

on adapted to engage with said fingers, and through the same draw the pawls from engagement with the toothed bar."

Being, then, of the same generic type, is there any limitation in Barrett's claims which frees the later device from the charge of infringing the earlier. We think not. There is no limitation which requires the lug to be in itself rigid and unyielding. Moreover, there is an absence in the claims of a limitation or designation of any specific mechanism by which the yielding character or function is imparted, or of any point from which or where such imparting must be done. The terms employed are comprehensive. The prior art does not necessitate a narrower reading than the ordinary meaning and reading of the terms and words employed would themselves suggest. Considered from a functional standpoint, a yielding tripping plate does not necessarily yield at every point. The yielding desired, and which secures the sought for result is a receding of the lug or connecting medium when it comes in contact with the object to be tripped. Yielding at that time insures tripping as soon as such yielding has stored the necessary spring force. This action constitutes the essence and substance of a yielding tripping plate. Manifestly, if Forgie's device, which accomplishes the same thing as Barrett's, had existed in the art prior to Barrett's, it would have been fatal to Barrett's making the generic claim now in controversy. If, then, Barrett be first, why is not Forgie's device subsidiary to the primary and dominant conception. In pursuance of this theory, a patent was granted to Barrett, he was allowed generic claims in combination, the validity of his patent was sustained by the court, and subsequently his presumptive priority of conception, arising from the issue of the patent, was affirmatively proven in his favor in an interference contest with the present respondent. If these protracted and expensive proceedings insured to him the enjoyment of the mere identical form of his patented device, he has gained a barren victory. But we think he is entitled to both form and substance, and, when the substance and gist of his device are a second time seized by respondent, we are of opinion the time is fitting for the exercise by a chancellor of his power of issuing a preliminary injunction. Let such a decree be prepared.

---

CLINTON WIRE-CLOTH CO. v. HENDRICK MANUF'G CO., Limited.

(Circuit Court, W. D. Pennsylvania. February 1, 1897.)

PATENTS—INVENTION—COAL SCREENS.

The Phillips patent No. 500,508, for improvements in revoluble coal screens, consisting in providing the woven wire segments with protector plates, to connect them together and cover the joints, the plates also having inwardly extended projections to form tumblers, is void, in view of the prior art, as being the product of mere mechanical skill.

This was a suit in equity by the Clinton Wire-Cloth Company against the Hendrick Manufacturing Company, Limited, for alleged infringement of a patent for a revoluble coal screen.

Lange & Roberts (James H. Lange, of counsel), for complainants.  
Dyer & Driscoll (R. N. Dyer and S. O. Edmonds, of counsel), for defendants.

BUFFINGTON, District Judge. This bill is filed by the Clinton Wire-Cloth Company, a corporation of the state of Massachusetts, against the Hendrick Manufacturing Company, Limited, of Carbon-dale, Lackawanna county, Pa., and charges infringement of letters patent. The patent involved, No. 500,508, is for a revoluble coal screen, and was issued June 27, 1893, to the complainants, as assignees of David E. Phillips. Infringement of both claims is charged. The case concerns the use of apparatus for screening anthracite coal. Such screens generally consist of a series of screen segments, bolted to a revoluble circular framework, built upon an inclined axle. The meshes or perforations of the segments increase in size from the upper, or inlet, to the lower, or outlet, end. By this means the smaller sizes of coal pass through the meshes at the upper end. The larger sizes pass on, and gradually leave the screen as their appropriate sized mesh is reached, until the larger sizes find exit at the lower end. Originally the screen segments used were of cast iron, but they were found objectionable for several reasons. Their great weight necessitated more powerful machinery. Where they did not correspond exactly to the contour of the framework, which was often the case from difficulties of casting, they could not be sprung and clamped rigidly to the framework without risk of breaking. Consequently, allowance for play was necessitated. When this was provided for, or the severe action of the mine water affected the bolts and segments to the extent of allowing such play, it is obvious that the slipping of these heavy segments in two different directions, as the screen revolved, had a tendency to increase the extent, and also the severity, of the play. The consequence was the segments separated from each other, and allowed the coal to pass through the longitudinal openings thus made, instead of through the mesh interstices. Twenty or thirty years ago this imperfect screening was not material, for the smaller sizes of coal were not of commercial value, and passed to the culm pile. Of later years they have proved valuable, and the effort has been to effect their separation. For the reasons stated, cast-iron segments were not adapted to do this successfully. To meet these difficulties, wire-woven screen segments were introduced. These consisted of wire, woven to the proper sized mesh, and mounted on rigid segment frame rods, sprung or bent to conform to the curvature of the framework, to which they were, in turn, securely fastened. Obviously, such segments possessed two desirable features, lacking in the cast-iron type,—viz. lightness, and a resiliency which permitted rigid clamping to the framework. They had two weak points, however; one was the rapid disintegrating effect on the individual wires of the sulphur water, which in some regions had to be used to wash coal, and the other was that, by the continuous pounding action of the coal, the wires were liable to be displaced. When such displacement once started, subsequent use of the screen served to still further separate the wires, the desired uniformity of mesh was lost, and imperfectly screened coal re-

sulted. The objections to these two types of screen were overcome by the introduction of perforated steel segments. They united the excellencies of both the preceding forms. Their comparative lightness and resiliency gave them the desirable features of the wire-woven segment, while they preserved uniformity of mesh openings, as well as the cast iron. They had, however, two weak points, which did not exist in the other two types. It is obvious that, as a screen revolved, the heavier pieces of coal would gather to and lie on the bottom, and thus be carried up, and slide back, in the revolution of the screen, in the same position. The result was the mesh surface was thus covered, and the finer portions above, instead of passing through their proper mesh, were carried forward on the screen, and eventually passed out with sizes of coal much larger than themselves. This objection had been overcome in the cast-iron segments by a protuberance cast on the inner surface, which served the purpose of "tumbling" or stirring up the mass as it was carried around, and prevented its merely sliding along, in the way described. These protuberances were cast between the meshes, and did not lessen the screen surface. In wire segments this tumbling was done by the waving, undulating surface of the web itself, caused by the overlapping of the wires. This objection to the steel segment was overcome by the introduction of tumblers, but the pounding or action of the coal upon them, owing to their comparatively light weight, caused them to sag or dip at the joints, and cause openings, through which the coal passed unscreened. Such objection was more particularly present in the earlier days of their introduction. The art was then such that small-sized holes could not be punched in heavy plates,—a difficulty overcome later. This objection was not found in the cast-iron or wire screens. While the former separated and caused longitudinal openings, as we have seen, they were too heavy to sag, and the segment frames of the wire-woven ones were so heavy and rigid they did not sag. It was to overcome these objections to the use of perforated steel segments that Phillips designed the device embodied in the patent in suit. He strengthened the segment joint and prevented sagging by bolting or riveting protector plates to the perforated abutting edges of the segments. These extended along the longitudinal edges of the segments, and covered the joints. To provide tumblers which should not cover the perforations of the segments, and thus reduce screen surface, he riveted a metallic strip upon the protector plates, or made it integral with the plates. Upon this device two claims were granted, as follows:

"(1) In a revolvable screen, a series of screen segments combined with a flat protector plate, secured to and to connect the contiguous longitudinal edges of adjacent segments, and covering the joints between them, and an inwardly extended projection on said plate, to form a tumbler, substantially as described.

"(2) In a revolvable screen, a series of screen segments having imperforate edge, portions of, and to cover the abutting longitudinal edges of, adjacent segments, and intumed projections extended along and secured to each plate, to form a series of tumblers for the screen, substantially as described."

It may be conceded that the screen has overcome the objections noted, has proved satisfactory, and a considerable number of them are now in use. But Phillips was by no means the first to suggest

or practice means by which he accomplished this; and, to accord his patent its just place in the art, we must note what had been done before. In doing so, we confine ourselves wholly to two sources of information furnished by the complainants,—viz. the statements by the patentee and by complainants' witnesses. The patent conceded the use of tumblers was old, the objection to them, however, being their location. Thus:

"In some cases pieces of wood are bolted to the segments, the bolts extending through some of the perforations; but that is objectionable, as the tumblers cover, in the aggregate, a large number of perforations. Angle irons have also been bolted to the inside of the segments, but they are open to the same objection."

It will thus be seen that, by Phillips' own admissions, all he did, so far as the tumbler was concerned, was to remove it from the middle to the edge of the screen segment. It performed no new function in its changed place. Concededly, the only difference was to place it on an imperforate part of the segment, where it would not diminish screen surface. But even this change of position was not new with him, for Hollenbeck, one of complainants' witnesses, referring to the practice prior to Phillips, says:

"We also used strips of wood, that we bolted to the punched plate segments, to tumble the coal. \* \* \* They were placed about the middle of the segment—about the middle of the concave surface of the segment—and extended the entire length of the segment. Our segments on a five-foot screen were about four feet wide, I think, and we would place one of these strips of wood about the middle of these four-foot segments, and another on the edge of the segment. If the four in the center did not answer the purpose, \* \* \* we would put four more about the edge of the segment."

Wood, instead of iron, was employed, as the witness says, "because we had the wood handy; we did not have the metal to answer the purpose just at hand." It is true the witness says they were not placed over the imperforate edges of the segment, but as near them as possible. Obviously, this was not done, because the screen holes were used to pass the bolts through, and thus drilling holes in the imperforate edges was avoided.

Nor was Phillips the first to butt joint the segments, for the witness Missroon says that prior thereto both butt and lap jointing of segments were employed. It would seem that placing a cover over an open joint of a screen, to prevent escape of coal and to strengthen the segments at the joint, was a device patent to a mechanic. W. F. Kloss says, when he went to work at the Morea colliery, in 1890, he found they were, and had been, using a strip of sheet iron an eighth of an inch thick, clamped over the joints of cast-iron segments. Obviously this was simply to prevent escape of coal, since the joints needed no strengthening, but the change to heavier iron and tighter clamping where lighter sheets were used was a patent mechanical expedient. Beddall, another witness, says it was a common practice, from the first introduction of punched segments, to overlap their edges, and secure them by clips and bolts. Houdenstine, another witness, says they found that with use one punched plate segment would sag down, and the other stay up, and thus allow an opening for coal to escape, and that it was a common practice to prevent such escape by using a washer on the inside and outside of

the joint, with a connecting bolt through the joint. Finney, another witness, tells of a method employed by him to keep the coal from wedging the edges apart, by an iron plate, about two inches wide by six long, and bolted through the mesh of the segment on either side of the joint. It will thus be seen that attaching the segments together by some mechanical means, to close and strengthen the joint, was a usual practice in screening, and the particular method employed was a matter of mechanical detail and choice.

From this brief résumé, it will be seen that, by accepting complainants' own showing, the idea of tumbling the coal, or of means for doing it, was not original with Phillips, nor was he the first to show strengthening or closing of the segmental joints of coal screens, or means for doing the same. He found these things had been done in the art before, but in what might be called an awkward and unhandy way. This was the necessary result of the methods employed. The segments were furnished by the manufacturer to the colliery, and the tumbler and joint-closing or protecting devices were supplied and attached by the colliery mechanics in such ways as the means at hand allowed. The result was more or less imperfect appliances, insufficient methods of attachment, tumblers made of wood, because it was handy, or, if of angle iron, it was of such size as was found in the scrap heap, and, when a segment was changed, the work of putting in tumblers or connecting joints had to be done again. To the economic or business mind it is obvious that, if these parts could be assembled in a manufactory, and the segment, with a tumbler and a connecting joint plate, brought to the colliery in a completed and combined shape, and if they were so constructed with reference to the frame rim and the next adjoining segments as to permit speedy attachment when new, and as rapid displacement when worn, it would be a much more desirable practice than the old method. The advantages of Mr. Phillips' device in this regard are well summed up by Mr. Livermore, complainants' expert, who says:

"By the construction and arrangement of the protector plate and tumbler bar with relation to the screen segment, said plate and bar are wholly independent of the spiders or main frame of the machine by which the screen segments are carried; and, as there is one plate and bar for each screen segment, it can be securely and substantially permanently fastened to one edge of a screen segment, the other edge of which is adapted to be fastened to the edge of the protector plate belonging to the next segment; and, consequently, when a worn segment has to be removed and replaced by a new one, it is necessary only to unbolt the worn segment from the spiders, and disconnect its protector plate from the adjoining segment at one side, and disconnect it from the protector plate of the adjoining segment of the other side, and substitute the new segment, by making the corresponding connections with the spiders and adjoining segments, when the screen will again be ready for use, with the joints between the segments properly connected, strengthened, and covered, and the tumbler bar in place, ready to perform its function of agitating the coal. This construction and arrangement of the protector plate and tumbler bar, wherein they are secured to the edges of the screen segments, and become a part of the screen wall, as distinguished from the frame of the machine by which the screen surface is supported and operated, is, as I understand, the essential feature of novelty of the structure shown and described in the Phillips' patent."

After careful consideration, we have reached the conclusion that what Mr. Phillips did in the art was purely mechanical. It was a

result which was naturally evolved when the problem was presented for solution to one trained in the mechanics and practice of the art in question. To concede he was the first to do what he claims, does not, of itself, stamp the device with patentable novelty, for to do so would be to make mere mechanical novelty the test of patentability. That Mr. Phillips was an improver structurally; that he made his tumbler of such proportions as to carry coal sufficiently to properly agitate, but not so high as to throw and break it upon the shaft; that he placed such tumbler at a point where it did not sacrifice screen surface,—might be conceded. That he so located the parts that they could be assembled and furnished in a completed form in place on a segment, was an admirable idea, and the same may be said of his riveting the joint plate permanently to one segment, and adapting it for temporary attachment to its abutter, so that it could be quickly clamped to the spider rim and the adjoining segment, and as quickly detached. While all this may be said of his device, yet, to our judgment, underneath and underlying it all is the mere mechanical and commercial conception, and not the original, primary ingenuity or originating inventive faculty which mark the patentee. While he has produced a useful device, while it may have gone into quite extensive use, yet these elements, while often the accompaniments, are not necessarily proofs, of patentability. The different parts—segment, tumbler bar, and protector plates—were cleverly rearranged, adjusted, and assembled, but in their new relations they performed no new function, individually or collectively. The tumbler bar still tumbled the coal in precisely the same manner it did when placed elsewhere; the protector plate performed its individual function of strengthening the joint and preventing leakage. Its presence or absence neither added to nor detracted from the function of the tumbler, and the same may be said of the tumbler in connection with the protector plate. There was no interweaving and intermingling of functions; no new process or result was produced by their contiguity. Each had its independent function, which neither isolation or combination changed.

From the standpoint of complainants' proofs alone, we are satisfied the patent must be adjudged void, as lacking patentable novelty. For this reason we have not deemed it necessary to discuss in detail the large number of alleged prior uses shown in the proofs. But, as corroborating our view that Phillips' device was the natural development of the art as novel conditions and changed requirements called for new appliances, we may refer to the device proved by complainants' witness Stull. He shows that about the time of Phillips' conception, and without any knowledge of it, he devised a joint protector plate, combined with a tumbler, which he says suggested itself to him "as an easy and practicable method of preventing the escape of coal through the joint, and tumbling it, in its passage." His method was this: Over the joint between the abutting edges of two perforated plate segments he placed two angle irons, back to back. These were held in place by U clips or bolts, passed through the screen mesh holes, and secured by washers and bolts. The angle irons came from the colliery scrap pile, were too large, and carried

the coal too high. The device was discarded after a short time on that account, but witness says, and properly, we think, that it prevented leakage, and would have tumbled the coal satisfactorily had the angle irons been smaller. The fact that such a plan was followed is suggestive, however (see *Haslem v. Glass Co.*, 68 Fed. 481), and shows that Phillips' and Stull's devices were the natural mechanical outgrowth of the progress in colliery practice. Let a decree be prepared dismissing the bill.

### TRAVERS v. HAMMOCK & FLY-NET CO.

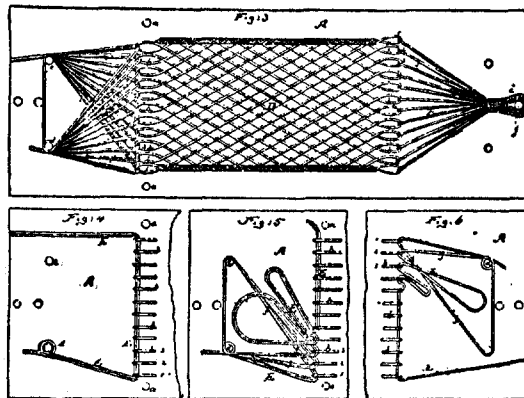
(Circuit Court, E. D. Wisconsin. March 2, 1896.)

#### PROCESS PATENTS—VALIDITY—MECHANICAL PROCESS.

The Rood patent, No. 296,460, for "the art of making hammocks," which describes a method of forming the ends by drawing a cord straight through the end loops of the hammock body to form the converging strands, which are gathered into the suspension loop or eye, construed as a patent for a process, and as covering mere mechanical operations, so that it is void on its face for want of patentability. *Locomotive Works v. Medart*, 15 Sup. Ct. 745, 158 U. S. 68, and *Glass Co. v. Henderson*, 15 C. C. A. 84, 67 Fed. 935, applied.

This was a suit in equity by Vincent P. Travers against the Gem Hammock & Fly-Net Company for alleged infringement of two patents relating to the art of making hammocks. Defendant demurs to so much of the bill as relates to patent No. 296,460, issued April 8, 1884, to Albert O. Rood, assignor to the complainant.

Figs. 4, 5, and 6 of the drawings accompanying the patent are diagrams showing different stages of progress in the manufacture of hammock ends, and Fig. 3 is a top view of a hammock having one of its ends finished and the other in process of construction.



The specification states:

This invention has for its object to simplify the mode of constructing hammocks, and particularly the ends thereof, which are the parts of hammocks containing the converging threads and the suspension eyes or loops. The invention consists, principally, in forming the hammock-body with loops in the ends thereof in any known manner; in then forming each end of the hammock by drawing a cord, from which