

*United States Circuit Court.—Southern District of New York.*

WILLIAM T. G. MORTON vs. THE NEW YORK EYE INFIRMARY.

At common law an inventor has no exclusive right to his invention. Such right is the creature of the statute by which alone the right claimed in any given case must be determined.

In its strict sense a discovery is not patentable.

The discovery of the use of ether in surgical operations, though of inestimable benefit to the human race, was merely the discovery of a more perfect effect of the action of well-known agents, operating by well-known means upon well-known subjects, and as such was not legally entitled to be patented.

Motion for a new trial.

Mr. *Cozzens* and Mr. *Keller*, for the motion.

Mr. *Owen* and Mr. *B. D. Silliman*, contra.

The opinion of the Court was delivered by

SHIPMAN, J.—This is an action at law brought to recover damages for the infringement of a well-known patent. The case came on to be heard at a prior term of this Court before a jury, and after some testimony had been taken tending to show an infringement by the defendants, the Court, having doubts as to the validity of the patent, arrested the hearing of the evidence, and directed the counsel to argue the question of law arising on the face of the specification. This question is—as will be at once obvious to any one familiar with the law of patents who reads the specification—is the subject-matter of the alleged invention patentable? The question, after argument, was decided in the negative, and the patent declared void. The same question is now again presented, on a motion for a new trial, before a full Court. The point is one of substance and not of form. It was discussed as such, and will be so decided. Any criticisms which we may make on the language of the specification will be made only for the purpose of dealing with the subject which that language envelops; and if at any time we appear to discard the phraseology of the instrument, it will not be because we complain of its terms, but only

for the reason that we desire to strip the alleged invention and present it naked for consideration. As various parts of the specification were referred to on the argument as having a bearing on the single point raised, it is proper to give the whole instrument, which is in the following words:—

*The Schedule referred to in these Letters Patent, and making part of the same.*

“To all persons to whom these presents shall come:

“Be it known that we, Charles T. Jackson and William T. G. Morton, of Boston, in the county of Suffolk, and State of Massachusetts, have invented or discovered a new and useful improvement in surgical operations on animals, whereby we are enabled to accomplish many, if not all, operations such as are usually attended with more or less pain and suffering, without any, or with very little, pain to, or muscular action of, persons who undergo the same; and we do hereby declare that the following is a full and exact description of our said invention or discovery.

“It is well known to chemists that when alcohol is submitted to distillation with certain acids, peculiar compounds, termed *ethers*, are formed, each of which is usually distinguished by the name of the acid employed in its preparation. It has also been known that the vapors of some, if not all, of these chemical distillations, particularly those of sulphuric ether, when breathed or introduced into the lungs of an animal, have produced a peculiar effect on its nervous system; one which has been supposed to be analogous to what is usually termed intoxication.

“It has never (to our knowledge) been known, until our discovery, that the inhalation of such vapors (particularly those of sulphuric ether) would produce insensibility to pain, or such a state of quiet of nervous action as to render a person or animal incapable, to a great extent, if not entirely, of experiencing pain while under the action of the knife, or other instrument of operation of a surgeon calculated to produce pain. This is our discovery; and the combining it with, or applying it to, any operation of surgery, for the purpose of alleviating animal suffering, as well as of enabling a

surgeon to conduct his operation with little or no struggling or muscular action of the patient, and with more certainty of success, constitutes our invention. The nervous quiet and insensibility to pain produced on a person is generally of short duration; the degree or extent of it, or time which it lasts, depends on the amount of ethereal vapor received into the system, and the constitutional character of the person to whom it is administered. Practice will soon acquaint an experienced surgeon with the amount of etheric vapor to be administered to persons for the accomplishment of the surgical operation or operations required in their respective cases. For the extraction of a tooth, the individual may be thrown into the insensible state, generally speaking, only a few minutes. For the removal of a tumor, or the performance of the amputation of a limb, it is necessary to regulate the amount of vapor inhaled to the time required to complete the operation. Various modes may be adopted for conveying the etheric vapor into the lungs. A very simple one is to saturate a piece of cloth or sponge with sulphuric ether and place it to the nostrils or mouth, so that the person may inhale the vapors. A more effective one is to take a glass, or other proper vessel, like a common bottle or flask. Place in it a sponge saturated with sulphuric ether. Let there be a hole made through the side of the vessel for the admission of atmospheric air (which hole may or may not be provided with a valve opening downwards, or so as to allow air to pass into the vessel), a valve on the outside of the neck opening upwards, and another valve in the neck and between that last mentioned and the body of the vessel or flask, which latter valve in the neck should open towards the mouth of the neck or bottle. The extremity of the neck is to be placed in the mouth of the patient, and his nostrils stopped or closed in such manner as to cause him to inhale air through the bottle, and to exhale it through the neck and out of the valve on the outside of the neck. The air thus breathed, by passing in contact with the sponge, will be charged with the etheric vapors, which will be conveyed by it into the lungs of the patient. This will soon produce the state of insensibility or nervous quiet required.

“In order to render the ether agreeable to various persons, we

often combine it with one or more essential oils having pleasant perfumes. This may be effected by mixing the ether and essential oil, and washing the mixture in water. The impurities will subside, and the ether, impregnated with the perfume, will rise to the top of the water. We sometimes combine a narcotic preparation, such as opium or morphine, with the ether. This may be done by any ways known to chemists by which a combination of etheric and narcotic vapors may be produced. After a person has been put into the state of insensibility as above described, a surgical operation may be performed upon him without, so far as repeated experiments have proved, giving to him any apparent or real pain, or so little in comparison to that produced by the usual process of conducting surgical operations as to be scarcely noticeable. There is very nearly, if not entire, absence of all pain. Immediately, or soon after the operation is completed, a restoration of the patient to his usual feelings takes place, without, generally speaking, his having been sensible of the performance of the operation.

“From the experiments we have made, we are led to prefer the vapors of sulphuric ether to those of muriatic or other kind of ether, but any such may be employed which will properly produce the state of insensibility without any injurious consequences to the patient.

“We are fully aware that narcotics have been administered to patients undergoing surgical operations, as we believe always by introducing them into the *stomach*. This we consider in no respect to embody our invention, as we operate through the *lungs and air-passages*, and the effects produced upon the patient are entirely or so far different as to render the one of very little, while the other is of immense, utility. The consequences of the change are very considerable, as an immense amount of human or animal suffering can be prevented by the application of our discovery.

“What we claim as our invention is the hereinbefore-described means by which we are enabled to effect the above highly important improvement in surgical operations, viz., by combining therewith the application of ether or the vapor thereof substantially as above specified.

“In testimony whereof we have hereto set our signatures, this 27th day of October, A. D. 1846.

(Signed)

“CHARLES T. JACKSON.

“Witnesses:—

“WM. T. G. MORTON.

“R. H. EDDY.

“W. H. LEIGHTON.”

At common law an inventor has no exclusive right to his invention or discovery. That exclusive right is the creature of the statute, and to that we must look to see if the right claimed in a given case is within its terms. The Act of Congress provides, “That any person or persons having discovered or invented any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter, not known or used by others before his or their discovery or invention thereof, and not at the time of his application for a patent in public use or on sale with his consent or allowance as the inventor or discoverer,” shall be entitled to receive a patent therefor. The true field of inquiry in the present case is to ascertain whether or not the alleged invention set forth in this specification is embraced within the scope of the Act. Very little light can be shed on our path by attempting to draw a practical distinction between the legal purport of the words “discovery” and “invention.” In its naked, ordinary sense, a discovery is not patentable. A discovery of a new principle, force, or law, operating, or which can be made to operate, on matter, will not entitle the discoverer to a patent. It is only where the explorer has gone beyond the mere domain of discovery and has laid hold of the new principle, force, or law, and connected it with some particular medium or mechanical contrivance by which, or through which, it acts on the material world, that he can secure the exclusive control of it under the Patent Act. He then controls his discovery through the means by which he has brought it into practical action, or their equivalent, and only through them. It is then an invention, although it embraces a discovery. Sever the force or principle discovered from the means or mechanism through which

he has brought it into the domain of invention, and it immediately falls out of that domain and eludes his grasp. It is then a naked discovery, and not an invention.

These remarks are not made for the purpose of laying down sweeping general propositions. We are too well aware of the futility, or we might say mischief, of that practice of expounding the law of patents to embark in it. But these suggestions are submitted for the purpose of showing the relation of the terms "discovery" and "invention," and especially the dependence of the former upon the latter, as used in the statute. Every invention may, in a certain sense, embrace more or less of discovery, for it must always include something that is new; but it by no means follows that every discovery is an invention. It may be the *soul* of an invention, but it cannot be the subject of the exclusive control of the patentee, or the patent law, until it inhabits a *body*, no more than can a disembodied spirit be subjected to the control of human laws.

Now, that this patent contains the record of a discovery there can be no doubt. And it is equally clear that, in a certain sense, it was new at about the date of the patent. It is important here to ascertain precisely what that discovery was. It is described in general terms, in the first paragraph of the specification, to be "a new and useful improvement in surgical operations on animals." This is at best vague—not from any fault of the person who drafted the schedule, but from the inherent difficulties of his task, and the imperfect nature of human language as an instrument of thought. But we can clearly gather from the paper itself what the discovery was; and we are aided in this by those parts of the specification which state what was old and well known. The second paragraph recites: "It is well known to chemists that where alcohol is submitted to distillation with certain acids, peculiar compounds, termed *ethers*, are formed, each of which is usually distinguished by the name of the acid employed in its preparation." The origin and existence of ethers, those wonderful agents that produce a harmless insensibility to pain, formed no part of the discovery. No one of them was brought to light by these patentees, for they were all

well known before. The same paragraph further sets forth that "It has also been known that the vapors of some, if not all, of these chemical distillations, particularly those of sulphuric ether, when breathed or introduced into the lungs of an animal, have produced a *peculiar effect* on the nervous system, one which has been supposed to be analogous to what is usually termed intoxication." It was not, then, the fact that these vapors could be introduced into the air-passages and lungs that was discovered. This was as old as respiration, or at least as old as the existence of the vapors. Neither was it discovered that when inhaled these vapors produced an effect like that of intoxication, exhilaration, and more or less stupefaction. This too had long been well known.

The next paragraph distinctly sets forth the real discovery that was made, viz., that this well-known inhalation of well-known agents (in increased quantities) would produce a state of the animal analogous to complete intoxication, accompanied with total insensibility to pain. It appropriately adds: "This is our discovery." It is not important to inquire here whether this was the discovery of an increased and more perfect effect, the same in kind with that already well known, or whether it was the discovery of an entirely new effect. The effect discovered was produced by old agents, operating by old means upon old subjects. The *effect* alone was new, and to that only can the term "discovery" apply. That this mere discovery, however novel and important, is not patentable, needs neither argument nor authority to prove. This the specification impliedly concedes, for after thus clearly setting forth the discovery, a struggle is made to grapple it to something in active existence, and thus make the two in this new special relation a patentable *invention*. This is done by "combining it with or applying it to any surgical operation." "This is our invention." The beneficial effects described as resulting from the application, refer merely to the utility of the alleged invention, which is not in question, and may therefore be laid out of the case. The object of this combining the discovery with, or applying it to, surgical operations, is apparent. It was to shelter the discovery under those terms of the Patent Act which protect "any new and useful

improvement on any art." It was clearly not the discovery or invention of an "art," or "machine," or "manufacture," or "composition of matter." Nor was it an "*improvement*" on any one of the last three. It was therefore called, in substance, an improvement in the art of surgery. But we cannot change a thing by a name. In a certain general sense it is an improvement in the art of surgery. So would the invention of a new and useful lancet, saw, forceps, or bandage, be an improvement on the same art. But the patent securing the exclusive use or sale of such an instrument must rest exclusively upon the novelty of its construction. It could borrow no element of patentability from the art in which it was designed to be used, except merely the element of utility. Of this latter the art would furnish the test. Now this discovery of the effect of ether on the patient in holding him motionless and insensible during the operation, has the same *legal relation* to the art of surgery that a machine or other mechanical contrivance for holding him would have. It holds him better, stiller, and with less discomfort and danger to himself than any mechanism could; but its office is to hold and protect the patient. It has no other relation to, or connection with, the art of the surgeon. We use the word "protect" as applied to the patient in the largest sense, and as including not only exemption from pain during the operation, but also from the shock which such operations often give the system. The only legal quality or aid, then, which this alleged invention can draw from the art with which it is connected in the specification, is that which relates to its utility. Of this it supplies undoubted evidence. The eminent surgeons who testified on the trial concurred in stating that its usefulness could not be overrated. We must, then, leaving the art of surgery to supply the evidence of its utility, contemplate the discovery as separated from the use to which it is applied. At this point the patent breaks down; for the specification presents nothing new except the *effect* produced by well-known agents, administered in well-known ways on well-known subjects. This new or additional effect is not produced by any new instrument by which the agent is administered, nor by any different application of it to the body of the patient. It is

simply produced by increasing the *quantity* of the vapor inhaled. And even this quantity is to be regulated by the discretion of the operator, and may vary with the susceptibilities of the patient to its influence. It is nothing more, in the eye of the law, than the application of a well-known agent, by well-known means, to a new or more perfect use, which is not sufficient to support a patent.

But it was insisted on the argument that the claim, at the close of the specification, when properly understood, disclosed the true character of the invention, and furnished ground upon which the patent can stand. This clause declares, that "what we claim as our invention is the hereinbefore-described means by which we are enabled to effect the above highly important improvement in surgical operations, viz., by combining therewith the application of ether, or the vapor thereof, substantially as above described." The plaintiff's counsel insists that the true reading of the claim, in the light of the preceding part of the specification, is not that which asserts a *combination* of the discovery with *surgical operations*, but rather an application of the discovery to surgical operations by the *means described*; "and that the means described, and the only means described, are the process of rendering the system insensible to pain by the inhalation of ether." But we do not discover that this exposition of the claim relieves the difficulty. What is the *process* which is here set forth? The process of inhalation of the vapor, and nothing else. To couple with it the *effect* produced by calling it a process of rendering the system insensible to pain, is merely to connect the result with the means. The *means*, that is the process of inhalation of vapors, existed among the animals of the geologic ages preceding the creation of our race. That process, in connection with these vapors, is as old as the vapors themselves. We come, therefore, to the same point, only by a different road. We have, after all, only a new or more perfect effect of a well-known chemical agent, operating through one of the ordinary functions of animal life.

It is curious and instructive to observe the perpetual struggle in the specification to draw from the surgical operation some support to the patent beyond that of its utility. "We are fully aware,"

says the paragraph immediately preceding the claim, "that narcotics have been administered to patients undergoing surgical operations, and, as we believe, always by introducing them into the *stomach*. This we consider in no respect to embody our invention, as we operate through the *lungs and air-passages*." An examination of this single passage in the specification will demonstrate the impossibility of sustaining this patent on any grounds known to the law. Now suppose these agents had been fluids instead of elastic vapors, and their effect had been known, when taken into the stomach, to be the same as that now long known to have resulted from their inhalation, viz., a state of partial intoxication. Would the discovery that an increased quantity of the fluid produced a more perfect effect, by rendering intoxication complete, accompanied with total insensibility to pain, have rendered the discovery patentable? We think clearly not. In this view of the subject, we here lay out of the case the application of the new effect to surgical operations. We will allude to that again in a moment. Now, a precisely parallel case is presented, by the actual facts before us, to the one just supposed. The inhalation of the ethers had long been known. By increasing their quantity, it was discovered that a new or more complete effect was produced, by which the subject was rendered wholly insensible. This can be no more patentable than the discovery that the increased quantity of liquors, taken into the stomach, would produce a like result. In both cases, there is only a naked discovery of a new effect, resulting from a well-known agent, working by a well-known process. This effect is a temporary suspension of sensibility and motion in the animal body. Here, what is new in the alleged invention begins and ends. The fact that the surgeon can operate upon the body in the condition to which it is thus reduced, forms no part of the invention or discovery. It simply furnishes evidence that it can be applied to at least one useful purpose; a fact quite independent of the other elements necessary to make a discovery patentable.

Before dismissing this case it may not be amiss to speak of the character of the discovery upon which the patent is founded. Its value in securing insensibility during the surgical operation, and

thus saving the patient from sharp anguish while it is proceeding, and mitigating the shock to his system, which would otherwise be much greater, was proved on the trial by distinguished surgeons of the city of New York. They agreed in ranking it among the great discoveries of modern times; and one of them remarked that its value was too great to be estimated in dollars and cents. Its universal use, too, concurs to the same point. Its discoverer is entitled to be classed among the greatest benefactors of mankind. But the beneficent and imposing character of the discovery cannot change the legal principles upon which the law of patents is founded, nor abrogate the rules by which judicial construction must be governed. These principles and rules are fixed, and uninfluenced by shades and degrees of comparative merit. They secure to the inventor a monopoly in the manufacture, use, and sale of very humble contrivances, of limited usefulness, the fruits of indifferent skill and trifling ingenuity, as well as those grander products of his genius which confer renown on himself and extensive and lasting benefits on society. But they are inadequate to the protection of every discovery, by securing its exclusive control to the explorer to whose eye it may be first disclosed. A discovery may be brilliant and useful, and not patentable. No matter through what long, solitary vigils, or by what importunate efforts, the secret may have been wrung from the bosom of nature, or to what useful purposes it may be applied. Something more is necessary. The new force or principle brought to light must be embodied and set to work, and can be patented only in connection or combination with the means by which, or the medium through which, it operates. Neither the natural functions of an animal upon which or through which it may be designed to operate, nor any of the useful purposes to which it may be applied, can form any essential parts of the combination, however they may illustrate and establish its usefulness.

Motion for new trial denied.

NELSON, J., concurred.