

Case No. 6,538. HITCHCOCK ET AL. V. TREMAINE ET AL.

[8 Blatchf. 440; 4 Fish. Pat. Cas. 508.]<sup>1</sup>

Circuit Court, S. D. New York.

May 16, 1871.

PATENTS—TREMOLLO ATTACHMENT—CONSTRUCTION OF  
CLAIM—ANTICIPATION—INFRINGEMENT.

1. The re-issued letters patent granted October 5th, 1869, to Alonzo Hitchcock, George G. Saxe and James H. Robertson, as assignees of R. W. Carpenter, for a “tremolo attachment,” the original patent having been granted to R. W. Carpenter, June 27th, 1865, are valid.
2. The first claim of the patent, namely, “the application of means to the instrument, by which the air may be agitated to produce a tremulous note, as described,” is not a claim to a principle, but is a claim to the described means of agitating the air.
3. A hollow rotating cylinder, with a horizontal axis, having two openings in it and extending from end to end of the cylinder, not acting as a valve, and not intercepting the flow of air to the reeds, but acting as an agitator of the air, without breaking any note, and operating simultaneously on all the notes, *held* to be a revolving beater, and to be substantially the same thing as the special form of revolving fan shown in the patent, in its mode of operation and effect, and to be an infringement of the patent.

[Cited in *Hitchcock v. Tremaine*, Case No. 6,539; *Henderson v. Cleveland Co-operative Stove Co.*, Id. 6,351.]

4. An apparatus described in a prior patent, but not shown to have ever been used or to be practical, and belonging to a class of instruments which the invention in the subsequent patent was designed to supplant, and in respect to which it appeared that, as described in such prior patent, it could not be made to work successfully, *held* not to anticipate the subsequent, patent.

[Cited in *Ruggles v. Eddy*, Case No. 12,118.]

5. An experiment, not perfected into an invention, not regarded by the experimenter as such, abandoned by him before being perfected, and then taken up by another, who tried to embody it in practice and made experiments, but did not make a practical thing of it, and abandoned it without perfecting it, no similar apparatus having been subsequently made for ten years, until the patented invention came into use, *held* not to anticipate such invention.

[This was a bill in equity, filed to restrain the defendants [Charles M. Tremaine and William B. Tremaine] from infringing letters patent [No. 48,366] for “improvement in tremolo attachment,” granted to R. W. Carpenter, June 27, 1865, assigned to complainants and reissued to them May 18, 1869, and again October 5, 1869 [No. 3,665]. The invention consisted in producing a tremolo by an agitation of the air caused by a winged fan made to revolve by a spring and corded shaft. The claims of the original and the several reissued patents were as follows:

[Original patent: “The application of means to the instrument, by which the air may be agitated to produce a tremulous note, substantially as described.”

[Reissue of May 18, 1869: “(1) The application of means to the instrument by which the air may be agitated to produce a tremulous note as described. (2) The arrangement of

a fan or agitator in the instrument, at right angles to the keys, and parallel to the line of reeds or pipe-mouths, at any convenient distance from them, as described.”

[Reissue of Oct. 5, 1869: “(1) The application of means to the instrument, by which the air may be agitated to produce a tremulous note as described. (2) The arrangement of an agitator, applied to the production of a tremolo outside the trunk, wind-chest, and other air-passages of the instrument, and operated independently of the bellows-power. (3) The arrangement of a fan, or agitator in the instrument, at right angles to the keys, and parallel to the line of reeds, or pipe-mouths, at any convenient distance from them as described.”]<sup>2</sup>

Frederic H. Betts and J. P. Fitch, for plaintiffs.

George T. Curtis and B. E. Valentine, for defendants.

BLATCHFORD, District Judge. This suit is founded on reissued letters patent of the United States, granted to the plaintiffs, Alonzo Hitchcock, George G. Saxe, and James H. Robertson, as assignees of R. W. Carpenter, October 5th, 1869, for a “tremolo-attachment.” The original patent was granted to R. W. Carpenter, June 27th, 1865, and was reissued to the plaintiffs, as his assignees, May 18th, 1869, and was reissued to them a second time, October 5th, 1869. The improvement is one in musical instruments. The specification says: “One of the most attractive ornaments of music, known as the “tremolo,” and which is peculiarly effective with the voice, was, before the invention of the present improvement, but imperfectly effected by instrumentation. The nearest approach in instrumental music to this peculiar effect has consisted in the rapid reiteration of a note, instead of a general shake or vibration of the chord, and the best means known of producing it is the mechanism known as the “vox humana stop” of the organ, which consists of a valve hung on a spring in the trunk or wind chest, in such manner that the vibration of the spring rapidly closes and opens the passage, and breaks, as it were, the note into a number of parts, instead of conveying it to the ear in a continuous vibrating trill. But this tremolo, like

all devices for the same purpose, made prior to this invention, was imperfect Whether effected by what is called a butterfly valve, a balance valve, or other device acting within the air passages, the principle of operation is substantially the same, the tremolo being produced at a sacrifice of the fullness, power, and smoothness of the musical note; for, it is obvious, that during that portion of the action of the valve when the air passage is most contracted, the note must be less smooth, full, and powerful than when the passage is most fully open; and, at all times, the presence of the valve in the wind chest or passage must act as an obstruction to the volume and roundness of the musical tone. This will be at once perceived by the ear, in listening to the tremolo produced by alternately opening and closing an air passage by means of a valve. The pulsations are sudden, distinct and harsh, and are more like blows than undulations. By this invention, an entirely new principle is introduced in the production of the tremolo. Instead of setting up a vibration within the air passage, the tremolo is effected by imparting a common vibration to the air, before entering the air passages, or after it has passed through the pipes or reeds. The principle of this invention, therefore, consists in imparting a common agitation to the air, in which the musical sounds are produced, in such a manner as to give rise to a tremolo, without checking the flow of the air through the pipe mouths or reeds, and which shall operate simultaneously upon all the notes of the organ or instrument, said tremolo being produced by an agency external to the wind chest or air passages of the instruments. The mode of imparting vibration to the air may be varied, in each particular case, according to the character of the instrument, or the preference of the manufacturer, without affecting the principle of the invention; for, experiment has demonstrated that by whatever means the air in contact with that whose vibrations are producing musical tones, may be set in agitation, the tremolo will still be produced. When, for example, an air current is flowing towards or from the reeds or pipe mouths, an intercepting medium, alternately introduced and withdrawn, however gently, causes a vibrating or pulsating movement of the air, which produces a distinct tremolo, corresponding, in the frequency of its pulsations, with the alternating movements of the intercepting medium. This effect follows even when the agitation caused by the intercepting action is so slight as to produce a movement of the air which can hardly be made perceptible to the ear. This is proved by the fact, that, although the intercepting action be confined to one end of the reed board, the tremolo will extend to all the notes of the scale. The method in which we apply the principle of external agitation to the production of the tremolo, consists in the introduction of a revolving or swinging fan, vane, or beater into the instrument, in such a position, that, when it is put in motion by a treadle, or other suitable means, the blows upon the air, of the rapidly moving fan, impart to the notes, without impairing their continuity, a tremulousness that is very similar to the tremolo of the voice.” The drawing annexed to the patent represents the upper part of the case of an ordinary cabinet organ, to permit the rotation of a pair of

vanes or beaters, placed on a shaft. This shaft is placed at right angles to the keys, and in front of the reeds or pipe mouths, and is caused to revolve by the reciprocal action of a spring and a string, to which it is attached by making a few turns of the string around the shaft of the beaters, and leading it to a treadle or other suitable means by which it may be worked. The specification continues: "In playing passages where the tremolo may be desired, a slight motion of the foot causes the reaction of the spring to revolve the shaft, and occasions a succession of blows by the beaters upon the region of the swell, and produces the effect desired. Having thus described what is believed to be one of the best means of carrying the invention into effect, we wish it to be understood that this invention is not restricted to the details of the manner of application that we have specified, and which we prefer simply because they are the most convenient to adopt, as the revolving beaters are usually placed under the cover of the instrument, in the space that is commonly vacant behind the key board and swell; and they may be rotated continuously by a double connection with the pedal, or by any other suitable means of operation, such means constituting no essential part of the invention." The claims are: "1. The application of means to the instrument, by which the air may be agitated to produce a tremulous note, as described. 2. The arrangement of a fan or agitator in the instrument, at right angles to the keys, and parallel to the line of reeds or pipe mouths, at any convenient distance from them, as described."

The defendants have made and sold instruments with two different arrangements of apparatus for agitating the air to produce a tremulous note. One of them is called the "Burdett Organ" and the other the "Shoninger Organ." In both of them the agitator is arranged at right angles to the keys and parallel to the line of reeds. In the Shoninger organ, the special construction of the fan is precisely like that shown in the plaintiffs' patent, and it is actuated by equivalent means. In the Burdett organ, the agitator is a hollow rotating cylinder, with a horizontal axis, having two openings in it opposite to each other, and extending from end to end of the cylinder. This rotating cylinder is shown to be substantially the same thing as the special form of fan shown in the patent, in its mode of operation and effect. It does not act as a valve does, nor does it intercept

the air flowing to the reeds. It acts as a beater or agitator of the air without breaking any note, as a valve in the air passage does. It does not check the flow of the air through the reeds, and it operates simultaneously on all the notes. It is a revolving beater quite as much as the revolving fan is, and it produces the tremolo without impairing the continuity of the note. It therefore, infringes both of the claims of the patent.

There is no ground for the position that the first claim of the patent is void, as claiming to patent a principle. It is a claim to the described means of agitating the air. The specification, as required by the statute, points out the principle or character which distinguishes the arrangement of mechanism, but it does not claim to patent a principle. The means used undoubtedly introduce a new principle in producing a tremolo, that is, agitating the air externally to the air passages, without checking or throttling its flow through such passages. The first claim covers, as the means employed, the agitating fan or beater and the mechanism by which it is put in motion at the will of the person operating the instrument.

The answer sets up as a defence want of novelty, and alleges prior knowledge and use of the invention by Lafayette Louis, to whom letters patent of the United States were granted November 18th, 1856, and by Tristram Sawyer and Edmund Sawyer; also by Samuel Thatcher, H. K. White, John Smith, William Thatcher, Adam Wandling, William Kennedy and William Karr.

As to the Louis patent, it is not shown that the apparatus described in it was ever used or is practical. Whether practical or not, it belonged to the class of instruments which the invention of Carpenter was designed to supplant. It consisted of a long valve or two long valves placed over the reeds and under the swell, and turning on hinges, so that a vibratory movement could be imparted to them. The claim of the Louis patent states the object to be "to break and vary the force of the air passing through the reeds." Besides, the evidence is, that the apparatus, as described in the Louis patent, cannot be made to work successfully.

The only other evidence put in on the question of novelty relates to what was done by William Karr, Samuel Thatcher and William Thatcher. What Karr did was wholly experimental, was not a perfected invention, was not regarded by him as such, and was abandoned by him before being perfected. The Thatchers took up Karr's idea, and tried to embody it in practice, and made experiments, but did not make a practical thing of it, applied to a musical instrument, and abandoned it, without perfecting it. These things were done in 1855, but from that time until 1865, when Carpenter's invention came into use, no similar apparatus appears to have been applied to produce a tremolo.

There must be a decree for the plaintiffs, as respects both of the instruments, for a perpetual injunction, and an account of profits with costs.

{For other cases involving this patent, see *Hitchcock v. Tremaine*, Cases Nos. 6,539, 6,540; *Saxe v. Hammond*, Case No. 12,411: Tremolo Patent, 23 Wall. (90 U. S.) 518.}

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<sup>1</sup> [Reported by Hon. Samuel Blatchford, District Judge, and by Samuel S. Fisher, Esq., and here compiled and reprinted by permission. The syllabus and opinion are from 8 Blatchf. 440 and the statement is from 4 Fish. Pat. Cas. 508.]

<sup>2</sup> [From 4 Fish. Pat. Cas. 508.]