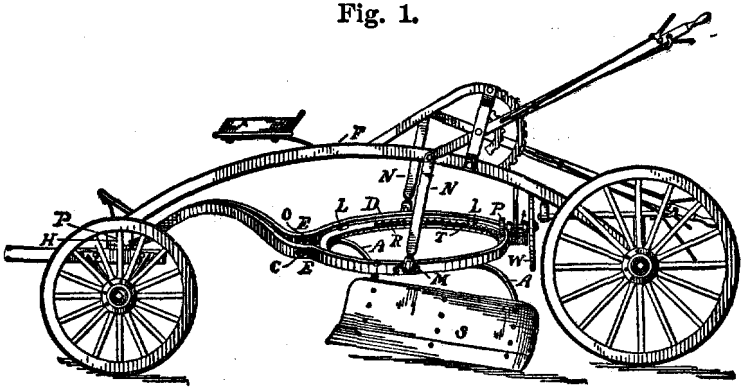
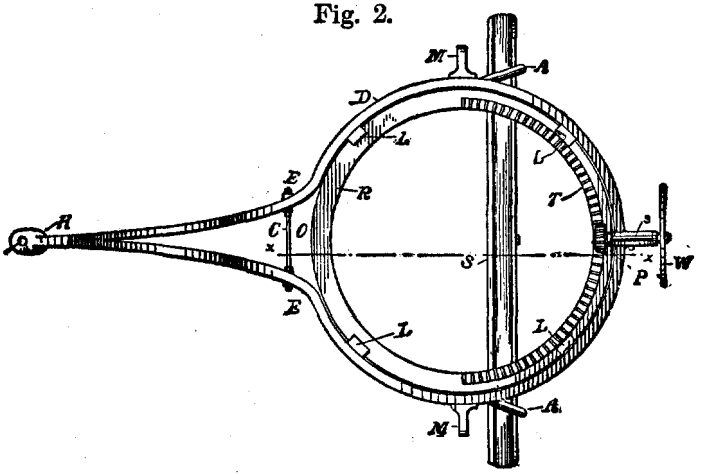


Fig. 2.



That which in this structure answers to ring F of the patent in suit is a loop formed of a single bar, the two ends of which come together near the forward axle as the two prongs of the draft bar. The interior ring is held within this loop by means of inward projections therefrom above and below said interior ring, marked L,

as seen in Fig. 2. The scraper blade is rigidly attached by curved arms, A, to this interior ring. A rack segment is formed, as seen in the figure, on the inner upper surface of the rearward portion of the interior ring. Above this toothed segment, and engaging with it, is a pinion on the end of a horizontal shaft, which shaft turns in a bearing fastened to the exterior ring. The handwheel, W, with the pinion and rack, is the means whereby the inner ring is rotated and the angular adjustment of the scraper blade secured. It will be seen that the same mechanical principles are involved broadly in each of the structures already described. In the Houser patent the rings are not flanged structurally as in the patent in suit. The exterior ring, being integral with the draft bar, is incomplete, as is the lower ring, being integral with the scraper-blade arms, J, J, in the Moats machine. The exterior ring pulls forward in the one machine, while the ring attached to the scraper blade pulls backward in the other. If we are to say that the loop, D, of the Houser device, is the ring F of the combination in suit, then why is not the ring G of the combination in suit the same thing as the horizontal loop (with its bolts and boltheads, p) of the Moats patent? Do the projections, L, of the Houser patent, any more distinctly replace the flanges of the rings in the combination in suit than do the latter, the boltheads, p, or said boltheads in combination with the portions of the bolts within the annular space between the fixed rings in the Moats device? The bearing or impact when the scraper blade is pulled over the ground is between the rear half rings in both the machine of the patent in suit and the Houser machine, while said bearing or impact is between the front half rings in the Moats machine. In the Moats machine, unlike each of the others, the draft bar is not forked from its forward end; but the analogy between ring L of the Moats machine, thought of as an extension to the draft bar with four points of attachment to ring L', and the forked draft bar of the patent in suit, has been pointed out. Bolt or rod, C, in the Houser patent, it may be worth while to notice, clamps together the vertical surfaces of the draft ring and scraper-blade ring, while the bolts, p, by means of nuts on their lower ends, are adapted to clamp together the horizontal surfaces of the draft ring L' and the scraper-blade ring of the Moats machine. In the two later machines the subcombination of rack, pinion, shaft, and handwheel takes the place of Moats' crossbar U in combination with shaft V and handwheel W, for angular adjustment of the scraper blade. But if we are to disregard structural differences, and construe the combination in suit as broadly covering the machine of the Houser patent, then why would not the Moats machine, upon similar reasoning, cover the combination in suit? In the Moats patent the ring L' seems to be in function the ring F of the combination in suit. The draft bar M (especially when combined with ring L) seems to be the same in function as the bifurcated draft bar, E, E', of the combination in suit. The loop formed by the extension of the arms, J, J, in combination with bolts and boltheads, p, seems to be the same in function as the ring G of the claim in suit. The scraper blade is the same, and attached in the same way. The handwheel, W, of the Moats machine, and the shaft, V, planted

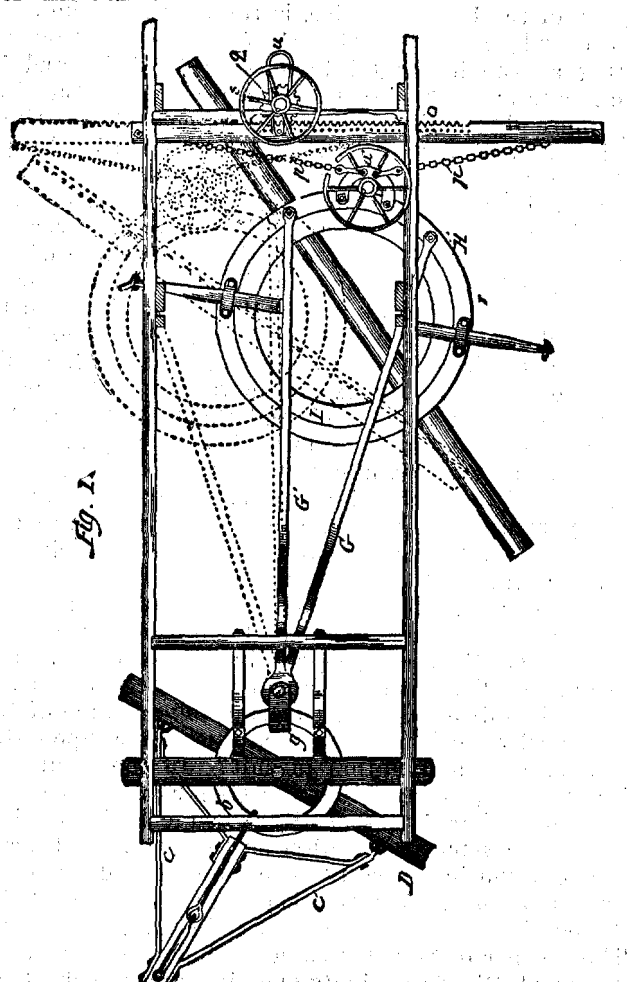
in the cross-piece, U, perform in combination the same function as the rack bar and pinion in the patent in suit; and the "frame supported by wheels" of the patent in suit is the wagon frame and wheels of the Moats machine.

The combination of the claim in suit appears to us so far limited by the prior art that the machine of the appellants does not infringe. We are unable to say that the combination in suit is valid without saying at the same time that there is no ring F, or no interflanged rings F and G, in the appellants' machine.

The claim of patent No. 380,068, which is here in controversy, reads:

"(2) In a road grader, the combination of a frame supported by wheels, a draft bar for the scraper, rings H and I, a scraper blade supported by the ring I, a sliding rack bar, M, pinion, q, and chains connecting the rack bar M and ring H, substantially as and for the purpose specified."

The following diagram, being Fig. 1 of this patent, shows the combination of this claim:



The purpose of the combination is the lateral movement of the scraper mechanism. A chain, p, is attached at one end to the extremity of the sliding bar, O, and at the other to the rearmost portion of the ring, H, called ring F in the former patent. From the same point of attachment on ring H a similar chain passes to a fastening at the other end of the sliding bar. The movement of the bar in either direction is accomplished by a pinion and rack, as will be obvious from the diagram. The scraper mechanism is pulled in one direction or the other by the one chain or the other, as the case may be. By reference to Fig. 2 of the former patent to Welch, it will be seen that a combination for the same lateral movement of the scraper blade is found in that patent. A single chain attached to ring F of the scraper mechanism at one end passes diagonally upward and around the pulley on the side of the wagon frame; thence back to the middle of the wagon frame, where it coils around a drum; thence to the opposite side of the wagon frame, and around another pulley; and thence back to ring F. By the operation of the handwheel, marked O in Fig. 2 of that patent, this chain is pulled from one end or the other in one direction or the other, bringing with it the scraper mechanism. In the later patent the sliding bar with the rack and pinion takes the place of the drum, the pulleys on either side, and that portion of the chain which is coiled around the drum, and extends on either side to the two pulleys. It will be seen by further inspection of Fig. 2 that on either side of the structure, looking from the rear, there is a vertical rack bar operated by a pinion to move up and down. This rack bar is attached at its lower extremity to, and near one end of, a crossbar, from the end of which a rod, marked L in Fig. 2, passes down to the projection marked L in Fig. 1 of the same patent. The purpose of this rack bar and pinion, with the allied mechanism, is the vertical movement of the end of the scraper upward or downward, as may be desired. It will be further seen from an inspection of the two figures that the vertical rack bar, marked P, with its pinion, is essentially the same thing as the horizontal rack bar made use of in the later patent. In brief, a rack bar and pinion with two chains is substituted for the drum, the pulleys on either end, and the one continuous chain of the former patent. In the device complained of the horizontal rack bar with a pinion and handwheel is made use of, but the chains, p, p, are not used. In their place a single rigid rod from one end of the horizontal bar to its place of attachment on the outer ring is substituted. This rigid rod pulls the scraper mechanism in one direction and pushes it in the other. The operation of this rod is obviously different, to a certain degree, from that of the two chains, p, p, of the patent in suit. When the scraper mechanism is lifted by unevenness of the ground, the two chains will become slack, and the scraper mechanism will not be controlled or held in position. The rod, however, controls the scraper mechanism in all positions. It is testified, also, that two rigid rods, one in place of each chain, would lock the rack bar, and make the combination inoperative. This would indicate another and a marked difference between the rod and the two chains. If there

be a patentable difference between the structure for lateral adjustment made use of in the first patent, as shown in Fig. 2 of that patent, and the structure made use of in the second patent, especially in view of the rack bars and pinions already contained in the former device, then there is certainly a patentable difference between the structure of the claim in suit and that complained of as infringing. Each of the two rack bars, P, of Fig. 2 of Welch's first patent, it may be added, imparted movement in opposite directions alternately to a rigid rod one end of which was attached, in effect, to the end of such rack bar.

Upon the construction which we think must necessarily be put upon claim 2 in order to distinguish it from combinations found in the former patent, the device complained of does not infringe. The decree appealed from is reversed, and the cause remanded, with directions to dismiss the bill for want of equity

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THE HARVEY AND HENRY et al.

SELOVER v. SCHOELLKOPF et al.

(Circuit Court of Appeals, Second Circuit. March 2, 1898.)

No. 43.

1. MARITIME CONTRACTS.
   Contracts to be entirely performed on land are not maritime contracts, though they may be preliminary to possible contracts for maritime transportation.
2. SAME—ADMIRALTY JURISDICTION.
   A contract between the owner of canal boats and brokers engaged in procuring freight, by which the brokers agree to keep an office in the city of Buffalo, and solicit freight for the canal boats, and provide such freight to the boats in the order of reporting at the broker's office, and the boatman agrees to report there whenever in Buffalo, but does not agree to go there, so that all the contract is to be performed on land, is not a maritime contract, and is not cognizable in the admiralty courts.

This cause comes here upon an appeal from a decree of the district court, Northern district of New York, in favor of libelants for damages arising from a breach of contract made between them and the owner of the canal boats. Libelants proceeded in rem in admiralty upon the theory that the contract was a charter party.

Harvey L. Brown, for appellants.

John W. Ingram, for appellee.

Before WALLACE, LACOMBE, and SHIPMAN, Circuit Judges.

PER CURIAM. A charter party is a "contract in writing, by which an entire ship, or some principal part thereof, is let for the specified purposes of the charterer during a specified term, or for a specified voyage, in consideration of a certain sum of money per month or per ton, or both, or for the whole period or adventure described." Macl. Shipp. (4th Ed.) p. 354. Controversies arising upon charter parties are cognizable in admiralty because they are maritime contracts; but there are many contracts relating more or less to navigation and commerce which are not cognizable in ad-