GIANT POWDER CO. v. CALIFORNIA POWDER WORKS.

Case No. 5,379.

{3 Sawy. 448; 2 Ban. & A. 131.}[1]

Circuit Court, D. California.

Sept. 22, 1875.[2]

ORIGINAL PATENT FOR PROCESS—RE-ISSUE FOR COMPOUND—RE-ISSUES VOID—RE-ISSUE, WHEN AUTHORIZED—MACHINE PATENTS—RE-ISSUE OF PATENTS OTHER THAN FOR MACHINES—CHANGE OF SPECIFICATIONS AND RE-ISSUES—CONSTRUCTION OF ORIGINAL AND RE-ISSUED PATENTS—RE-ISSUES UNDER ACT OF 1836—NOBEL'S PATENT WITHIN THE RULE.

1. Where the specifications in a patent particularly describe four different modes of exploding nitro-glycerine: 1. By exploding gunpowder confined in a waterproof tube in contact with it; 2. By an electric spark or current; 3. By inserting in the liquid a thin case containing some substance evolving heat; 4. By a fuse; and claimed as his invention "the use of nitro-glycerine or its equivalent substantially in the manner and for the purposes described:" *Held*, that the patent is for a process and not for a compound. (Per Mr. Justice Field.)

2. The original patent having been surrendered, there were re-issues in several divisions; one for a compound of nitro-glycerine and gunpowder; one for a compound of nitro-glycerine and gun-cotton; and one for a compound of nitro-glycerine and rocket powder: *Held*, that each of these re-issues is a patent for a compound, not for a process. (Id.)

3. The original patent being for a process and the three re-issues mentioned being for compounds, they were not embraced in the invention originally described and patented, and the re-issues are void. (Id.)

4. Under section 53 of the act of 1870 (16 Stat. 205), a re-issue is not authorized unless the original patent is inoperative or invalid from a defective or insufficient specification, or the claim of the patentee exceeds his right, Id.)

5. In determining the propriety of a re-issue no new matter can be introduced except in cases of machine patents. (Id.)

6. If the patent does not relate to a machine, the specification, if defective, may be made more definite and certain, so as to embrace the claim made, or the claim may be so modified as to correspond with the specification; but this is the extent to which modifications can be made in such cases. (Id.)

7. Nobel's original patent was neither inoperative nor invalid by reason of any defect or insufficiency of the specifications of the patent set out in the statement of the case. The specification was unambiguous and covered all that was claimed; but, if otherwise, no new matter not relating to the process claimed, but relating to compounds made by uniting nitro-glycerine with other substances, could be added to the specifications. (Id.)

8. Re-issues under the statute must be for the same invention which was embraced in the original patent, or if re-issued in divisional parts, each division must be for some distinct and separate part of that invention. (Id.)

{See note at end of case.}

9. Where the inventor originally filed specifications embracing both compounds and cognate processes, but afterwards filed amended specifications omitting the compounds, and the patent issued upon the amended specifications which were alone attached thereto, upon an application for re-issues in divisions, the commissioner of patents is limited in his re-issues to the invention

embraced in the amended specifications attached to the original patent, and cannot look at the specifications first filed, and afterwards abandoned, to ascertain what the invention sought to be patented was. (Id.)

10. Where a patent is surrendered and a reissue obtained, a second re-issue on surrender of the first, must be limited to the invention embraced in the first re-issue. (Id.)

11. Where upon a comparison of the original and the re-issued patents, it appears upon the face of the patents that the latter is not for the same, or some part of the same invention as that embraced in the former, it will be adjudged void on the ground that it was issued without authority. (Id.)

12. On an application for a re-issue of a patent under the act of 1836 [5 Stat. 117], the commissioner was not authorized to look beyond the patent as originally granted with the specifications and diagrams thereto annexed, and the models deposited in the patent office, for the purpose of ascertaining what invention was intended to be patented. (Per Sawyer, Circuit Judge.)

13. Nobel's patent having been issued in 1860, his rights accrued and they must be determined under the provisions of the act of 1836, and there being no model, upon an application for a re-issue made prior to the passage of the act of 1870, he would be limited in the re-issue to the invention as described, substantially indicated or suggested in the original patent, and the specifications and drawings appended thereto.

Demurrer to bill to enjoin the infringement of a patent. In addition to the facts stated in the opinion of the court the following bearing upon the points decided were alleged in the bill:

Alfred Nobel on the sixteenth day of September, A. D. 1865, duly filed in the United States patent office an application for a patent addressed to the commissioner of patents, praying for letters-patent for his invention; and with said petition said Nobel filed in said patent office a power of attorney appointing and constituting Henry Howson his attorney and agent to alter and modify the specifications and drawings in his said application, to receive the patent etc. With said application for a patent, said Nobel duly filed his specifications and drawings describing his invention, a copy of which specifications and drawings marked "ExhibitA" is made a part of the bill. That part of the specifications set out in "ExhibitA" necessary to illustrate the points of the decision is as follows, to-wit:

"Exhibit A.

"Memorandum relating to Alfred Nobel's invention for the use of nitro-glycerine and analogous substances as substitutes for gunpowder.

"There is a class of substances long known, but not applied as yet to technical purposes, in consequence of practical difficulties in promoting their explosion; such are nitro-glycerine, the nitrates of ethyl and methyl, nitro-mannite, etc. The peculiar property

which distinguishes this class of substances is that fire may be applied to them without their exploding. Thus nitro-glycerine, if ignited iu an open space, is slowly decomposed with, a bluish flame, but the fire goes out when the match is withdrawn; hence nitro-glycerine cannot, under ordinary circumstances, be looked upon as a ready explosive agent, for while gunpowder and other explosive substances hitherto used, always explode when fire is set to them, nitroglycerine, on the other hand, and analogous substances, must be heated to the degree of their detonation in order to explode. If a drop of nitro-glycerine is poured upon an anvil, the blow of a hammer, through the heat developed by compression causes it to explode, but only that part which has received the blow, so that the explosion in this case is only a local one.

"A chief point in my invention consists in overcoming this difficulty. According as nitro-glycerine is to be used for firearms or for blasting, I adopt two different methods for promoting its explosion, viz.:

"1. By mixing it with gunpowder, guncotton, or any other substance developing a rapid heat, nitro-glycerine being an oil, fills the pores of gunpowder and is heated by the latter to the degree of its explosion. Gunpowder treated in this way can take up from ten to fifty per cent of nitro-glycerine, and develops a greater power with a lesser quickness of explosion. Where the only object in view is to reduce the quickness of explosion of gunpowder, I mix it with or make it absorb common non-explosive oil from one to ten per cent of its weight.

"2. When nitro-glycerine is to be used for blasting, where quickness of explosion is of great importance, I submit it to the most rapid source of heat known, viz., that developed by pressure. To effect this I make use of the pressure developed by heating a minute portion of nitro-glycerine, or by the detonation of any other violently exploding substance. Nitro-glycerine being a liquid, if it cannot escape, as for instance in a bore, receives and propagates the initial pressure through its whole mass, and is by that pressure instantaneously heated; hence the first impulse of explosion decomposes the rest.

"There are many means of attaining this impulse of explosion, such as—(1) When nitro-glycerine in tubes is surrounded by gunpowder, or vice versa. (2) By the spark or heat developed by a strong electric current, when the nitro-glycerine is inclosed on all sides, so as not to afford an escape to the gas developed. (3) By a capsule. (4) By any chemical agents developing a gradual heat, through which the initial explosion of nitroglycerine or some other violently exploding substance may take. (5) Simply by a fuse. This will do in a closed space and under sufficient resistance, but if the gases of decomposed nitro-glycerine are enabled to escape before they accumulate to such a pressure as to effect the requisite impulse of explosion, the nitro-glycerine is slowly decomposed, and the fire generally goes out before the whole is consumed. (6) By what I call 'igniters.' They may be greatly varied, but in their simplest form they consist of a wooden cylinder, hollow inside

and filled with gunpowder, being corked at one end and connected with a fuse at the other. When the nitro-glycerine has been poured into the bore this cylinder is let down with its fuse until the former swims in the blasting oil; then the upper part of the bore is filled with loose sand, and nothing remains but to ignite the fuse. The fuse in its turn fires the gunpowder contained in the wooden cylinder, the hot gases of the gunpowder make their escape, and rush in streams into the blasting oil, of which they heat a minute part; a local detonation takes place, which as the oil cannot escape, heats it by pressure to about 360° Fahrenheit, when it explodes through the whole mass. These igniters are the instruments of which I chiefly make use for causing the nitro-glycerine to explode."

(Here was inserted a diagram representing the mode of exploding nitro-glycerine in conjunction with gunpowder, not material to be shown in this case.)

"In consideration, therefore: (1) That nitroglycerine and analogous substances, to which fire can be applied without causing their explosion, are known for many years without having been applied to any practical use in consequence of practical difficulties in promoting their explosion; (2) that they can be fired without exploding, therein differing from all other explosive substances hitherto used; (3) that even the blow of a hammer causes only a local explosion; (4) that I have introduced these substances from the domain of science into that of practical life; and, (5) that explosive substances, liquid at the ordinary temperature, have not as yet been applied to any technical use,—I claim as my invention: (1) The use of gunpowder or similar substances when mixed with nitro-glycerine or analogous substances. (2) The reduction of the quickness of explosion of gunpowder by mixing it with oily, explosive or non-explosive substances. (3) The effecting the detonation of nitro-glycerine or analogous substances (which can be ignited without exploding) by the heat developed by pressure, promoting an impulse of explosion which decomposes the rest. (4) The exclusive use of nitro-glycerine and the class of substances described above, or mixtures of such as far as their application may be classed under any of the methods indicated in this memorandum."

Afterwards, but on the same day, said Howson filed in the patent office amendments to said specifications and drawings, which amendments were made in part by striking out a portion of the said specifications filed by Nobel. On October 24, 1865, upon said

application, Nobel obtained letters patent [No. 50,617] for bis invention, with the said amended specifications annexed thereto. The original specifications, as set forth in said Exhibit A, were not annexed to the patent. The amended specifications annexed to, and made a part of the patent so issued, are as follows, to wit:

The schedule referred to in these letters-patent and making part of the same.

"To all whom it may concern: Be it known that I, Alfred Nobel, of the city of Hamburg, have invented the use of nitro-glycerine, or analogous substances, as a substitute for gunpowder, and I do hereby declare the following to be a full, clear and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon. My invention consists in the use, as a substitute for gunpowder, of nitro-glycerine, or its equivalent, substantially in the manner described hereafter, so that the said liquid, which, when exposed, cannot be wholly decomposed and exploded, shall, by confinement, be subjected to heat and pressure, by which its total and immediate decomposition and explosion is effected. In order to enable others to make and use my invention, I will now proceed to describe the method of carrying it into effect.

"On reference to the accompanying drawing, which forms a part of this specification, figure 1 is a view, partly in section, of one apparatus by means of which I render nitro-glycerine, or its equivalent, available as a substitute for gunpowder; and figure 2, a plan view. (A cut was given for illustration.)

"There is a class of explosive substances composing nitro-glycerine—the nitrates of ethyl and methyl, and nitro-mannite—which have long been known, but have never been practically applied as explosive agents. When a flame is applied to gunpowder or gun-cotton, the whole mass is instantaneously decomposed; this sudden decomposition taking place both when the substance is un-confined and when it is ignited under pressure.

"On the application of heat or flame to nitro-glycerine, or other of the liquids above mentioned, when the latter is unconfined, only that portion of the liquid is decomposed which is directly acted on by the heat or flame, so that it is practically impossible to instantaneously explode the entire mass; hence, under ordinary circumstances, such substances cannot be looked upon as explosive agents. I have found, however, that when glycerine, mannite, or other of the materials mentioned is confined, and a portion of the same is heated to decomposition, the gases evolved are at such an intense heat, and subject the material to such an excessive pressure, that the whole mass is decomposed almost instantaneously. The chief point of my invention consists in overcoming the difficulty of igniting the entire mass of the materials mentioned, so that the same can be practically used as explosive agents. * * *

"If the material (nitro-glycerine properly prepared) is to be used for blasting, it may be poured directly into the opening drilled into the rock, the opening above the liquid being

closed in any suitable manner; for other purposes, however, the material can be best used when confined in cases.

"The material when thus confined may be exploded: Firstly. By exploding a quantity of gunpowder, or other substances in contact with the liquid (the powder being confined in a waterproof tube or case), the heated gases evolved from the powder being distributed throughout the mass of the liquid, raise the temperature of the latter sufficiently to decompose the same. When powder is used for this purpose, the ease containing it may be immersed in the liquid, the powder being ignited by means of a fuse, or by an electric spark. If desirable, however, the liquid may be placed in a tube and inserted in a mass of powder, which is then ignited in any suitable manner. Secondly. By an electric spark, or by passing a powerful current of electricity through a fine wire immersed in the liquid. An apparatus for thus effecting the explosion of the fluid is shown in the accompanying drawing. A being the case containing the fluid; BB, two wires which pass through glass tubes aa, or through other insulating substances into the interior of the case; and c, a fine platina wire which connects the ends of the wires BB together within the case. The platina wire is heated by an electric current, the material in contact with the wire being thus decomposed, and the remaining portion subjected to the heat and pressure necessary to instantaneously decompose the whole mass, as already described. Thirdly. By inserting in the liquid a thin case containing lime and water, or any substances which in combining evolve heat. Fourthly. By a fuse. This will do in a closed space, and under sufficient pressure, but if the gases of the decomposed liquid are enabled to escape before they accumulate to such a pressure as to effect the requisite impulses of explosion, the liquid is decomposed but slowly, and the fire expires before the whole mass is consumed.

"I claim as my invention, and desire to secure by letters-patent the use of nitro-glycerine, or its equivalent, substantially in the manner and for the purpose described."

Nobel having assigned his said patent to the United States Blasting-Oil Company, his said assignee in 1869, surrendered the original patent, and procured re-issues in several divisions, one of which is re-issue No. 3380, division D. The specifications annexed to this re-issue, so far as they tend to illustrate the points decided, are as follows, to wit:

"Be it known that Alfred Nobel, of the city of Hamburg, Germany, has discovered or invented, a new and useful improvement

in the sciences and arts pertaining to the use and manufacture of nitro-glycerine. This specification having special references to improvement in the use of nitro-glycerine."

The said Nobel does not claim to have discovered or invented nitro-glycerine, as that was due to Sobrero. After the simple discovery and chemical analysis that glycerine was capable of giving, when mixed with nitric and sulphuric acids, a substance analogous to gun-cotton, Sobrero abandoned further research with the declared opinion that its combustion or explosion could not be managed. In this condition the discovery or invention remained utterly useless to men of science and to artisans, until the discoveries and inventions of Nobel brought it into practical service in the useful arts. He discovered: First That in order to explode the whole, or even a large proportion of a mass of nitro-glycerine, it was necessary to subject it to confinement or restraint and that when so confined it could be exploded in any desired quantity, by the application of heat and pressure, or of either of those agencies. Second. That it could be used for practical blasting, and disrupting material substances generally. And the said Nobel invented * * *. Second. The appliances or contrivances necessary to successfully explode nitro-glycerine, in any desired quantity, under the management of miners or men of practical intelligence.

"We now proceed to make a clear and concise description of the said discoveries and inventions of the said Nobel, in order to enable others skilled in the sciences and arts to which they belong, to make use of and understand the same.

First. The nitro-glycerine, when under conditions of confinement, can be exploded in any desired quantity. There is a class of explosive substances, comprising nitroglycerine, the nitrates of ethyl and methyl, and nitro-mannite, which have long been known, but have never been practically applied as explosive agents. When 578° Fahrenheit of heat is applied to granulated gunpowder, the whole mass is exploded. Gun-cotton will explode in proportion to the degree of confinement, igniting at 266° Fahrenheit. Fulminates, ordinarily used in percussion-caps, will explode when subjected to 340° Fahrenheit. Nitro-glycerine will explode at 300° Fahrenheit. The decomposition of the above and other analogous substances, however, take place at a much lower temperature, when subjected to pressure.

Gunpowder will explode to a certain extent, when not confined, but on the application of heat or flame to nitro-glycerine, or other of the liquids above mentioned, when unconfined, only that portion of the liquid is decomposed which is acted on directly by the heat or flame, so that it is practically impossible instantaneously to explode the entire mass. Nobel discovered that when nitro-glycerine, mannite, or other of the materials mentioned," is confined, and a portion of the same is heated to decomposition, the gases evolved are at such an intense heat, and subject the material to such an excessive pressure, that the whole mass is decomposed almost instantaneously. The degree of confinement must be sufficient to allow a pressure upon the nitro-glycerine to an extent that 360° Fahrenheit

will be realized, or to hold it in the presence of a percussion-cap, or other highly explosive agent, so that decomposition will take place before the liquid can escape the force or heat of the evolved gases of the said cap, etc. In this manner and by other methods Nobel discovered or invented that nitro-glycerine-could be exploded in any desired quantity.

Second. That nitro-glycerine could be used for practical blasting and disruption of material substances generally. Having discovered that nitro-glycerine could be exploded in any desired quantity, at the will of the manipulator, Nobel then proceeded to adapt it to the useful arts, such as blasting rock, earth, and material substances generally. To effect this object, he invented the mode or method hereinafter described, in substance as follows: Placing the nitro-glycerine in a drill-hole or canister, and then exploding in the midst of the said nitro-glycerine a charge of gunpowder, gun-cotton, or injecting an electric flame into the mass of nitro-glycerine, or the heating to red heat of a metallic wire placed within the nitro-glycerine; the necessary heat will be effective in the decomposition of an atom or more of the nitro-glycerine, when eon-fined, which will cause the explosion of the-whole mass. * * * Second. The appliances or contrivances necessary to successfully and practically explode or decompose nitro-glycerine in any desired quantity, under the management of miners, or men of practical intelligence. The processes or contrivances invented by Nobel for exploding nitro-glycerine, etc., are of several kinds, all and each calculated to produce the required heat or percussion: First, by an electric spark, or current of electricity, illustrated and explained as follows: * * * (Here follow references to drawings.) Secondly, by exploding a quantity of gunpowder or other substance in contact with the-liquid (the powder being confined in a waterproof tube or case), the heated gases evolved from the powder being distributed throughout the mass of the liquid, raise the temperature of the latter sufficiently to decompose the same. "Whenpowder is used for this purpose, the case containing it may be immersed in the liquid, the powder being ignited by means of a fuse, or by an electric spark. If desirable, however, the liquid may be placed in a tube, and inserted in a mass of powder, which is then ignited in any suitable manner. * * * (Illustrations follow.) Thirdly, the nitro-glycerine placed in a drill-hole or canister * * * may be exploded by a train fuse of fulminate powder, or composition; for example, the ordinary

fulminate powder used in percussion-caps may be put in a tube, or casing of fibre, gutta percba, and made to fire, explode, or spit into the nitro-glycerine. This will do in a closed space and under sufficient pressure, but if the gases of the decomposed liquid are enabled to escape before they accumulate to such a pressure as to effect the requisite impulses of explosion, the liquid is decomposed but slowly, and the fire expires before the whole mass is consumed. Fourthly, by inserting in the liquid a thin case containing lime and water, or any substance, which, when combining, evolves heat. Also, by the liberation of substances or matter, either with the nitro-glycerine, in the presence of the nitro-glycerine, or in the midst of nitro-glycerine, by which process or processes, mixing, engaging, or forming gases may be evolved of sufficient heat to produce decomposition, or explosion of the nitro-glycerine.

Having thus fully described the discoveries and inventions of the said Alfred Nobel, with sufficient clearness and distinctness to enable others skilled in the sciences and arts to which they belong, to make and use the same, what we claim as the discoveries or inventions of the said Nobel, and desire to secure by letters-patent, in the name of the United States Blasting-Oil Company, aforesaid, as the assignee of the said Nobel, is as follows: "The application and use of nitro-glycerine, simple or compounded, as an explosive for blasting, or for disrupting purposes, in the manner, and substantially as hereinbefore described."

In 1872, the company surrendered re-issue No. 3380, division D, and procured [on March 19th] further re-issues on that in two divisions, designated re issue No. 4818, division D, and Te-issue No. 4819, division E. The specifications annexed to said re-issue No. 4818, so far as they are important in this case, are as follows, to wit (after stating the difficulty in exploding a body of nitro-glycerine, he proceeds):

"A principal object of Nobel's invention consists in the removal of this obstacle to the use of nitro-glycerine and the analogous substances before named as explosives. For this end two different methods have been invented by Nobel for promoting the explosion of nitroglycerine. One method, which forms the subject of this patent, relates to a compound with nitro-glycerine of other more easily explosive substances; and the other method, which is described in a separate specification, relates to the means of effecting the explosion. Nobel discovered that the difficulty experienced in effecting the explosion of nitro-glycerine, and the analogous substances before mentioned, could be overcome by mixing or combining them with gunpowder, gun-cotton, or other similar substances. This mixing may be effected in any convenient manner, and the proportions in which they are to be combined may be varied to suit the pleasure or convenience of the user or manufacturer. The nitro-glycerine may be mixed with gunpowder or gun-cotton, either of which will absorb a considerable quantity of nitro-glycerine—say thirty per cent., more or less—in such proportions as to make the compound either wet or comparatively dry. If mixed with

gunpowder, it may be either absorbed with it, by pouring the nitro-glycerine on the mass of gunpowder, or the two may be mingled together by trituration, the powder in the nitroglycerine.

"The effect of these combinations will produce an explosive especially suitable for certain blasting purposes—for example, in crevice-rock—and greatly superior either to gun powder or gun-cotton in explosive force, am quite readily exploded, so that it may be fired and exploded by means of a match or electric spark, in like manner as gunpowder or gun-cotton alone. By means of this combination with gunpowder, gun-cotton, or other similar readily explosive substances, of nitro-glycerine, and the analogous substances before named, which are liquid at the ordinary temperature, these substances which had not at the date of Nobel's invention been applied to any technical use as explosives, owing to their difficulty of explosion, have been introduced from the domain of science into that of practical use in the arts, and have rendered of commercial value what was previously known as a mere chemical curiosity.

"We therefore claim as the invention of said Alfred Nobel, and desire to secure by letters-patent, in the name of the United States Blasting-Oil Company, as assignees of said Nobel: (1) The utilization, as explosives, of nitro-glycerine, and the analogous substances hereinbefore mentioned, by combining therewith gunpowder, gun-cotton, or other similar substances developing a rapid heat on combustion, substantially as hereinbefore described. (2) The combination of gunpowder with nitro-glycerine, substantially as and for the purposes hereinbefore described. (3) The combination of gun-cotton with nitro-glycerine, substantially as and for the purposes hereinbefore described."

The important parts of the specifications of No. 4819 are as follows:

"The principal object of Nobel's invention consists in the removal of this obstacle to the use of nitro-glycerine as an explosive. For this end two different methods have been invented by Nobel for promoting the explosion of nitro-glycerine. One method which forms the subject of this patent, consists in a compound with nitro-glycerine of a readily-ignitable substance; and the other method, which is described in a separate specification, relates to the means of effecting the explosion.

"Nobel discovered that by mixing nitroglycerine with rocket powder, which is a mere loose, mechanical mixture of nitre, charcoal and sulphur, the difficulty in effecting the explosion of nitro-glycerine was effectually overcome. Rocket powder is almost non-explosive, but readily burns and deflagrates

on contact with a spark, of fire, while nitro-glycerine, on the other hand, as before stated, is hard to explode, but when the explosion is obtained is extremely violent in its effects. By the mixing of these substances a compound is produced which is a very powerful explosive, and is easily exploded by means of the simple contact with fire. The mixing may be effected in any convenient manner, and the proportions in which they are combined may be varied to suit the pleasure or convenience of the user or manufacturer. What, therefore, we claim as the invention of Alfred Nobel and desire to secure by letters-patent is: The mixture of nitro-glycerine and rocket powder, substantially as and for the purpose herein before described."

The complainant in the bill insisted that under section 53 of the act of 1870 [16 Stat 205], cited in the opinion, the commissioner of patents in granting re-issues was entitled to look at the original specifications filed by Nobel, set out in Exhibit A, for which the annexed specifications filed by Howson were substituted in the original patent, for the purpose of ascertaining what the entire invention was, for which Nobel' himself desired a patent; and that these specifications embraced the matter covered by the several divisional re-issues. It was also claimed on behalf of complainant that these specifications having been filed in the patent office with the application of Nobel, although not annexed to the patent, are still a part of the record of the patent in the patent office, and as such part of the record the commissioner was entitled to consider them for the purpose of ascertaining what the entire invention was, for the purposes of the re-issues, indepepdent of the provision of the statute authorizing him to receive extraneous proofs in cases where there is no model or drawing. These propositions were denied on the part of the defendant.

[Re-issues were again granted March 17, 1874, numbered 5,798 and 5,800.]

Hall McAllister, M. A. Wheaton, and John B. Felton, for complainant.

C. R. Greathouse and W. W. Cope, for defendants.

Before FIELD, Circuit Justice, and SAWYER, Circuit Judge.

FIELD, Circuit Justice. This is a suit for an alleged infringement of three letters-patent, with a prayer that the defendants be decreed to account for and pay to the complainant the gains and profits derived by them from the manufacture, use or sale of the invention patented, and be restrained from further infringement. All of these patents are re-issued letters. They purport to be founded, two of them upon an original patent issued to Alfred Nobel, in October, 1865, and the other one upon an original patent issued to an assignee of Nobel in April, 1868. Upon the validity of the latter re-issue no question is made. The validity of the other re-issues is assailed upon the alleged ground that they describe and claim a different invention from that described and claimed in the original patent and their validity is the question presented by the demurrer.

The several patents, original and re-issued, are referred to in the bill and made part of it, so that the question raised as to the validity of the re-issues is distinctly presented.

It appears from inspection of the schedule annexed to the original patent to Nobel of October, 1865, giving a description of his alleged invention, and which constitutes a part of the patent, that he declares that he has "inventedthe use of nitro-glycerine or analogous substances as a substitute for gunpowder," and then proceeds to indicate the manner in which the nitro-glycerine can be used so that the "liquid, which when exposed cannot be wholly decomposed and exploded, shall by confinement be subjected to heat and pressure by which its total and immediate decomposition and explosion" may be effected. There is no mention in the schedule of any mixture of the nitro-glycerine with other substances so as to form a new compound. The only reference to any mixture is in a paragraph which, in describing the manner of using the nitroglycerine, states that it should be first prepared by adding a mixture of sulphuric and nitric acids. The schedule then gives in detail four modes in which the explosion of the nitro-glycerine can be effected. The first is by exploding in contact with it a quantity of gunpowder confined in a waterproof tube or case; the second is by an electric spark, or by passing a powerful current of electricity through a fine wire immersed in the liquid; the third is by inserting in the liquid a thin case containing lime and water, or any substances which in combining evolve heat; and the fourth is by a fuse. The schedule closes by a declaration that what the patentee claimed as his invention and desired to secure by letters-patent was me use of nitro-glycerine or its equivalent substantially in the manner and for the purpose described."

It is plain from this statement that the patent was for a process and not for a compound. It was for modes of using the liquid and not for any new compound of known or unknown ingredients.

In the following year, in June, 1866, Nobel, whose letters-patent extended for seventeen years, assigned his interest in them, and the invention secured, for the residue of that period, to the United States Blasting-Oil Company, a corporation created under the laws of New York. In April, 1809, this company surrendered the original letters, and obtained in their place four new divisional letters-patent for the residue of the period then unexpired, designated respectively as re-issue No. 3377, division A.; re-issue No. 3378, division

B; re-issue No. 3379, division C; re-issue No. 3380, division D.

In March, 1872, the company surrendered this last divisional re-issue, designated No. 3380, division D, and obtained for it two new divisional letters-patent, numbered and designated as re-issue No. 4818, division D, and re-issue 4819, division E. It is with reference to the validity of these two last reissues that the contention in this case arises. No. 4818 is for two compounds, one consisting of nitro-glycerine and gunpowder, and the other of nitro-glycerine and gun-cotton. No. 4819 is for a compound consisting of nitro-glycerine and rocket powder. Neither of these re-issued patents is for any process, or mode of exploding nitro-glycerine, or for any particular use of the liquid. Both of them are for new compounds, made by uniting old and well-known substances. There is no connection or relation between the inventions or discoveries covered by them and the invention or discovery described and claimed in the original patent. If, therefore, we are restricted in our examination to the original patent and the schedule annexed, the re-issues cannot be sustained. Can we lcok beyond that patent and schedule, which is a part of the patent, to ascertain what the original patentee had, in fact, at the time invented or discovered, though not described in his specifications or covered by his claim?

The statute of 1870, under which these reissues were granted, provides that "whenever any patent is inoperative or invalid by reason of a defective or insufficient specification, or by reason of the patentee claiming as his own invention or discovery more than he had a right to claim as new, if the error has arisen by inadvertence, accident or mistake, and without any fraudulent or deceptive intention, the commissioner shall, on surrender of such patent and the payment of the duty required by law, cause a new patent for the same invention, and in accordance with the corrected specifications to be issued to the patentee;" and the commissioner is authorized in his discretion to cause several patents to be issued for distinct and separate parts of the thing patented upon demand of the applicant. But the act declares that "nonew matter shall be introduced into the specifications, nor in case of a machine patent shall the model or drawing be amended, except each by the other, but when there is neither model nor drawing, amendments may be made upon proof satisfactory to the commissioner that such new matter or amendment was part of the original invention, and was omitted from the specification by inadvertence, accident, or mistake, as aforesaid."

It is by this law that the last re-issues must be determined. As here provided, no re-issue is permitted, unless the original patent is inoperative or invalid from a defective or insufficient specification, or the claim of the patentee exceeds his right; and then only in case the error committed has arisen in the manner indicated. In determining the propriety of the re-issue no new matter can be introduced into the specification, except in case of a machine patent, to which class the one under consideration does not belong. It is only with respect to patents of that character where no model or drawing exists, that, in our

judgment, any notice can be taken, by the commissioner, of matter outside of the original specification and claim. Tarr v. Webb [Case No. 13,737]. In machine patents, models and drawings can be examined in connection with the specification, and the latter changed, restricted, or enlarged so as fully to describe the actual invention made. If the patent do not relate to a machine, the specification, if defective, may be made more definite and certain so as to embrace the claim made, or the claim may be so modified as to correspond with the specification. But this is the extent, in our judgment, to which modifications can be made in such cases.

Judged by the law, there can be, in our opinion, no reasonable doubt as to the invalidity of the re-issues. The original patent to Nobel was neither inoperative nor invalid by reason of any defective or insufficient specification. That specification was unambiguous, and covered all that was claimed. And if this were otherwise, no new matter not relating to the process claimed, but relating to a compound made by uniting glycerine with other substances could be added to the specification. This is the explicit provision of the statute.

If Nobel had made other inventions or discoveries—compounds of nitro-glycerine with other substances or different modes of using the liquid (as it would seem, from the memorandum annexed to the bill that he had), he might have applied for and obtained separate patents for them. Sarven v. Hall [Case No. 12,369]. But such compounds or different modes of use cannot be included in a reissued patent when the original never embraced them, without sanctioning a doctrine which would open the door to all sorts of extortion and fraud, and impose an oppressive burden upon the industries of the country.

By the terms of the statute, a re-issue must be for the same invention which is embraced by the original patent, or if the re-issue be in divisional parts, each division must be for some distinct and separate part of that invention. The two letters-patent under consideration in the present case are not only for inventions not embraced by the original patent, but are not embraced by the first reissue, upon the surrender of which they were re-issued, designated as re-issue No. 3380, division D. That re-issue was oniy for a process, a mode of applying and using nitroglycerine, simple or compounded, and not for any new explosive compounds, as inaccurately stated in the bill. This will be seen by examination of the letters referred to and

made part of the bill. The two letters issued upon the surrender of that re-issue are, therefore, invalid within the ruling of Chief Justice Taney, in Knight v. Baltimore & O. R. Co. [Case No. 7,832], and might have been disposed of without showing, as we have done, that they were invalid because they were" for inventions not covered by the original patent.

We do not question the doctrine so earnestly pressed by counsel upon the argument that all presumptions in support of the action of the commissioner in granting the reissues must be indulged, and that his ruling upon all matters not apparent upon the face of the patents themselves cannot be collaterally assailed. We rest our judgment upon a comparison of the original and the re-issued patents, and hold as a matter of construction that the latter are not on their face issued for the same invention, or any distinct and separate part thereof; and that for this reason the commissioner exceeded his authority in issuing them. Seymour v. Osborne, 11 Wall. [78 U. S.] 544.

The defendants must have judgment on the demurrer, with leave to the complainant to amend the bill by striking out all such parts as relate to the re-issued patents No. 4818 and No. 4819.

SAWYER, Circuit Judge, concurring specially. Upon a careful consideration of the case of Seymour v. Osborne [supra], I am satisfied that the supreme court intended to lay down the rule broadly, that on an application for the re-issue of a patent the commissioner, in ascertaining the invention intended to be patented, and for which a reissue may be granted, has no authority to look beyond the patent as originally granted with the specifications and drawings thereto annexed, and the models deposited in the patent office, "exceptin certain special cases as provided in a recent enactment," referred to and cited by the court, viz.: 16 Stat 206 (11 Wall. [78 U. S.] 544, 545). The enactment referred to is found in the last clause of section 53 of the act of 1870, and is in the following words: "Butwhen there is neither model nor drawings, amendments may be made upon proof satisfactory to the commissioner that such new matter or amendment was a part of the original invention, and was omitted from the specification by inadvertence, accident or mistake as aforesaid." This is the only exception the court recognizes to the rule as broadly and specifically stated, and repeated in different forms in the course of the opinion; and the exception is referred to "as provided by a recent enactment"—that is to say, the exception depends upon that provision of the-statute. The provision was not in the act of 1830. As the exception is held to depend upon this enactment, it, of course, did not exist under the act of 1836; and under that act there was, in the opinion of the supreme court, no exception to the rule as laid down by that tribunal. The original patent to Nobel was issued in 1865, under the pro visions of the act of 1836; and he could only obtain such rights as were secured to him by that act On an application for a re-issue at any time during the five years intervening between the issue of the original patent and the passage of

the act of 1870, under the rule established by the supreme court, there being no model, he would have been limited in the re-issue to the invention as described, suggested, or substantially indicated, or shown in the original patent and the specifications and drawings appended thereto. Beyond this he could not go, and nowhere in the original patent and the specifications and drawings annexed to it is the subject-matter of the re-issued patents numbers 4818 and 4819 in any way suggested. These re-issues, therefore, could not have legally been made under the act of 1836. The rights of the parties must be determined under the provisions of that act, and the right to patents for these inventions, if it ever existed, lapsed by a failure to perfect it while that act was-still in force. The proceeding for obtaining a re-issue since the passage of the act of 1870, so far as form is concerned, must be in accordance with the latter act But to allow a party under the provision cited to go outside of the evidence recognized under the act of 1836 to establish a right to a re-issue of a patent for an invention made and patented under that act, would be going beyond the mere forms and modes of proceedings, and would be to grant him a new right by restoring a right to a patent, if one ever existed, which had once been lost either by carelessness or design under the laws then in force, and after the public had acquired a right in the subject-matter by several years unobstructed legal use—the right to an original patent having been lost by lapse of time, and to a re-issue by failure to indicate the whole invention in the specifications finally adopted and annexed to the patent first issued. The last clause of section 53 of the act of 1870, so far as granting a new right is concerned, in my judgment has no retroactive operation; and it can only apply to re-issues of patents originally issued since the passage of the act.

This is as far as it is necessary to go in this case, and I prefer not to consider or determine the extent of the exceptions made by that provision until a case arises under a patent originally issued under the act of 1870. On these grounds I concur in the judgment ordered.

{NOTE. Upon complainant's appeal the supreme court reversed the decree of the circuit court dismissing the bill upon demurrer, and remanded the cause, with directions to enter a decree dismissing the bill as to the relief sought therein in respect to reissued patents numbered respectively 4.818 and 4,819. and as to the residue of the bill overruling the demurrer and directing the defendants to answer

in accordance with the rules and practice of the court. This decision was based upon a holding that the reissues in question are not for the same inventions for which the original patent was granted, and hence are void, but as nothing is shown in the statements of the bill which affects the validity of the third patent sued upon, the bill should not have been dismissed as a whole. The opinion of the court was delivered by Mr. Justice Bradley. 98 U. S. 126.

{For other cases involving this patent, see Giant-Powder Co. v. California Powder Works, 98 U. S. 126; Atlantic Giant-Powder Co. v. Mowbray, Case No. 624; Giant-Powder Co. v. California Vigorit Powder Co., 4 Fed. 720, 5 Fed. 197: Giant-Powder Co. v. Safety Nitro-Powder Co., 19 Fed. 509; Atlantic Giant-Powder Co. v. Hulings, 21 Fed. 519.}

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[2] {Reversed in 98 U. S. 126.}