

WASHBURN & MOEN MANUF'G CO. AND
ANOTHER V. GRINNELL WIRE CO. AND OTHERS.

Circuit Court, S. D. Iowa, C. D. May 26, 1885.

1. PATENTS FOR INVENTIONS—GLIDDEN
BARBED—WIRE FENCE—INVENTION.

The patent granted in November, 1874, to J. W. Glidden, for
barbed wire, examined, and *held* valid.

2. SAME—ANTICIPATION.

On examination of the evidence in this case, and a
comparison of the Freeman, Merrill, Stone, Schone, and
Delhi Fair fences with the Glidden patent, *held*, that the
Glidden patent was not anticipated thereby, and is valid.

3. SAME—MACHINES FOR MAKING BARBED
WIRE—INFRINGEMENT.

On comparison of the Putnam and Penny machines for
making barbed wire, *held*, that the Putnam machine is not
infringed by Penny's invention.

In Equity. Opinion on final hearing.

*Offield & Towles, Coburn & Thacher, and B. K.
Thurston*, for complainants.

Wright, Cummins & Wright and Munday & Evarts,
for defendants.

BREWER, J. I may say that this is one of the
hardest cases I have ever had to try. It has been
difficult for me to arrive at a conclusion on the primary
question, and though I have given it a great deal of
examination and study, my mind does not rest with any
satisfaction on the result. That primary question is this:
Is this Glidden barbed wire really entitled to a patent?
Is there in it enough of invention to make it patentable,
or is it simply a mere matter of mechanical skill?
Perhaps a brief historical statement may be in order.
The first barbed-wire patent was issued in July, 1867,
to Hunt, and was for this form, [referring to model,]
which, as you see, consists of a mere serrated wheel.
The next was to Lucian B. Smith, also in 1867, and for

this, [referring to model,] in which the barb is like the hub of a wheel with spokes. That was followed by one to Kelly, in 1868, and covers this, [referring to model,] in which, as you see, the barb is a diamond plate, the lateral wire passing through a hole punched in the middle. Mr. Kelly, in his specifications, also suggested that this 24 diamond might be placed upon cord; also that two strands might be twisted to keep the diamond barb in place. Then follows the patent to Mr. Glidden. Mr. Glidden's application was dated in October, 1873, and the patent issued thereon in November, 1874. This patent was for this form of fence wire, [referring also to model,] which is the form of barbed wire now in common use. Intermediate the application and patent, in the spring of 1874, Mr. Glidden filed an application for another, patent, covering this form of fence wire, [referring to model,] in which he suggested the placing of slotted tubes between the two lateral wires, extending them thus, [pointing to model,] giving, as he thought, greater firmness to the fence. Upon this application he received a patent also, in the spring of 1874. In his application of October, 1873, Mr. Glidden names a twisted fence wire,—a transverse wire coiled about one of the strands of lateral wire, with its two ends projecting in opposite directions and perpendicular to the fence wire; the other lateral wire serving to keep the barbs in position, and preventing lateral as well as vibratory motion. It is, of course, obvious that all of the elements that enter into this Glidden barbed wire were not new with him. The idea of protecting a smooth wire with some kind of a barb to prevent cattle from rubbing against and breaking a fence down, appears in the first patent issued. Then, in Kelly's patent, was the twisting of the two wires; but the coil of the transverse wire between its ends, for the purpose of forming the barb, was, so far at least as its application to fencing purposes, first expressed in the application of Mr. Glidden.

It is true that this coiling of the wire is by itself considered nothing new, it having been of frequent use,—as, for instance, in the springs of door-locks; and it is also claimed by the defendants that it is nothing but the mere equivalent of the diamond barb of Kelly. But the use of such a coil for the purpose of a barb upon fence wire, and its combination with the other elements in this present structure, was new with Glidden. It is also true that the entire combination—this Glidden barbed fence wire—is a very simple thing, and it looks as though it was going a good ways to give to such a simple structure the rights and protection of a patent; but, simple, though it is, Mr. Glidden first introduced it to the world, and if it has been found of value in the uses of the world, it would also, on the other hand, seem as though he should be entitled to the benefit of the value of that which he has thus contributed.

I am much impressed by the language of Judge BLODGETT in the case tried before him in Chicago, between these same plaintiffs and Jacob Haish, that it is very difficult to draw the line between manifestations of mere mechanical skill and those of invention; yet that this is an invention, and while coming very near to such border line, it is still on the side of patentability. It is true, when we take this structure to pieces, and examine its separate elements, as counsel have in their arguments, it has been, to my mind at least, very difficult 25 to say that any element was not found, substantially or nearly so, in some one or other of these prior barbed wires. Still, looking at it as a whole, it is unquestionably new, and I think must be held to be the product of invention rather than of mere mechanical skill. As, from time to time during my examination, I have looked at these models of the various forms of wire, I have been reminded of the story told in my early days of Rufus Choate and Daniel Webster. They were engaged in a trial in

reference to some patent wheel. After Choate had, in an elaborate argument, noticed, as he thought, all the alleged differences between it and wheels in prior use, and showed that there was nothing to distinguish it from such wheels, Webster rose and said, "If your honor please, there is the wheel." And the more I have looked at this model, the more I have been impressed that there was in this Glidden structure something new, something that required inventive skill to devise, and something that has made the structure of great utility. Following also the line of argument noticed by the supreme court in two or three cases where the actual result demonstrated the great utility, I may add that while such fact is not conclusive, yet it is fair matter of consideration in determining, in questions of doubt, the fact of patentability; and if we look at the history of barbed wire there can be but this one conclusion: that of all the structures and devices this has been the one that has met the want of the public. It is the barbed wire of almost universal use to-day.

Judicial investigation of this question has been but limited. Before Judges BLODGETT and DRUMMOND one case was tried,—the one to which I alluded a few moments since,—and in that the patentability of Glidden's invention was affirmed. It is true, this particular patent now before me was not the one then considered; but still this express point was decided. The cases which were tried before Judges TREAT and McCRARY were not based upon this patent, and were decided upon the ground of the invalidity of the reissue of the patent of the spring of 1874, so that the only direct adjudication has been in accord with the views I have expressed. I do not know that I can add anything to express my views and conclusions more clearly or satisfactorily. As I said in the beginning, this question has troubled me greatly. I am no mechanic; have no taste for mechanics; no mechanical turn of mind. And it has been very

hard for me to weigh or appreciate the reasons and arguments based upon the facts and laws of mechanics, and I can only say, in concluding this branch of the case, that I have done the best I could.

Passing that, we go to a line of inquiry that is rather more congenial to me. That is as to prior uses; the instances given being some five in number,—being the Freeman, Merrill, Stone, Schone, and Delhi Fair fences. Some of them I do not think present questions of any difficulty.

The Delhi County Fair fence discloses this state of facts: That about 26 1858 or 1859, some 25 years ago, at a county fair held at the county seat, there was exhibited a fence which, according to the recollection of some of the witnesses, consisted of three strands of wire, on which were fastened barbs like those on the Glidden, and also a board below the wire for the purpose of attracting the attention of the cattle. While several witnesses testify to their recollection of such a fence, and the similarity of the barbs thereon to the Glidden style of barb, other witnesses, including therein the officers of the fair association during those years, have no recollection of anything of the kind. That, of course, is to some extent negative testimony; yet of value. Then there is a line of testimony to show that there was a model of a fence, essentially different from anything in controversy here, circulated in that vicinity and exhibited at that fair. But take the testimony of the defendants alone in reference to the fence. Can you rely on the recollection of witnesses reaching back over 25 years as to the particular form in which a fence seen but for a day or two was constructed? It would be strange if that recollection was so clear and distinct as to the manner in which those wires were barbed or protected by pricklers, that the court would be justified in relying very much thereon. The infirmities of human memory are such that it does not seem to me that, even if there was no

contradictory testimony, their testimony alone would enable the court to say that it was clear that away back in 1858 or 1859, somebody—who he was is not disclosed, and whence he came, or whither he went, nobody knows—presented there a model, of a fence with the combination contained in the Glidden patent. I do not have any trouble with that question.

The Freeman fence was also not difficult to my mind. He testified that many years ago, on his father's farm, finding that a single wire on a smooth wire fence had broken, he tried to patch it. The wire being broken, he could not well fasten the two ends together, so he took a link or strip of wire, making a loop in each end of the broken wire, and fastening the link or piece of wire to these two loops, and twisting the ends of the linking wire around the loops. I had before me as an exhibit a couple of links which he claims to have taken from the fence a few years ago, after inquiry arose in regard to it. It is so essentially different in its construction and idea from this barbed wire of Glidden's, that I do not think it is worth much consideration. I do not doubt the substantial truth of his testimony, for I suppose that that which he says he did has been done, wherever wire has been broken, ever since it has been used for fencing. He found it so efficient in keeping cattle away that he said he made quite a string of it. But the whole idea expressed by that form of preparation of wire is so foreign to that of this Glidden patent, that, after I had looked at his links and read the testimony through, I had no difficulty about that.

The Schone fence is a little more difficult of determination, taking them in the order of their magnitude. The Schone fence is this: ²⁷ Schone, a blacksmith in Brooklyn, in this state, prior to the war, having a window in his shop near which horses were fastened, and finding they broke the glass, first put a link of smooth wire, as he says, across the

window to prevent the breaking of the glass; others say it was a rod of iron, and not a piece of wire. At any rate, he put something across there to keep the horses from breaking the glass. Finding that not sufficient, he took some horseshoe nails, sharpened the blunt end, and twisted them around the wire or rod. Finding that those horseshoe nails thus twisted around were not stationary, he wrapped a little piece of wire around to hold them in position. Succeeding with the experiment, as he says,—his blacksmith shop being at one corner of the lot and his house at the other,—he found the boys going over the fence between, and in order to prevent that, as well as to prevent horses from gnawing at the upper board, he put wire on that board, and that wire he protected in the same way with pricklers or barbs of horseshoe nails. He did the same thing on the alley side of his lot, between his shop and stable, and also on the street side south or back of his house, where there was a little swale in the ground. As I read his testimony in regard to the form of the wire, and examined the model which he presented, it did present a form of fence wire which certainly would raise close attention as being very like the Glidden wire, and combining substantially all its elements. This was in 1858. Besides this, defendants introduced several witnesses who testified to seeing the wires upon which were barbs or pricklers, and mentioning the times and the circumstances under which they were at this blacksmith's shop; and, while not so distinct as to the form of the barbs, yet, so far as their recollections went, it was in the line of supporting his testimony. As against that, complainants introduced the testimony of quite a number of witnesses, among others, Mr. and Mrs. Baits, who were in the habit of going into Mr. Schone's premises for the purpose of drawing water from his well, and, so far as Mrs. Suits is concerned, she frequently riding on horseback up the alley where he claimed to have one of these strips

of fence wire; the carpenter who tore down, three or four years after, this entire fence, and replaced it with a picket fence; several persons who lived back of Schone's premises and frequently passed, going to and fro, from their places of business to their homes, and all of whom testified that there were no barbed wires of any kind on his fences. Complainants also introduced some witnesses who were in the habit of going to his shop for the purpose of having their horses shod, and who testified that there was simply a bar of plain iron across the windows, and that along the fence between his shop and house, upon which he claims to have put barbed wire as a protection against boys and horses, there was a heap of rubbish scattered, which would prevent horses from being fastened to the fence, and that there were posts outside of this rubbish to which horses were hitched. Now this is the range of the testimony on both sides. It is true that the testimony 28 of those who did not see is somewhat negative in its character, and such testimony is not really of the same value as the positive testimony of those who did see. Yet it was the testimony of those so situated that it seems very probable that if there had been so much of barbed wire as Mr. Schone claims, it must have arrested their attention. I am inclined to think that, upon a mere balancing of the testimony of these various witnesses, the preponderance is in favor of the defendants, as to the existence of some form of barbed wire; but, putting yourself in Mr. Schone's place, and with the purpose which he says he had in view, what might it be expected you would do? No man takes unnecessary labor. He says he sharpened the blunt end of the horseshoe nails; but what for? Would not every purpose he had in view have been accomplished by simply bending the nail around the wire, and pounding the two ends together? That would furnish a barb or pricker, and would be easily made, and it seems more reasonable and easy of belief that

this, which could be done so easily, and which would answer every purpose, was that which this village blacksmith did; and that it is scarcely probable that he would take the pains of sharpening the blunt end of the horseshoe nail and then coiling this nail around the wire. Putting this consideration along with that of the conflict in the testimony, I do not think that it can be said to be clearly or satisfactorily shown that the Glidden barbed wire was anticipated by this horseshoe nail barb of Mr. Schone.

The next fence is the Merrill fence. The facts are these: Two brothers by the name of Merrill, living on Turkey creek, west or northwest of Dubuque, in a timber country, claim that in September or October, 1873, they invented a barbed-wire fence of substantially the same form as that of Mr. Glidden. The question of time becomes very material, for in the latter part of October, 1873, Mr. Glidden filed his application and thus made public his alleged invention. So far as the testimony discloses, the Merrills did not make public or disclose their invention until 1874. It appears that one of the Merrill brothers became insane from religious excitement in the forepart of 1874, and was for a short time confined in an asylum. Immediately thereafter he went east, to New Hampshire, to visit friends, and, returning in the forepart of the summer, stopped a short time with a brother in Illinois, who lived a short distance from the home of Mr. Glidden. While there, conversing with his brother in reference to some barbed-wire fence, he said to him that he could furnish a model of a better fence, and that he would do so on his return home; and on his return home, in July or August, he sent to his brother in Illinois a model of a fence substantially like that of Mr. Glidden.

Now, while it may be true that this was not the first time that the Merrills were working upon designs for barbed-wire fence, and while, probably, prior to

the insanity of this one, their attention was directed 29 to this matter, yet I cannot find any satisfactory and convincing testimony of any invention prior to the forepart of 1874. I mean, of course, outside of the testimony of the two Merrills. What they did or what they invented in 1873 rests almost exclusively on their unsupported testimony. They say they did not disclose what they had invented because they desired to obtain a patent, and did not know the exact procedure therefor. It is obvious that the condition of the country in which the Merrills lived, being a timber country, would not attract their attention to the necessity or value of wire fencing, and that matters outside of home surroundings must have first suggested the question to them. Putting that significant fact together with their undisputed silence in reference to their experiment and inventions, and ignoring all the contradictory and opposing testimony, I cannot think that it is at all satisfactorily shown that prior to October, 1873, when Mr. Glidden made public by his application his invention, these Merrill brothers had devised and constructed a fence wire of similar form. Obviously, where by one man a public disclosure is made of his alleged invention, in a given month, he who claims that during that or the prior month he invented the same thing, should make the matter of time and the certainty of the invention clear and distinct, and at the same time furnish satisfactory explanation of his concealment of the same. I do not think this has been done by the Merrill brothers, and while it is doubtless true that in the forepart of 1874, and possibly in 1873, they were experimenting with different forms of barbed wire, and while there is no positive testimony that the one visiting his brother in Illinois in the summer of 1874 there saw any specimen of the Glidden wire, yet the combination of circumstances is such as to leave a very strong impression on my mind that there this particular form

was first suggested to the Merrill brothers. At any rate, I do not think a prior invention is clearly shown.

The remaining fence is what is called the "Chester D. Stone Fence," and this is the one which has left in my mind the most doubt. The facts are these: Chester D. Stone, from 1870 onward, lived a few miles from the village of Delhi, in this state, and within half a mile of the line of the Chicago, Milwaukee & St. Paul Railroad. His brother-in-law, a man by the name of Bidwell, in 1870 and 1871 rented a piece of land about three-quarters of a mile from Stone's residence. Around that tract was a smooth wire fence. Mr. Bidwell went away and left the tract in charge of Mr. Stone. Prior to its inclosure with this wire fence, it seems a traveled way had run across the north-east corner. After its inclosure this fence at the north-east corner was frequently broken down, and Mr. Stone testifies that in 1871 he barbed the wire in this way: Taking a number of staples, and with the assistance of a son of Mr. Bidwell, a boy of six or seven years of age, he coiled these staples in the form of a barb around the fence wire. The instruments which he had were a hammer and a 30 wedge. He first pounded the staples firmly onto the wire, then separated the two extremities of the staple by means of the wedge, and by use of the hammer upon the wedge coiled these two ends of the staple around the fence wire. Prior to putting on these staples, some of the posts in that corner being rotten, he substituted some new ones. The fence wire, instead of being fastened by staples to the posts, was run through holes bored in them. His brother giving up this tract, Mr. Stone, desiring to use a portion of the fence for the purpose of building a fence from the railroad track eastward, and so as to inclose a pasture adjoining the track and opposite his own residence, in 1873 took some 20 rods of this fence, with the posts, away from this northeast corner up to this pasture and made the cross-fence. A portion

of the wire from this cross-fence was produced as an exhibit, and, with the staples coiled around the wire, presented substantially the same structure as the Glidden fence. His testimony was positive as to the identity of the exhibit with this cross-fence, and as a part of the fence made in 1871 and removed in 1873 from the Bidwell tract. This, of course, presents a very strong showing of prior invention.

In support of his testimony, the defendant introduced the testimony of sundry witnesses to the effect that in 1871 and 1872 they saw certain barbs on the Bidwell fence, and also to the fact that this cross-fence was placed adjacent to the railroad track in 1873. Further, Mr. Stone, having testified to placing some of these coiled staples on other parts of the fence around the Bidwell tract, a woman, occupying the tract south thereof, testified that in 1871 she was in the habit of taking her child, crawling under the wires of this fence, going up unto a little rise and sitting there with her child; that she noticed these barbs upon the fence; also the testimony of a witness that, riding home one night with his brother-in-law, a portion of this wire fence got entangled with the wheels of their conveyance and was carried home, and on examination the next morning they discovered these barbs. As against these two last items of testimony was the testimony of the brother-in-law, squarely contradicting, explaining how a portion of the wire was carried home, and stating that there were no barbs on it; also of the lessor of the tract occupied by the woman above named, tending to show that the lease under which she was occupying terminated very early in 1871, and rendering it very improbable that prior thereto, in that season, she could ever have gone into the Bidwell tract in the manner or for the purpose she stated. Further, the complainant introduced the testimony of witnesses familiar with the Bidwell tract, who denied the presence of any barbs, of the parties who leased and occupied it the year

after Mr. Bidwell gave it up, and who testified that the fence at this northeast corner was still complete, and that no part had been removed; of the section boss on the railroad, who testified that this cross-fence was not placed there until after 1876; of other witnesses working or residing on adjacent tracts, who gave similar testimony.³¹ I cannot state in detail all the various items of testimony of this kind, for there is a great volume of it, coming from many witnesses, and on both sides. Two or three matters, I may state, have led me to doubt seriously the truthfulness of Mr. Stone's statement: *First*, the great difficulty of coiling staples around the fence-wire in the manner and with the instruments that he had. I have tried, and had tried, this matter experimentally before me. While it may be done, yet the process is exceedingly slow and difficult,—so slow and difficult that I think no man would pursue it except under the most imperative need. Again, Mr. Stone's explanation of the reason for doing it is, to say the least, an improbable one. He says that he did it in order to make the people living on the adjacent tract believe that he thought cattle broke the fence down. I do not think it probable that any man would take such pains to impress his neighbors with any conviction as to his own beliefs. There was also another matter in his testimony which, for the moment, has escaped my recollection, but which, as I studied it, led me seriously to doubt his veracity. Of course, striking his testimony out as not entitled to credence, the defendants' case must fail in this respect; and, while I am reluctant to impugn the veracity of any witness, I must confess that his own testimony carried discredit to my mind. The complainant presented what was testified to be an accurate model of the cross-fence in its present condition, and their counsel argued that it carried on its face a perfect demonstration of the falsity of Mr. Stone's testimony. I could not see the force of this alleged demonstration, and yet, for

the reason above named, I felt, after studying the matter, that Mr. Stone's testimony was not entitled to belief. So, with some hesitation, I concluded that a case of prior use was not satisfactorily proved. These are the only instances of prior use alleged. In none of them do I see that which would justify me in holding that Mr. Glidden's invention was anticipated. That disposes of these cases, and the decree will go for the complainants.

Passing now to the case in which the Putnam machine is claimed to be infringed by the Penny machine, I will briefly state the results of my examination. I ought to have the models here, for I could explain my views much more easily with them before me. In the elaborate argument made by Mr. Thurston, and which was subsequently printed for my examination, it was strenuously insisted that Putnam occupied the position of a primary inventor; that he was the first man who constructed an automatic machine for making barbed wire, and that, by reason of his position as a primary inventor, questions of doubt as to the facts of infringement should be resolved most liberally in his favor; and though a subsequent machine was composed of different mechanisms, yet, if they each performed the same function as those in his machine, it should be treated as an infringement. He was compared to Prof. Bell, the inventor of the telephone. It does not seem to me that the comparison is just, and for this reason, which, 32 perhaps awkwardly, I express in this way: When Mr. Putnam began to construct his machine the problem was all stated before him. The barbed wire had been constructed by hand-machines; the various steps to the process were well known. He invented no new mechanism, but, simply taking familiar mechanisms for doing the separate parts of the work, he combined them in one machine. Thus he knew that an intermittent motion must be given to the lateral wire,

in order that the barbs might be placed on it at regular intervals, and he used a familiar mechanism for accomplishing such motion. In the same way the transverse wire had to be moved intermittently across the lateral wire, and he took a vibratory arm to accomplish this re-salt; so with the other steps in the process. Of course, there was invention in putting these various mechanisms together, and he should be protected in his invention; but he did not, as I said, himself state the problem which he thus worked out. He stepped in after the different processes to be accomplished were known, after hand-machines were in existence for performing these various processes, and thus, I think, occupies no such position as the inventor of the telephone, who, so to speak, both stated his problem and worked it out.

Now, the Penny machine, which is also an automatic machine for the manufacture of barbed wire, does its work by mechanisms, almost every one of which is essentially different from those employed by Mr. Putnam. Instead of a vibratory arm to move the transverse wire across the lateral wire, Mr. Penny has two wheels with segmental faces, which, when in the revolution of the wheels the segmental faces come together, clasp the transverse wire and push it forward onto the lateral wire, loosing their grasp of this transverse wire when the contact of the segmental faces ceases; and a similar difference exists as to almost all the other mechanisms of the two machines. The difference between the two machines is so marked,—and, indeed, I understand that to be conceded by counsel,—that, unless Mr. Putnam is entitled to the position of a primary inventor, his machine is not infringed by Mr. Penny's. I have had the models of these machines in my office at Leavenworth, and I have invited mechanics and others to examine the two and give me their views. That is not exactly like submitting an equity case to a jury

for the purpose of informing the conscience of the chancellor, but, to one as little versed in mechanics as I, it was, I think, helpful to get the views of others more proficient in mechanics. Only two views have been expressed to me by these various gentlemen. One was,—and a very common expression,—“I know nothing about it and can tell nothing about it;” while the other was that the differences between the two machines were as great as could be found in any machines constructed with the intention of accomplishing the same result. So I think that the claim of infringement in this case is not made out, and a decree will be entered dismissing the bill.

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