OLDS *v.* BROWN *ET AL.*

Circuit Court, S. D. Ohio. March 22, 1890.

1. PATENTS FOR INVENTIONS—ANTICIPATION—HUBS.

Letters patent No. 148,973, issued March 24, 1874, to John D. Olds, for improvement in hubs, consisting in combining with a wooden hub one or more solid seamless metallic bands, which occupy annular grooves in its periphery, is void for want of novelty, having been anticipated by letters patent No. 128,546, issued July 2, 1872, to Phineas Jones, by letters patent No. 149,625, issued April 14, 1874, to Johnson V. Woolsey, by letters patent No. 146,250, issued January 6, 1874, to C. H. Guard, by letters patent No. 37,225, issued December 23, 1862, to J. W. Gardner, and by several prior uses of the patented device.

2. SAME—EXTENT OF CLAIM.

Under Rev. St. U. S. § 4888, which requires an applicant for patent to "point out and distinctly claim the part, improvement, or combination which he claims as his invention." the claim of said patent No. 148,973, which is for "a wooden hub strengthened by one or more seamless metallic bands, which occupy annular grooves in the periphery of the hub, substantially as described," being explicit, cannot be altered or enlarged by reference to the specification, or otherwise.

In Equity. Bill to restrain infringement of a patent.

B. F. Thurston and *Arthur Stem,* for complainant.

Parkinson & Parkinson, for defendants.

SAGE, J. The complainant's patent, No. 148,973, dated March 24, 1874, application filed March 4, 1874, is for an improvement in hubs for vehicles. It contains but one claim, which is as follows: "A wooden hub, strengthened by one or more seamless metallic bands, which occupy annular grooves in the periphery of the hub, substantially as described." In the specification the complainant states that his invention consists in combining with a wooden hub one or more solid seamless metallic strengthening bands, which Occupy annular grooves in its periphery. He disclaims the means for setting the bands, and declares that they "constitute no portion of the invention which it is intended shall be covered by these letters patent, and that the operation, as well as the means employed, are to constitute the subject of separate applications for letters patent." The specification sets forth that the annular grooves may be cut by turning, at any desired point between the mortise line of the hub and its ends, and that their depth and width may be varied. The dimensions of the band should be such as to fill the groove, and make a finish flush with the surface of the hub. The bands are preferably applied when cold, and may be composed of wrought-iron or steel, or of cast-iron or rolled brass, or of malleable iron, and of any required thickness or width; but it is important that the metal employed possess fair ductile properties, and be of such a character as not to be unduly or injuriously weakened in its tensile capacity by the changes necessarily resulting from the process of setting the bands in the grooves. In the process of setting, the hub is to pass snugly over the outer shoulder of the groove, and abut with more or less bearing against the inner

shoulder. The hub, with the band, is then placed endwise into a solid female die, which has an interior surface corresponding at one point, as nearly as it may be practicable to make it, with the exterior surface of that portion of the

finished hub adjacent to the band. To the protruding end of the hub pressure is then applied in a line with its axis, by means of a hydraulic press, or by levers or screws. The band is thus bodily upset, its diameter reduced, its width and thickness slightly increased, and made to engage with great pressure with the wooden portion of the hub embraced by it. The specification further states that, "when properly applied with dies of suitable size and form, the wooden portion of the hub is materially improved adjacent to these bands, because the fibers of the wood will thereby be condensed to a desirable degree. By the lateral expansion of the metal bands during the setting operation, the grooves are absolutely filled. The upsetting of the metal, which was originally soft, changes its character in hardening and condensing it." "By subjecting the hub to more or less compression adjacent to the band during the setting process, it will be seen that the wood will be mechanically condensed to a greater or less degree, and that the bands will hold it in that condensed condition; and for that reason such hubs are less liable to 'check' or 'crack.'"

The specification concludes as follows:

"I am aware that hubs have heretofore been strengthened by metallic bands applied to their peripheries in various ways, and that a variety of means have been employed for securing them in position; also that annular grooves in hubs have been filled with metallic wire, wrapped therein in continuous lengths upon a sheet-metal strip, forming a broken band, with the whole subsequently covered with solder. Such bands obviously differ from mine, as they are not solid nor seamless, and cannot be made to so compress the wood beneath them as to compensate for that inevitable subsequent shrinkage, which occurs in all cases. I am also aware that mortised metallic flanged bands have been driven upon the wooden centers of hubs, and secured in position by abutting the edge of one end of said flanged band against an annular shoulder, and by reducing the diameter of the edge at the opposite end, so as to cause it to abut against a shoulder formed by cutting an annular recess in the periphery of the hub. Such mortised bands are employed in so-called 'flanged wheels,' and in such wheels no additional strengthening bands are requisite; for it is by the mortised bands that all strain is borne, whether it be induced by the driving of the spokes or by subsequent use of the wheel. I am also aware that a mortised metallic shell has been heretofore combined with a wooden center constructed in two sections, and that these sections have been held in position within said shell by upsetting both ends of the shell against the outer ends of the two wooden sections. My improved hub differs from any pre-existing one known to me, in being strictly a wooden hub, and in having the Strengthening bands of solid seamless metal set in annular grooves cut in the periphery of the hub, and made to fill and occupy said grooves, whereby the said hub may be made of the minimum size and of any required form, yet possess the requisite strength, with positive security of the bands in position, and without any liability

of their being loosened by subsequent contraction of the hub by reason of ordinary and usual shrinkage of the wood."

The answer denies infringement; denies that the complainant was the original or first inventor; avers the invalidity of the patent for want of novelty, and for want of patentable invention; that the alleged invention had been described in certain patents and printed publications, and had

been known and in public use and on sale in this country prior to the alleged invention by the patentee; that it had been abandoned, and that, by delay and laches, complainant has waived any right to relief in equity.

It is clear from the record that seamless metallic strengthening bands fixed by compression upon wheels and other objects, were known and commonly used long prior to the date of the complainant's alleged invention. A common method was to apply them heated, and allow them to contract into their places upon the wood. Another method commonly known and used was to drive the band, either hot or cold, upon a tapering surface, and thereby secure the effect of compression. Bands set by these methods, however, cannot properly be said to have anticipated the band described in the complainant's patent. They did not occupy, as do the complainant's, annular grooves, although it is true that the surface of the wood immediately under the band was somewhat compressed by the method of shrinking or of driving the band to its place. But the hot band, when contracted to position, would char the wood, and destroy its fibers and elasticity; and the driven band was not "upset," but, if at all changed by being driven, was stretched over the hub. In either case the band would become loose and displaced by the shrinkage of the wood. Between these bands and the complainants' there is clearly a patentable difference in favor of the latter.

Quite a number of anticipating devices—that is to say, of bands of date later than the shrunken and driven bands above referred to—are set up in the answer and referred to in the evidence, and the question of anticipation turns upon the construction to be given to them, and to the testimony concerning their manufacture and use. It was specially insisted on behalf of the defendants at the hearing that the claim of the complainant's patent is anticipated by patent No. 128,546, to Phineas Jones, dated, July 2, 1872; by patent No. 146,250, dated January 6, 1874, and issued to C. H. Guard; by patent No. 149,625, dated April 14, 1874, and issued to Johnson V. Woolsey; by what is referred to as the "Marietta use," the "Peru use", the "Ford-Guard use," the "Ford use", and the "Naugatuck use." The patents referred to are for improvements in hubs for vehicle wheels. The Jones patent shows a seamless metallic strengthening band, which is driven onto the hub in such manner that one edge rests against and flush with one wall of an annular groove in the periphery of the hub. The specification sets forth that, when the band has been set in position on the hub, then, by means of suitable dies and other devices, its flange is forced down into the annular groove, or, as it is termed in the specification, recess; thus bringing the flange, both front and rear, flush with the surface pf the wood, so as to take a solid bearing against the shoulder, front and rear, and positively prevent longitudinal movement; the object being to secure the band, to prevent any tendency to endwise movement, and also that the edges of the band may be flush with the surface of the wood center. The band of the Jones patent performs the additional function of bracing the spokes, but that

fact does not affect the question whether it is an anticipation of the complainant's band. In the Guard patent we find V.

formed grooves encircling the hub near the ends of the mortises, which are designed to receive the spokes. A tin band formed to fit the groove, and made to encircle the hub nearly, but leaving sufficient space between its ends to admit of compression without causing its ends to overlap, is first placed in the groove. This, however, is not essential, and may be omitted. Then a copper wire, one end of which is soldered or otherwise secured in the acute angle of the tin band on the hub, is wound round the hub on the tin band spirally towards its center on the inclined wall of the groove, "with any force within the capacity of the wire," and, when the groove is filled to about the surface of the hub, the wire is cut, and the free end soldered or otherwise secured to the tin band or hub. Solder is now employed in such manner as to unite the tin bands and wires in a mass, and to fill the groove to the surface of the hub, or to fill the design of the finish, which the specification provides shall be as represented therein, or to meet the tastes of the user. The patentee states in his specification that he does not wish to confine himself "to the particular form of grooves, or to the material represented, as it is evident that other forms of grooves and other material may be employed without departing from the principle of my invention."

The hub of the Woolsey patent is provided with two bands surrounding it, one at each end of the mortise space. The under inner edge of the band is beveled back towards the center of the under surface, as shown in the drawing, and "the outer edge is curved downward and pressed into the wood, there being a groove made in the hub to receive the edge of the band as it is bent or pressed into it to a little depth, forming a shoulder for the curved edge of the band to rest against, to thereby prevent it from coming off or loose." The patentee states that, "in driving the tenons of the spokes into their mortises, the mortises at the surface are very liable to crowd out, in consequence of the strain of the tenons against the ends. This crowding or forcing out of the wood weakens the ends of the mortises, so that there is less support for the tenon than if such forcing out of the wood had not been; to avoid which is the purpose of the bands referred to, which are pressed upon the hub at each end of the mortise, flush with the surface. The outer edge is then rolled down and pressed into the wood, thereby forming a smooth, rounded shoulder, while the edge pressed into the wood prevents the band from coming off or loose."

For the purpose of comparison, it is necessary to keep in mind the claim of the complainant's patent, for "a wooden hub, strengthened by one or more seamless metallic bands, which occupy annular grooves in the periphery of the hub, substantially as described." It will be seen at a glance that this is a very broad claim. Looking to the specification for the signification of the words "substantially as described," we find that the grooves may be at any desired point between the mortise line of the hub and its ends, and that their depth and width may be varied. We find, too, that the band is to be of

such dimensions that the groove will be wholly filled by it with its peripherical surface flush with the surface of the wood, "if a finish flush he deemed desirable, as is usually to

case." We find, also, that the bands are preferably applied when cold, and may be composed of wrought-iron or steel, of cast or rolled brass, or of so-called "malleable iron," which is cast and subsequently softened by annealing; and that they may be made of any thickness or width which can possibly be of practicable value in this connection. The patentee further sets forth that, "by subjecting the hub to more or less compression adjacent to the band during the setting process, it will be seen that the wood will be mechanically condensed to a greater or less degree, and that the band will secure and hold it in that condensed condition," and that thereby "checking" or "cracking" of the hub, which is the result of contraction, will be rendered practically impossible. Now, construing the claim in the light of the specification, it is, in the opinion of the court, so broads as to be anticipated by each one of the patents above referred to. It may be true that the complainant's hub is a marked improvement, but the fatal objection to his patent is that he claims what he did not invent. This proposition may be fairly tested by the well-established rule that whatever, if subsequent, would infringe, will, if prior, anticipate. If the Ford and the Guard and the Woolsey bands had been subsequent to the complainant's patent, they would undoubtedly be infringements, and therefore, being prior, they must be recognized as anticipations.

We now come to what is called the "Marietta use." Without reviewing the testimony in detail, it will be sufficient to say, that it satisfies me that prior to the complainants invention the Marietta hub was constructed with seamless metallic bands, occupying annular grooves in its periphery. Prior to 1870 the Marietta Wheel Company manufactured and sold wheels strengthened by seamless metallic bands, which were driven on the hub, and allowed to shrink into position. In the year 1870 the company adopted the plan of compressing the bands in grooves in the peripheries of the hubs, instead of driving and shrinking them on. They were compressed into the grooves by the use of sectional dies which fitted into cup-shaded sockets. The grooves were cut in the hubs, which were then, with the bands upon them, placed within the dies, and the dies forced down into the cup-shaped socket. This is substantially the process used by the complainant, except that his dies are not sectional. There is much conflict of testimony with reference to this use, but, upon careful consideration, I have reached the conclusion that the defendants' version is correct. The Marietta use is therefore also an anticipation.

Next to be considered is the Peru use, dating from 1872, and continuing until some time in June, 1873. This use relates to a hub of the same general construction as the Marietta hub. The business of manufacturing it was a failure, and the plant, which cost about $70,000, was sold for $18,000. The Peru hub is less valuable than the Olds hub, which has been esteemed much more highly by the trade, and commands a higher price; but the complainant's claim is so broad as to include the Peru hub, and his patent is therefore anticipated by it.

The Ford-Guard use was at Tippecanoe, Ohio, beginning in 1873. It was the manufacture of hubs under the Guard patent, which has already

been described; and also of the Ford hub, which has solid bands of brass, compressed into grooves by the use of sectional dies, to serve the purpose of the Guard bands. The mode of construction was as follows: A wooden hub was turned in the lathe to the size required, with the angular grooves, over which the bands were placed, and the hub was then put in a two-part form or die, which was placed in a screw press, and pressure applied until the bands were compressed into the grooves in the hub. The hub was then finished in the lathe, so that its appearance was that of a common wooden hub. The intention was to have the bands so compressed as to hold the exterior of the groove tightly enough to resist the pressure from driving the spokes, and to prevent the bands from coming loose while in use. In the fall of 1873, Ford completed from six to ten hubs with bands compressed, as above, in the grooves, and they were as perfect, according to his statement, as could be made with the tools and appliances he had. He filed *a caveat* on the 8th of December, 1873, but about six months afterwards, hearing of complainant's patent, took no further action in the matter. There is a conflict of testimony as to the possibility of compressing bands as in the Marietta hub, or the Ford hub, by the use of sectional dies, without crimping; and the witnesses respectively are corroborated by exhibits showing bands thus compressed and crimped, and others showing bands thus compressed without crimping. This is a circumstance not so rare as to be altogether exceptional in expert testimony. Possibly the conflict may be reconciled by concluding that the compression by use of sectional dies was accomplished only by great care, and therefore was not practicable for rapid and cheap manufacture, which may account, in part at least, for unsuccessful results at Marietta and Peru. Still there are exhibits indicating that it could be done, and was done. But it was urged upon the hearing that the Ford hub was nothing but an abandoned experiment. The record does not sustain this contention. The Ford hubs were complete as articles of manufacture, and, if patentable, all that was necessary to obtain a patent was to make application. The abandonment of Ford's expressed intention to make application does not, under the ruling in *Gayler* v. *Wilder,* 10 How. 477, help the complainant. The Ford hub must be regarded, therefore, as an anticipation.

The Naugatuck use was the manufacture at Naugatuck, Conn., in 1872, by E. S. Parmelee, of the Naugatuck Wheel Company, of hubs with seamless strengthening bands upset in grooves. The bands were made of iron, of half oval shape, and compressed into the grooves by the use of sectional dies, in two parts. Three sets of these wheels were shipped gratis to a wheel manufacturer of New Haven, since deceased. What became of them subsequently does not clearly appear, but that wheels were made and used is established by a preponderance of the evidence, and they, too, anticipated the complainant's invention.

After the hearing of this cause, the record was, upon defendants' application and complainant's consent, opened, and letters patent No. 37,225, issued December 23, 1862, to

J. W. Gardner, for improvement in attaching handles to cutlery, were introduced in evidence for defendants. The specification sets forth that the invention consists in having the implement

provided with a flat tang, and the handle formed of two parts, placed one at each side of the tang and secured thereto, by means of ferrules, compressed in recesses of parts of the handle and of the tang, by means of dies arranged in any suitable way; the ferrules thus being made not only to grasp the parts of the handle and the tang, but also made flush with the exterior of said parts, and preventing them from splitting. That this construction corresponds to a literal rendering of the claim of the complainant's patent is conceded by complainant's counsel, but they urge that the claim, when read with due reference to the descriptive portion of the specification, is really as follows:

"A Wooden hub, as a new article of manufacture, consisting of a wooden body, with seamless metallic bands secured thereto in the manner described in the specification, by upsetting the bands into annular grooves in the periphery of the hub, condensing and consolidating the fibers thereof so that the bands are firmly and inseparably secured in the hub, and without any liability of their being loosened by subsequent contraction of the hub, the whole constituting a strictly wooden hub"

The objections to thus paraphrasing the complainant's claim are insuperable. It incorporates into the claim the method of setting the bands in the grooves, whereas the specification expressly reserves not only the mode of operation, but also the means employed, to constitute the subject of separate applications for letters patent. It is significant that whether such applications were actually made is not disclosed. It is a fair inference that if made they were rejected, for at the hearing it was argued for the complainant that the bands cannot be made to occupy the annular grooves without using the process employed by the complainant, and described in the specification of his patent; and if that, or the means employed, had been patented, the complainant would have included the patent or patents therefor in this suit. The reservation also distinguishes this case from *Smith* v. *Vulcanite Co.*, 93 U. S. 486, which was cited for complainant as analogous, but does not apply. The claim, as paraphrased, is also inconsistent with the specification, which describes the hub as subjected to "more or less compression adjacent to the band," and the wood as "mechanically condensed to a greater or less degree." Again, section 4888 of the Revised Statutes requires the inventor to "particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery." Keeping in mind the rule that the claim, whether the phrase "substantially as described," be employed, (as it is in the claim of the complainant's patent,) or not, should always be construed in the light of the description contained in the specification, it must also be remembered that when, as in this case, a claim is explicit, it cannot be altered or enlarged by reference to the specification or otherwise, and that whatever is described in the specification, and not claimed, is dedicated to the public. The Gardner invention is a complete anticipation of the complainant's patent, which does nothing more than to substitute for ferrules, fitted and compressed by means of dies in recesses in parts of the handles and

in the tangs of cutlery, bands similarly applied to the hubs of carriage and wagon wheels. The bill will be dismissed, at complainant's costs.