

BETWEEN:

1939
June 12.
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June 23.
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SAMSON-UNITED OF CANADA, }
LIMITED, AND SAMSON-UNITED } PLAINTIFFS;
CORPORATION }

AND

CANADIAN TIRE CORPORA- }
TION, LIMITED } DEFENDANT.

Patent—Infringement action—Invention—Subject-matter—Prior art—Equivalency—Substitution of one material for another may be invention.

The action is one for infringement of a patent owned by Samson-United Corporation. The invention claimed relates to improvements in a fan. Claim 3 is typical of the claims in suit and reads:

“3. A fan comprising a hub with radially projecting blades, formed of material sufficiently flexible to bend readily without permanent distortion, the inner end portions of said blades being maintained sufficiently rigid by said hub and of a configuration to increase the resistance of said blades to axial thrusts without materially increasing their resistance to deformation upon encountering an object in their path of rotation.”

The Court found that the whole idea of means and method in defendant's fan is the same as plaintiffs' and small variations in structure adopted by the defendant are plainly the equivalent of that found in the plaintiffs' fan.

Held: That there is invention disclosed in plaintiffs' patent and the same has been infringed by the defendant.

2. That the use of one material in lieu of another, in the formation of a manufacture, may be the subject of a patent, if such substitution involves a new mode of construction, or develops new uses and properties of the article formed, or there is some new and useful result.

ACTION to have it declared that, as between the parties, patent for invention No. 370,548 is valid and has been infringed by defendant.

The action was tried before the Honourable Mr. Justice Maclean, President of the Court, at Ottawa.

Maurice Crabtree, K.C. and *E. G. Gowling* for plaintiffs.

W. L. Scott, K.C. and *Cuthbert Scott* for defendant.

The facts and questions of law raised are stated in the reasons for judgment.

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THE PRESIDENT, now (June 23, 1939) delivered the following judgment:

This is an action for infringement of letters patent, No. 370,548, granted to the second named plaintiff, the assignee of one, Samuels, the applicant, on December 14, 1937, the filing of the application having been made in September, 1936. By agreement the first named plaintiff is the exclusive licensee under the said letters patent. The invention claimed relates to improvements in a "Fan."

The objects of the invention are set forth in the following paragraphs of the specification:—

In electric and other fans as ordinarily employed in localities such as the house and the office, the blades provided are formed of unyieldingly rigid material or other rigid material which will not yield if any object is intruded into the path of such blade, but will cut or destroy such object. The fingers of persons in the room are often seriously injured by such accidents and important papers are often destroyed when encountering the fan blade. The guard screen conventionally provided about the fan blades often proves inadequate to prevent such accidents. My invention provides a fan and a blade therefor wherein the blade yields when an object is intruded into the blade path, and such object is deviated from the blade path without injury. Such structure dispenses with the necessity for the guard screen.

This invention relates to fans for producing air currents and has for its principal object to provide such a fan with flexible fan blades of suitable material and shape to give the blades stability for an efficient operation of the fan combined with sufficient flexibility to cause any portion of the moving blades to yield when a stationary rigid or semi-rigid member is brought in contact with them, and to be self-restoring to normal position when the intruded member is withdrawn.

Another object of this invention is to so construct and mount the blades of the fan that a temporary deflection of a portion of the fan blades will not prevent the fan from operating to produce a movement of air.

A further object of this invention is to construct the fan with flexible material which may have suitable ballast incorporated therein to properly balance the fan blades and provide a steady operation of the fan.

A further object of this invention is to provide the fan blades with novel fastening means and a novel mode of mounting to provide for a quick and efficient attachment of the blades to the rotating member in a normally radial position thereto.

A still further object of my invention is to provide a fan which is almost entirely noiseless in operation.

Samuels, and its construction, is concisely described in the American case of *Samson-United Corporation v. Sears, Roebuck & Co.* (1), which description I shall substantially

follow. The peculiar characteristics of the patented fan are imparted to it by the use of flexible blades, preferably rubber blades, mounted on a rotating motor-housing or casing which serves as a hollow hub for the fan, so that the fan has the capacity of producing air currents when in motion, it is free from danger to objects intruded into the path of the fan blades when in motion, and it is almost entirely noiseless when in operation. These features are obtained by employing flexible blades which when cupped by insertion into arcuate or bow shaped grooves in the hub, are sufficiently rigid to withstand the axial thrust required for rotation against air to displace the air in such volume and with such speed as to give satisfactory service. The blades are resilient enough to return to normal shape when relieved from the effect of any distorting force, and at the same time are so pliable that they will yield to rigid objects, such as a hand or finger, which might accidentally come into contact with them in operation without any injurious results, thus eliminating the necessity of any guard to protect the fan. Another important feature in the construction of Samuels is a rib at the base of each blade which extends outwardly from the plane of the blade on each side to overlap the inner edges of the sides of the slots in the hollow hub into which the blades are inserted, so as to hold the blades immovable by centrifugal force when the fan is in motion.

The claims relied on by the plaintiffs are 1 to 8 inclusive and claims 15 and 18. The following of the claims relied upon may be recited:

1. A fan comprising a hub with radially projecting blades carried thereby, said blades being formed at their outer portions of material sufficiently flexible to bend readily without permanent distortion, and the inner end portions of said blades being of a construction and configuration such that said blades are sufficiently rigid to maintain a substantially radial position at all times.

2. A fan comprising a hub with radially projecting blades carried thereby, said blades being formed at their outer portions of material sufficiently flexible to bend readily without permanent distortion, and the inner end portions of said blades being of an obliquely curved configuration and a construction such that said blades are sufficiently rigid to maintain an effective pitch angle upon rotation.

8. In a fan, a hub having slots therein and a plurality of flexible blades having portions thereof fitted into said slots, said blades being sufficiently resilient to be self-restoring upon striking an object and of sufficient rigidity when assembled on said hub to substantially maintain their pitch angle.

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15. A fan comprising a hub with radially projecting blades carried thereby, said blades being formed of material sufficiently flexible to bend readily without permanent distortion, the inner end portions of said blades being of a construction and configuration such that said blades are sufficiently rigid to substantially maintain their pitch angle upon rotation, and said blades being relatively wide with respect to their radial dimension.

18. A fan comprising a hub with radially projecting blades carried thereby, said blades being formed of a material sufficiently flexible to bend readily upon striking an object without permanent distortion, the inner end portions of said blades being of a construction and configuration such that said blades are sufficiently rigid to maintain an effective pitch angle at all times.

In the offending fan the blades are made of rubber or some such flexible material, and may be visualized as being circular in shape with a small section cut out of them in arcuate form, that is, in the form of a bow. At the base of the blade, from where the arcuate section has been removed, a metal band or strip, also arcuate in shape so as to follow the contour of the hub, is inserted manually or during its moulding, which, when attached to the hub, has the effect of cupping the blade. There is no arcuate slot in the defendant's hollow hub, as in Samuels, into which the blade is inserted and held, but two holes are provided in the hub for each blade, and into these holes are inserted pins which are formed upon the metal ribs and near their ends, and which serve as a locking device for attaching the blades to the hub. This locking device is so positioned and employed as to maintain the arcuate form of the metal rib when attached to the hub the contour of which it follows, and this results in cupping the blades in the necessary degree. Looking at the defendant's hub and blades from the outside the fastening means have every appearance of being the same as that of the plaintiffs, that is, that the blades are held in arcuate slots in the hub. However, in the defendant's fan the desired curvature is given to the blades by the arcuate rib in the base of the blade when attached to the hub by the locking means described, that is, the pins in the metal rib and the holes in the hub. I am quite satisfied that if there is invention in Samuels the same is infringed by the defendant's construction. The whole idea of means and method is the same as Samuels, and infringement could not be avoided by the small variations in structure adopted by the defendant, which are plainly the equivalent of that to be found in Samuels.

Ordinarily, the use of one material instead of another in constructing a known machine is in most cases so obviously a matter of mere mechanical judgment, and not of invention, that it cannot be called an invention unless some new and useful result—an increase of efficiency, or a decided saving in the operation—is clearly attained. The material of which the parts of an invention are composed are not often essential to its identity, except in compositions of matter. But it is possible that the use of one material in lieu of another, in the formation of a manufacture, may be the subject of a patent. If such substitution involves a new mode of construction, or develops new uses and properties of the article formed, it may amount to invention. Where there is some new and useful result, where a machine has acquired new functions and useful properties, it may be patentable as an invention, though the only substantial change made in the machine has been supplanting one of its materials by another. Robinson on Patents at page 302 states, I think, the true principle to be applied in such cases. He says: "In manufactures and machines, any material capable of receiving and retaining the forms of their essential parts is usually sufficient for the performance of their functions, and the expression of their idea of means. A change in such materials may effect the durability of the instrument, or the perfection with which it produces its results, but these attributes relate to the form of embodiment alone, not to the essence of the invention. Yet if diversity of the material employed requires a new mode of construction, or develops new capacities in the invention, as indicated either in the instrument itself or its effects, the change is one of substance and produces an improvement or a new invention."

The use of rubber or any other flexible material for fan blades inevitably required a mode of construction different from that where the blades were formed of a rigid metal, and the whole construction disclosed by Samuels is, I think, quite novel and ingenious. The flat flexible rubber blades had to be cupped or formed at the proper curvature to cause an efficient displacement of air, and that, I think, required a novel construction and fastening means not to be found in the conventional metal-bladed fan, or in the prior art. Then, the blades

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are capable of yielding to any object coming into their path, such as one's hand or finger, and thus the use of the conventional guard screen is eliminated. Samuels has come into substantial use, and it particularly has been widely adopted for defrosting the wind shields of automobiles, and in that field it has practically supplanted the old metal-bladed fans which had to be supplied with guards. Thus, Samuels required a new construction, and developed new capacities. Its functions are performed by means which possess novelty and utility. It is my opinion that the fan disclosed by Samuels is one of substance and is a new invention.

A great many citations of prior art were pleaded by the defendant, but none of them, I think, is here relevant or calls for any discussion. As has been many times stated the patented article must be as fully described in the prior art as it is described in the patent under attack, and that cannot be said of the prior art cited on behalf of the defendant.

My conclusion is that there is subject-matter in Samuels and that there has been infringement. The plaintiffs therefore succeed and with costs.

Judgment accordingly