

1FED.CAS.—41

Case No. 298.

AMERICAN DIAMOND ROCK BORING CO. v. SULLIVAN MACH. CO. ET AL.

[14 Blatchf. 119; 2 Ban. & A. 522.]¹

Circuit Court, S. D. New York.

Jan. 29, 1877.²

PATENTS FOR INVENTIONS—INFRINGEMENT—PRELIMINARY INJUNCTION—NECESSITY OF AFFIDAVITS.

1. The invention set forth in reissued letters patent No. 3,690, granted to Asahel J. Severance, assignee of Rudolph Leschot. October 26th, 1869, for an “improved rock drill,” the original letters patent having been issued to said Leschot July 14th, 1863, defined, [and held valid.]

[Cited in American Diamond Rock Boring Co. v. Sheldon, Case No. 296, 1 Fed. 871, and 24 Fed. 374.]

2. It is not limited to an annular boring head, but covers a convex boring head.
3. A constructor of a machine infringes, if he makes his machines with express reference to a result which he knows will happen when the machine is put to its use, and which result, if originally introduced in the machine, is an infringement.
4. It is not proper to grant a motion for a preliminary injunction on a patent, on a theory which, although it may be true, is not supported by affidavits.

In equity.

Charles F. Blake and Benjamin F. Thurston, for plaintiffs.

Edwin T. Rice and Edward N. Dickerson, for defendants.

SHIPMAN, District Judge. This is a motion for a preliminary injunction to restrain the defendants from the infringement of reissued letters patent No. 3,690, [Patent No. 39,235,] issued to Asahel J. Severance, as assignee of Rudolph Leschot, and dated October 26th, 1869, for an “improved rock drill.” The original patent was issued to Rudolph Leschot, and dated July 14th, 1863. The plaintiffs become the owners of said reissued patent on June 4th, 1875. The American Diamond Drill Company, the assignor of the present plaintiffs, brought in this court, in the year 1872, their bill in equity against the Sullivan Machine Company, one of the present defendants, for an injunction against an infringement of this patent, and, after a full hearing upon proofs, a decree directing an injunction was entered in April, 1875. The injunction was duly served upon said company. As no opinion was filed in that case, it becomes necessary to state briefly the facts which were found by the court in regard to the patent, the invention and the infringement, in order to a proper understanding of the questions which are at issue upon the present motion.

The invention and tool of Leschot are described in the reissued patent as follows: “This invention consists of a boring tool composed of a series of diamond edges, attached to an annular or tubular stock or crown, of steel or other metal, to which a rotary and a

direct forward motion are given, and which is thereby caused to cut or bore an annular groove or hole, leaving a central core or kernel, which is easily detached by the subsequent operation of a gad or wedge. It also consists in the combination with the described boring tool, of a tubular boring bar or drill rod, whereby motion is imparted to the boring head, and through which a stream of water is forced, as hereinafter set forth. * * * A is the annular or tubular socket or crown, of steel or other metal; a, a¹, a², are edged cutters, composed of diamonds fitted and set firmly into suitable notches or mortices in the face of the crown or stock A. These diamonds are such as, from their color, are least valuable for jewelry. They are respectively so arranged in the crown or stock A, that the cutting edges of some project in a forward direction from the face or front end of the said crown or stock, as illustrated by a, a, while the edges of others project outwardly from the outward periphery thereof, as illustrated by a¹, a¹, and the edges of others project inwardly from the inner periphery, as illustrated by a, a². This crown or stock is secured by a bayonet fastening, or other means, to a tubular boring bar, of any suitable length, whose outer diameter is not greater than that of the said crown or stock, and whose inner diameter is not less than that of the said crown or stock, and this bar is arranged to form part of a machine of suitable construction, or otherwise furnished with suitable mechanical appliances, according to the nature of the work to be performed, by which it has imparted to it both a rotary and a direct forward or feeding motion, whereby it is caused to cut or bore an annular groove or hole in the rock or other hard body upon which it is employed. The operation of the tool will be greatly assisted by the injection of a stream of water through the tubular boring bar and crown or stock, for the purpose of washing out and carrying away the detritus which is produced, and which would otherwise choke up the annular opening and impede the action of the tool." The second and third claims of the reissued patent, which are, perhaps, the only claims which it is important now to consider, are: "2. The row of cutting edges a¹, when attached to a revolving boring head, so as to project beyond the circumference thereof, for the purposes specified. 3. In combination with a revolving and progressing boring head, having cutting points projecting beyond the periphery thereof, a hollow central drill rod, through which the water is forced or passed."

The device of the defendants, which was

in controversy in the case of the American Diamond Drill Company, was a boring tool, consisting of a hollow boring head, convex upon its surface, having two holes extending from the cavity on the inside to the outside surface. The convex surface is armed with diamonds, which project from the surface, and a portion of which diamonds project outwards from the periphery. The only difference between the two devices is, that Leschot's drill abrades only a portion of the rock, the annular boring head acting upon the rock in such a manner as to enable an annular groove to be formed in the stone by the rotary and progressive motion of the boring head, and to leave a core within the groove. This core was subsequently removed by wedges. The defendants' tool abraded the entire surface of the rock through which it passed. Each instrument was provided with diamonds, the cutting edges of which extended outside of the periphery of the boring head, so that a larger hole was formed than the diameter of the boring head, and each was attached to a hollow bar, through which water was passed to wash out the detritus, the water being injected through the tubular boring bar and the boring head, and escaping, in the Leschot tool, through the annular boring head, and, in the defendants' device, through the two holes upon the convex surface of the boring head.

From an inspection of the defendants' drill and the reissued patent, it was obvious that the terms of the second and third claims of the patent were infringed. The defendants' drill was an exact imitation of the plaintiffs' device, with the exception, that, in place of the annular boring head, was substituted a convex boring head, with two holes in its surface. The annular head was partially plugged, so that the entire surface of the rock could be abraded. It may have been, and, perhaps, was, an improvement upon Leschot's tool, but an improvement which required little, if any, invention. It contained the principle of Leschot's invention, which was the effecting a clearance, by diamond points projecting beyond the periphery of a revolving and progressing boring head, so that the drill should not be clogged by the detritus, and the combination of the cutting mechanism with the hollow drill rod, into and through which, and through the orifice in the boring head, water could be injected, for the purpose of washing out the detritus. The distinctive features of the invention, as detailed in substance by the plaintiffs' expert, were, in combination, 1st. The boring head, adapted to being revolved and progressed or moved forward; 2d. Cutting points of diamonds, projecting beyond the periphery of the said boring head, so that they will cut a hole of larger diameter than the boring head, and so as to give a clearance; 3. A hollow drill rod or boring bar, adapted to connecting the boring head with mechanism for causing it to revolve and progress, and also adapted, by reason of its tubular form, to permitting the injection of a stream of water through the orifice in the boring head, for the purpose of washing out and carrying away the detritus which is produced by the abrasion of the stone by the diamond points. These distinctive features were all found in the defendants' drill.

An earnest attempt was made to avoid the effect of the infringement, by the claim that the reissued patent is for an invention different in kind and character from the one which was claimed in the original patent. It is not different from the one which was described in that patent. But it was contended that the original patent was for an annular tool and was confined to such a tool. That Leschot attributed importance to the annular character of his invention is plain, but that his invention was not limited to an annular tool is equally plain. He described fully the manner in which the diamonds were placed, whereby a larger diameter was given to the hole which was cut than the diameter of the boring head. The reissued patent embraces merely what was not only substantially but fully indicated and described in the original specifications, drawings and model.

It was also claimed, that there was no novelty in Leschot's invention, by reason of the prior French inventions of Georges Hermann and M. Fauvelle. Hermann's mechanism was originally for polishing a fashioning stone. His patent was subsequently enlarged, by a "certificate of addition," so as to include the cutting of stone by diamonds at the bottom of an annular head. It did not embrace all the features of Leschot's invention, and, especially, was not designed or adapted to make a clearance by projecting diamonds, and had not the hollow boring bar, for the introduction of water. The Fauvelle device was for an instrument which acted by percussion. The combination of a cutting or abrading tool with a hollow boring bar was novel.

A decree was passed which declared that the defendants' drill was an infringement of the second claim of the plaintiffs' patent. It was equally an infringement of the third claim, and a decree declaring that the third claim had been infringed would have been passed, if it had been desired, or if it had been deemed important.

Subsequently to the service of the injunction order, the defendants altered their drill, so that the diamonds were placed flush or even with the periphery of the boring head. The present bill was brought for the purpose of testing the question, whether or not the drills, as now used by the defendants, are or are not an infringement.

Upon the hearing of this motion, two affidavits were presented by the plaintiffs, to the effect that the defendants use, in a marble quarry in this district, boring heads or bits, on which the diamonds in fact project

between 1-32d and 1-16th of an inch beyond the outer circumference of the drill heads. The plaintiffs, admitting that the diamonds may have been originally set flush with the circumference, say that the inevitable result of use is, that the steel head wears away by contact with the marble, and leaves the diamonds projecting; that the defendants intentionally placed the diamonds in such a position that use would inevitably cause a projection; and that such a construction is a mere evasion and an infringement.

It is true, that, "If a machine is constructed so as to conform in all respects to the description in a patent, except as to one particular, or as to one motion and effect, yet is so constructed and intended as to obtain that motion or effect in the usage of the machine, by the action or wearing of the parts, and it is so obtained, it is a piracy of the principle, and a violation of the patent" *Page v. Ferry*, [Case No. 10,662.] If the object, in placing the diamonds flush with the circumference, was, that, when put to use, they should inevitably become projecting, there is an infringement. A constructor of a machine infringes, if he makes his machine with express reference to a result which he knows will happen when the machine with express reference to a result which he knows will happen when the machine is put to its use, and which result, if originally introduced in the machine, is an infringement.

The defendants have presented thirteen counter affidavits, which are generally to the effect that a new flush-set diamond drill head performs its work in a marble quarry better than one which had become so worn by use that the diamonds project; that the new flush-set head makes a hole in marble larger than the diameter of the head; that this clearance is effected not by the cutting of the marble by the projecting diamond edges, but because the material of which marble is composed is crystalline, and, as the convex drill head advances into the marble, the crystals are fractured, and crumble for a little space exterior to the diameter of the head; that the steel circumference of the head is worn away by the attrition of the detritus as it is carried to the surface, and not by the attrition of the steel against the solid marble; and that it is not necessary that the metal should be worn away from the diamonds in order to make the drill operative, but that the wearing of the metal injures the head for boring purposes. If these affidavits are true and will endure the test of cross-examination and rebutting testimony, while the position of the diamonds was changed in order to avoid the charge of infringement, yet it cannot be found that the intent, in setting the diamonds flush with the circumference, was that they should speedily become projecting by wear and use, or that the object of the defendants was to have a projecting diamond drill.

The plaintiffs, in reply, urge, in argument, that the diamonds were so placed that the drill head must describe an eccentric movement, and that the effect of this construction is that the diamonds practically project. They say, "that the diamonds are so set on the conical head of the bit that they must cause the bit to revolve eccentrically, whereby a

diamond on the periphery will describe a circle of larger diameter than the diameter of the metallic head in which they are mounted,” and that this method of setting “is a mere mechanical equivalent for projecting the diamond radially outward from the head.” No affidavits were presented from experts or others in support of this proposition. It is hardly proper to grant a motion for preliminary injunction upon a theory which, although it may be true, is not supported by affidavits. In view of the testimony now offered I think that the motion for an injunction should be denied, and that the questions which are at issue should be left to final hearing upon proofs.

The motion for a preliminary injunction is denied.

{NOTE. The original bill was subsequently dismissed. For opinion, see American Diamond Drill Co. v. Sullivan Mach. Co., 21 Fed. 74. For other cases involving this patent, see note to American Diamond Rock Boring Co. v. Sheldon, Case No. 296.}

¹ [Reported by Hon. Samuel Blatchford, Circuit Judge: reprinted in 2 Ban. & A. 522; and here republished by permission.]

² [This bill was subsequently dismissed in American Diamond Drill Co. v. Sullivan Mach. Co., 21 Fed. 74. See note to American Diamond Rock Boring Co. v. Sheldon, Case No. 296.]