

Circuit Court, N. D. New York.

June 1, 1881.

1. RE-ISSUE No. 4,372—DRIVEN WELLS—VALIDITY.

Re-issued letters patent No. 4,372, granted May 9, 1871, to Nelson W. Green, for improvement in process in constructing artesian wells, *held*, valid.

2. CLAIM—CONSTRUCTION—PROCESS—NOVEL ELEMENT—NON-FLOWING WELL—NEW PRINCIPLE—FLOWING WELL.

The claim of the patent, to-wait, “the process of constructing wells by driving or forcing an instrument into the ground until it is projected into the water, without removing the earth upwards, as it is in boring, substantially as herein described,” *held*, to be a claim to a process. The novel element in the process consists in driving a tube tightly into the earth, without removing the earth upwards, to serve as a well-pit, and attaching thereto (in a non-flowing well) a pump, so that the process puts to practical use the new principle of forcing the water, in the water-bearing strata of the earth, from the earth into a well-pit, by the use of artificial power applied to create a vacuum in the water-bearing strata of the earth, and, at the same time, in the well-pit. In a flowing well, to make the hole by displacement, and insert the tube and have the water flow, develops the process.

3. NON-FLOWING WELL—PROCESS—INFRINGEMENT.

In a non-flowing driven well, the use, to procure water, or a pump is a use of the process, and an infringement, although the person using the well and the pump and the process may not be the person who caused the rod to be driven, or the hole to be made, or the tube to be inserted, or the pump to be attached.

4. INVENTOR—SCIENTIFIC PRINCIPLE—OMISSION IN SPECIFICATION.

An inventor may be ignorant of the scientific or physical principle upon which his process acts, or may think he knows it and yet be uncertain, or he may be confident as to what it is and yet others may think differently, and he may, through accident or design, omit to set it forth in the application; yet if he sets forth the process or mode of operation which ends in the result, and the means for

working out the process and mode of operation, and if in such description the thing is so set forth that it can be reproduced, such omission will not vitiate the patent.

Thomas Richardson, for plaintiffs.

No counsel for defendant.

BLATCHFORD, C. J. This suit is brought on re-issued letters patent No. 4,372, granted to Nelson W. Green, one of the plaintiffs, May 9, 1871, for an "improvement in the methods of constructing artesian wells;" the original patent, No. 73,425, having been granted to said Green, as inventor, January 14, 1868, on an application filed March 17, 1866. The specification of the re-issue says:

"My invention is particularly intended for the construction of artesian wells in places where no rock is to be penetrated. The methods of constructing wells previous to this invention were what have been known as 'sinking' and 'boring,' in both of which the hole or opening constituting the well was produced by taking away a portion of the earth or rock through which it was made. This invention consists in producing the well by driving or forcing down an instrument into the ground until it reaches the water, the hole or opening being thus made by a mere displacement of the earth, which is packed around the instrument, and not removed upward from the hole, as it is in boring. The instrument to be employed in producing such a well, which, to distinguish it from 'sunk' or 'bored' wells, may be termed a 'driven well,' may be any that is capable of sustaining the blows or pressure necessary to drive it into the earth; but I prefer to employ a pointed rod, which, after having been driven or forced down until it reaches the water, I withdraw, and replace by a tube made air-tight throughout its length, except at or near its lower end, where I make openings or perforations for the admission of water, and through and from which the water may be drawn

by any well-known or suitable form of pump. In certain soils, the use of a rod preparatory to the insertion of a tube is unnecessary, as the tube itself, through which the water is to be drawn, may be the instrument which produces the well by the act of driving it into the ground to the requisite depth. To enable others to make and use my invention, I will proceed to describe it with reference to the drawing, in which figure 1 represents a portion of the pointed rod above mentioned, and figure 2 a portion of the tube which forms the casing or lining of the well. The driving rod, A, I construct of wood or iron or other metal, or of parts of each, with a sharp point, *b*, of steel or otherwise, to penetrate the earth, and a slight swell, *a*, a short distance above the point, to make the hole slightly larger than the general diameter of the rod. This rod I drive, by a falling weight or other power, into the earth, until its point passes sufficiently far into the water to procure the desired supply. I then withdraw the rod and insert in its place the air-tight iron or wooden tube, B, which may be slightly contracted at its lower end, to insure its easy passage to its place. In general, this tube, B, I make of iron. and of a thickness that will bear a force applied at its upper extremity sufficient to drive or force it to its place; and, where a large or continuous flow of water is desired, I perforate this tube near its lower end, to admit the water more freely to the inside. The perforations, *c*, may be about one-half of an inch in diameter, less or more, and from one to one and a half inches apart, and the perforations 271 may extend from the bottom of the tube upward from one to two feet. The diameter of the tube should be some what smaller than the diameter of the swell, *a*, on the drill end of the driving rod, D. In localities where the water is near the surface of the ground, and the well is for temporary use only, as in the case of a moving army or for temporary camps, lighter and thinner materials than

iron may be used for making the tubes, as, for instance, zinc, tin, copper, or sheet metal of other kind, or even wood may be used. The rod may be of any suitable and practical size that can be readily driven or forced into the ground, and may be from one to three inches in diameter. In some cases the water will flow out from the top of the tube without the aid of a pump. In other cases, the aid of a pump to draw the water from the well may be necessary. In the latter cases, I attach to the tube, by an airtight connection, any known form of pump.”

The claim is as follows:

“The process of constructing wells by driving or forcing an instrument into the ground until it is projected into the water, without removing the earth upward, as it is in boring, substantially as herein described.”

The plaintiffs claim as exclusive owners of the re-issue for the county of Madison, New York, and have proved their title to that effect. The bill alleges that the defendant has made, sold, and used wells in Cazenovia, in said Madison county, embracing said invention, and that he has one or more of said wells and is using the same. The answer sets up as defences—

(1) That Green is not the “first and original” inventor; (2) that the bill “does not describe any improvement in the method of constructing wells, or otherwise, by which the defendant can know the process or improvement in the manner of constructing wells” claimed in the bill; (3) that the defendant is a wagon-maker and has done no other business, and the manufacturing of wells is not an incident to his profession or trade; (4) that the claim of Green as inventor was barred because the improvement was in use more than two years prior to the granting of his patent; (5) that the re-issue “does not describe any new process, or any new discovery or invention, but only

claims an addition to the original patent, a patent on the free flow of water, which is not patentable, as it does not claim any patent or any new invention of the application or uses of flowing water, and is therefore void, and of no force and virtue, and having been adopted and gone into general use by the public, said pretended patent is therefore void in law and equity.”

The answer also sets up that a United States patent granted to James Suggett, March 9, 1865, No. 42,126, describes the same process claimed by the original patent to Green; that the re-issue to Green is an infringement on the said patent to Suggett, and on three United States patents, one Canadian patent, and one British patent, granted prior to the original patent to Green. It does not allege that the patent so Suggett was granted before the invention of Green was 272 made, or that Green did not invent what he claims. It alleges that the same invention was “in public use for more than two years, in the United States, Canadas, and Great Britain, prior to any claim” for a patent having been granted to Green, and that all claims of Green “as the first inventor of such new process of constructing wells was abandoned by said Green, from such lapse of time, to the public.” There is no allegation that the invention was in public use in the United States for more than two years before Green applied for his original patent, or that any use was with his consent or allowance, or that he abandoned the invention. to the public in fact, or otherwise than inferentially from the fact alleged that it was in use for more than two years before his original patent was granted. The answer also sets up the existence of various wells, at various places, at dates prior to Green’s application for his patent. It alleges that in April or May, 1861, there was put down at Independence, Iowa,—

“A well made by driving down into the earth an iron pipe or tube shod with iron or steel point, with

perforations in the tube above the point, without a screen over the same, and sections of tubing attached as driven down, until it was projected some feet into the water, and to the top of this was attached, on iron pump, and the same was used for pumping water through, and was probably used at such place from April or May, 1861, until some time in July or August, 1861, and was known to and used by” (certain persons named;) and that “there was also put down in the town of Preble, Cortland county, New York, a well on the farm of Mr. William E. Tallman (now dead) in the perforating it with small holes at the lower end for about one foot, and by heating and closing the lower end, so as to form a point to exclude the earth while driving. The pipe, after being thus prepared, was used by either first driving down an iron rod, and withdrawing the rod, and then driving down the pipe in the place where the rod was withdrawn, or by driving down the pipe without the use of an iron rod, and attaching sections of pipe by screw couplings, as driven down, till it was projected to a suitable depth into the water-bearing screwed to the top of the pipe, and, by the use of a pump so attached, water was raised for use, and a frame was built over it, on which was constructed a windmill, so attached to the pump as to work the pump when the wind blew, and raise water through the pipe for watering the stock of said William E. Tallman’s farm, and was used by and known to the public; and the same was till about 1863, when the pipe was taken up, and was publicly used and known to” (certain persons named.)

The answer does not allege that the use of the wells at Independence and at Preble preceded Green’s invention. Finally, the answer denies all parts of the bill not before fully answered. The answer 273 is verified by Mr. Stroke, of Cazenovia, the defendant’s solicitor, who also signs it as solicitor and counsel. It is not signed or verified by the defendant. It is

also signed by Messrs. Jed Lake and W. W. Harmon, of Independence, Iowa, as counsel. There was a replication to the answer. The plaintiffs took testimony in this case, and an assignment from Green to his co-plaintiffs. They also examined as witnesses in this case Thomas Marshall and James G. Richards, in October, 1879 The defendant put in evidence a United States patent to James Suggett, No. 42,126, issued March 29, 1864, and not issued March 9, 1865, as stated in the answer, and a certified copy of the file wrapper in the matter of the original patent granted to Green. The defendant was also examined as a witness for himself, in this suit, in August, 1880. The defendant also took, in this suit, at Independence, Iowa, the depositions of Thomas Sherwood, Thomas J. Marinus, H. A. King, George Warne, A. J. Francis, A. F. Williams, Thomas H. Tyson, and S. P. McEwen, in April, 1880. The foregoing is all the testimony that was taken directly in this suit, on either side. Under a stipulation made between the parties to this suit, and a notice given thereunder by the defendant to the plaintiffs, the depositions of Moses T. Tallman, Abram Vandenburg, and John D. F. Woolston, taken in February and March, 1880, in a suit in equity in the circuit court of the United States for the district of Iowa, between William D. Andrews and others, plaintiffs, and George Leland, defendant, in respect to the alleged driven well in Preble, are made evidence for the defendant in this suit. Under a like stipulation, and a notice given thereunder by the following dates, in a suit in equity in the said circuit court for Iowa, between William D. Andrews and others, plaintiffs, and George Hovey, defendant, are made evidence for the plaintiffs in this suit:

December, 1879, William D. Andrews and Thomas C. Theaker; June, 1880, John Q. Royce; August, 1880, Charles Brown, Adelbert Brown, George W. Burr, Thomas H. Tyson, K. R. Kays, Thomas J. Burr,

William H. Joslin. William O. Barnard, and Joseph M. Chandler; September, 1880. John Wiley, Lewis W. Chase, Joseph L. Galt, Hamilton Ward, Julia A. Green, Judson C. Nelson, Ceylon H. Lewis, John Vandenburg, (two depositions of his in the Hovey suit being presented, although the notice in this suit mentions his name only once as a witness,) W. T. Blanchard, Clinton D. Bouton, Jesse M. Blanchard, John S. Cornue, Matthias Van Hoesen, Seth Aldrich, Gerrit S.

274

Van Hoesen, Albert H. Van Hoesen, Amasa G. Aldrich, Nicholas H. Haynes, Orrin Pratt, James B. Share, Emma Share, Eben Daley, and Thomas Ballard, (another deposition of each of the witnesses Matthias Van Hoesen, Seth Aldrich, and Thomas Ballard, in the Leland suit, being also presented, although the notice in this suit mentions the name of each only once as a witness.)

Under a like stipulation and a like notice, the following depositions, taken at the following dates, in the said suit against Leland, are made evidence for the plaintiffs in this suit:

August, 1880, Nelson W. Green, Joseph L. Galt, J. A. Todd, John M. Fargo, John West, Frank Fargo, Augustus Harrington, Horace Dibble, Hiram Crandall, Jay Ball, James S. Squires, William P. Randall, Charles C. Taylor, John Wheeler, De Witt C. McGregor, Merton M. Waters, Stephen Brewer, Matthias Van Hoesen, Seth Aldrich, Thomas Ballard, and Ira Hazard, (the remark before made as to the two depositions of Matthias Van Hoesen, Seth Aldrich and Thomas Ballard being applicable here also;) August and September, 1880. Abraham P. Smith; September, 1880, Eustace D. Dibble, Noah J. Parsons, Stephen D. Freer and William S. Copeland.

The plaintiff's record makes 1,305 printed pages; the defendant's 208. The case came on for hearing on

the twenty-first of March last. All the testimony taken directly for the defendant in this suit had been filed. But the defendant had not printed any of it, nor had he printed, as required by the stipulation, the testimony of the three witnesses for the defendant in the Leland suit before mentioned, Tallman, Vandenburg, and Woolston, or any of it, nor had he filed a copy of any of it. On the fifteenth of March, the first day of the sitting of the court, the defendant applied to the court to postpone the hearing of the cause, but the application was refused. There upon the cause stood for hearing for the 21st, but Mr. Stroke, the solicitor and counsel for the defendant, who had attended on the 15th and made said application, did not attend any more, and the defendant was not represented on the hearing. The case was not argued for the defendant, nor was any brief furnished for him. The plaintiffs' counsel argued the cause orally, and submitted a printed brief, and subsequently a printed report of his oral argument. The plaintiffs also filed a certified copy of, and printed and submitted to the court, all the testimony before referred to as testimony for the defendant, and all their own testimony, before mentioned, has been before the court in print. Under these circumstances, the testimony has all of it been read and the case is to be disposed of. It is very much to be regretted that the court has not had the benefit of the views of counsel on the part of the defendant as to the questions of fact 275 and of law arising on the evidence, as it is impossible for the court to fully appreciate the bearing of the testimony given in reply to questions, direct and cross, put by the counsel for the defendant, or to fully understand what might or would be the view taken on the part of the defendant of evidence elicited by questions put on the part of the plaintiffs. The first question which arises is as to the proper construction of the patent. A "well" is defined by Worcester to be "a deep, narrow pit dug in the

earth, and usually walled, for the purpose of obtaining a supply of water." He defines "artesian well" thus:

"[Fr. Artesien, of Artois, in France, where this kind of well was first made.] A perpendicular perforation or boring into the ground, deep enough to reach a subterranean body of water, of which the sources are higher than the place where the perforation is made, and so force up to the surface a constant stream of water."

The specification states that the instrument is to be driven down to the water, and the earth it meets with is to be displaced by it and thus packed around to be inserted in the place where the instrument has been driven down, after such instrument has been withdrawn, or is to be itself driven down in the first place, is to be air-tight through-out its length, except at its bottom, where it has perforations to admit water; that these perforations are made for the purpose of obtaining a continuous flow of water; and that, where the water does not flow out from the top of the tube without the aid of a pump, a pump is to be attached to the top of the tube by an air-tight connection. The specification contemplates the procuring of water. The process seems to be divided into two stages—

(1) Making a hole for the tube down to water by displacing the earth by driving down a straight instrument into the earth, so that the earth is packed around the instrument; (2) having in the hole thus made an air-tight tube, substantially as large as the hole, with a pump attached to the top of the tube by an air-tight connection.

The specification does not otherwise explain the *rationale* of the process which results in having the water issue from the top of the tube. When a rod which is not a tube is driven down to water, there is as yet no well. When the rod is withdrawn, if the source of the water is higher than the top of the hole, water will issue from the top, and there is still a well; If

the rod is withdrawn and the air-tight tube is inserted, or if such tube is driven in the first place, and no water issues without the aid of a pump, there is no well, in the 276 sense of the specification, till the pump is put on by an air-tight connection, in such a way that, by the use of the pump, the whole process can result in causing water to issue from the further upper end of what is so connected with the top of the tube. The construction of a well, spoken of in the specification as the invention made, and which it must be presumed was intended to be secured, is, thus, not merely the displacement of the earth by driving down the instrument or the tube, but is, in addition, having the air-tight tube in the earth with the earth packed around it, and a process arranged, by the mechanical aid of a pump, attached by an air-tight connection to the tube, for causing the water to enter the perforations at the lower end of the tube and issue from the upper end of the tube. What particular forces are in operation to produce this process of obtaining water, when the well is not a flowing well, is of no importance. The specification need not explain. The mechanical means are fully explained which result in the obtaining of the water, from the commencement of the driving. The process of obtaining the water comprehends all the steps which form part of that process, as they result from or attend the mechanical means set forth. The process consists in having an air-tight tube with the earth tightly packed around it, resulting from compacting the earth by displacing it by driving a rod or the tube, connection, and, by the operation of the pump, obtaining a supply of water at the top. In describing how the invention is made and used, so as to enable others to make and use it, the description includes driving the rod, putting in the airtight tube, and having the pump, and obtaining a continuous supply of water. The invention being thus defined in the specification, the claim is

to be construed as broadly as the invention, unless necessarily restricted by the language used in the claim. The claim is:

“The process of constructing wells by driving or forcing an instrument into the ground until it is projected into the water, without removing the earth upward, as it is in boring, substantially as described.”

Where the well is a flowing well, the water will flow as soon as the hole is made, and to make the hole by driving and displacement, and insert the tube and have the water flow, develops the process. Where the well is not a flowing well, the pump, in addition, is necessary, and the use of the pump in the well so made is a use of the process. Driving or forcing an instrument into the ground until it is projected into the water, without removing the earth upward as it is in boring, is an essential element in the process, in either case; and, ²⁷⁷ where the well is not a flowing well, the claim is a claim to the process substantially as described, being the process above explained in case of a non-flowing well, an inherent constituent of which is the driving process, the process claimed, however, including the other modes of operation which attend the procuring, by a pump, of water from a tube in a well, of a pump in a well thus constructed and having its features, is a use of the process, although the person using the well and the pump and the process may not be the person who caused the rod to be driven, or the hole to be made, or the tube to be inserted, or the pump to be attached. This re-issued patent was under consideration in *Andrews v. Carman*, 13 Blatchf. 307. In the decision of Judge Benedict, in that case, the re-issued patent was held to be valid; the state of the art of constructing wells at the time Green made his invention was explained; the peculiar features of Green's driven well were commented on; the claim was held to be a claim to a process, the element of novelty in it consisting in

driving a tube tightly into the earth, without removing the earth upwards, to serve as a well-pit, and attaching thereto a pump, so that the process puts to practical use the new principle of forcing the water in the water-bearing strata of the earth from the earth into a well-pit, by the use of artificial power applied to create a vacuum in the water-bearing strata of the earth, and at the same time in the well-pit; and it was also held, that the claim might well be construed as claiming the well as a manufacture constructed according to the process described. The evidence in the present case shows that any person, by using a pump, applied as directed, on the tube directed, in the well constructed as directed, will put to practical use what is in *Andrews v. Carman* defined to be the “new principle.” Although the specification does not state what such new principle is, the evidence in the present case shows what it is, and that it is certainly and effectively developed, to the end of obtaining a copious, continuous, and unfailing supply of good water, and that it is what is thus set forth in *Andrews v. Carman*. It may be that the inventor did not know what the scientific principle was, or that, knowing it, he omitted, from accident or design, to set it forth. That does not vitiate the patent. He sets forth the process or mode of operation which ends in the result, and the means for working out the process or mode of operation. That is not required to be set forth. Under section 26 of the act of July 8, 1870, (16 St. at Large, 201) under which 278 this re-issue was granted, the specification contains a description of the invention, and of “the manner and process of making, constructing, compounding, and using it,” in such terms as to enable any person skilled in the art to which it appertains to make, construct, compound, and use it; and, even regarding the case as one of a machine, the specification explains the principle of the machine within the meaning of that section,

although the scientific or physical principle on which the process acts, when the pump is used with the air-tight tube, is not explained. An inventor may be ignorant of the scientific principle, or he may think he knows it, and yet be uncertain, or he may be confident as to what it is, and others may think differently. All this is immaterial, if, by the specification, the thing to be done is so set forth that it can be reproduced.

This re-issue was also adjudicated upon by Judges Dillon and Nelson in *Andrews v. Wright*, 13 O. G. 969, and the claim was construed to be for a process such as I have defined it to be. Under this construction the defendant has infringed by using a pump in a driven well constructed in a house hired by him, to obtain a supply of water for the use of his family, although he may not have paid for driving the well or have procured it to be driven. Such use of the well was a use of the patented process.

The invention of Green is shown to have preceded any invention made by Suggest, and described in his patent of March 29, 1864. The evidence also shows that none of the defences set up in the answer are established. The conclusions arrived at in the decision in *Andrews v. Carman* are supported by the testimony in this case. Those conclusions relate to the novelty of Green's invention, and to the question of the dedication and abandonment of the invention to the public by Green. This latter question must be decided under the laws in force in 1866, when the original patent was applied for. No abandonment or dedication of the invention to the public by Green is shown. The construction of the well on the fair ground at Cortland, under the direction of Green, and its use, by his consent, was an experimental use, to test it. The rule laid down in *Andrews v. Carman*, as to the proper construction of section 7 of the act of March 3, 1839, (5 St. at Large, 354,) as deduced from prior rulings, was that that section had no effect to invalidate

a patent unless there was proof of actual abandonment or of a use of the invention, with the knowledge and allowance of the inventor, more than two years prior to his application for his patent. It was held in that case, not only that there was no evidence of any use or sale of the 279 invention by Green before his application for a patent, but no sufficient evidence from which to conclude that any use of any driven well by others before his application was consented to or allowed by him. Such, also, was the conclusion in *Andrews v. Wright*, and such is the result of the evidence in the present case. Green testifies that he first heard in the latter part of 1865 of the use by others of driven wells made by his process, being his first knowledge of any others than those he experimented with in 1861; that he immediately, in December, 1865, or January, 1866, made out and sent to Washington an application for a patent; that that was lost in the patent office; and that he followed it up by the one in March, 1866, on which the patent was granted. The evidence as to the delay in applying for the patent, as bearing on the question of abandonment, was considered in *Andrews v. Carman*, and the decision was arrived at that the delay was excused. The same view was taken in *Andrews v. Wright*. The evidence in the present case is of the same character and leads to the same conclusion. None of the other defences set up in the answer are established, nor is an attempt made to sustain any others than those above mentioned, except the Preble well and the Independence well. They were not set up or testified about in the cases against Carman and Wright. The evidence as to the Preble well fails to establish its existence as a driven well, or one in which the process of Green was developed. The alleged inventor of it, William E. Tallman, is dead. His brother, Moses T. Tallman, did not see it constructed. All the facts testified to about it, and the remains presented,—the punctured piece of pipe,

the copper strainer, and the section of iron stove-pipe, open at both ends,—are at least as consistent with an apparatus for filtering the water in the dug well in question, while pumping it up, as with a driven well. With the copper strainer on the punctured lower end of the pipe, where it probably was, if the pipe was in the well at all, there could have been no driven well, in the sense of Green's well. If there was sand in the bottom of the well, which was likely to be drawn in through the punctures in the pipe, when used in the dug well, if those punctures were at the bottom of the well, raising up the pipe might raise it above the supply of water, when the water was low; but putting the strainer on the end of the pipe, and surrounding the strainer with the section of stove-pipe, would keep out the sand even when the water was at the lowest, and permit the water to pass, and, when the water was high enough to pass through the punctures in the pipe, it would be so far above the sand as to be clear of sand. All the evidence 280 of Moses T. Tallman goes to show that the well was not a driven well, and that there was not in it any such process embodied as that of Green. The testimony of Abram Vanderburgh is not entitled to any more weight. On the other side, the evidence is overwhelming that there was and could have been no driven well at the time and place in question.

As to the driven well alleged to have been put down at Independence in April or May, 1861, it is quite clear that the witnesses who testify to that date are mistaken, and that the well in question was put down in May, 1866. The evidence to that effect is very complete and detailed and minute.

There must be the usual decree for the plaintiffs, with costs.

This volume of American Law was transcribed for use
on the Internet

through a contribution from [Tim Stanley](#). 🌟