NORTON DOOR CHECK & SPRING CO. *v.* ELLIOTT PNEUMATIC DOOR-CHECK CO. AND OTHERS.

Circuit Court, D. Massachusetts. December 4, 1885.

PATENTS FOR INVENTIONS—INFRINGEMENT—MACHINES FOR CLOSING DOORS WITHOUT SLAMMING.

Patent No. 144,926, granted to F. H. Richards, November 25, 1873, for improvement in door-springs, and No. 251,790, granted to Lewis C. Norton, January 3, 1882, for improvement in door-checks, compared with Elliott's patent, and *held,* that the second claim of the Richards patent is infringed thereby, but that the first claim of the Norton patent is not infringed thereby.

In Equity.

Chauncey Smith and *Geo. O. G. Coole,* for complainants.

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James E. Maynadier, for defendants.

COLT, J. The defendants are charged with infringement of the patent granted to F. H. Richards, November 25, 1873, numbered 144,926, for improvement in door-springs; also with infringement of the patent granted to Lewis C. Norton, January 3, 1882, numbered 251,790, for improvement in door-checks.

The invention of Richards has for its object a machine for closing doors quickly without slamming, and it consists in the employment of a group of devices for producing an air cushion, so as to check the movement of the door just before it closes, and thus prevent it from slamming. We find in the Richards machine a cylinder of proper length, closed at one end, a packed piston capable of traveling in the cylinder, a spring exerting a pressure upon the piston, suitable means for allowing the air to enter freely and escape

slowly from the air chamber in the closed end of the cylinder, and means for mounting the piston and cylinder upon the door and its jamb. When the door is released the spring will drive the piston forward, and the piston will impart its motion to the door. At first, but little resistance will be offered to the motion of the piston, because the air is compressible; gradually, however, as the escape vent in the end of the cylinder is small, the air will be more and more compressed, until it will counteract the force of the spring and the momentum of the door, and the door will almost stop for an instant, and then close slowly as the air escapes through the vent. The charge of infringement is confined to the second claim of the patent, which is as follows:

"2. The grooved screw, I, for adjusting the vent, in combination with the packing, H, piston, *G,* tube, D, and coiled spring, *F,* or equivalent, substantially as herein shown and described."

It is clear that the elements mentioned in the foregoing claim are found in the Elliott, or defendants', machine, and that the Elliott machine accomplishes the same result, of checking the motion of the door in closing, in substantially the same manner as the Richards machine. Stress is laid upon the fact that in the Richards machine the cupped packing performs the double office of a packing and a valve, to admit the air as the piston moves back, and which closes when the piston moves forward; while Elliott has a piston with cupped packing, and a valve in the center of the piston, for the purpose of admitting air to the cylinder during the backward stroke, and confining it during the forward stroke. We think it may be said, however, that these devices were known substitutes for each other. We must also bear in mind that Richards was the first to organize a machine to check the motion of a door just before it closes, and thus prevent slamming; and that, therefore, his patent is entitled to

a broad construction. These considerations lead us to the conclusion that the defendants have not escaped the charge of infringement of the second claim of the Richards patent by the form 322 of valve employed. The evidence does not sustain the defense that the double duty of a packing and valve performed by the cupped packing in the Richards machine renders it inoperative, though undoubtedly the use of a valve in the piston, together with the packing, as employed by Elliott, makes a more efficient machine. The Richards machine appears to be a practical working device, whatever its commercial value may be.

Several patents are referred to as anticipations of Richards' machine. The Richards device is both a door-spring and a door-check. The prior Ovenden patent does not appear to describe any spring; and, further, it has no adjustable vent. The machine operates by allowing the air confined in a cylinder closed at both ends to leak past the piston, the air being confined in the compressed-air chamber until the piston has reached a certain point of its stroke, when it is allowed to escape past the piston, thus relieving the piston from all resistance. This is not the air-cushioning device of the Richards patent, which operates to arrest the motion of the door just before it closes, to prevent it from slamming, and then allows it to proceed to close effectively. In the Shaw patent there is no checking device, such as is contained in the Richards machine. The Harrison patent, dated July 6, 1869, and the Moore patent, of August 10, 1869, for water-closet valves, are also introduced as anticipating the Richards device, or for the purpose of limiting the second claim of the patent. We consider the mode of operation of the Harrison and Moore valve-cocks so essentially different from the Richards machine that they cannot fairly be held to anticipate it. Some portions of the mechanism employed are also substantially different. The devices of Harrison

or Moore cannot be used, practically, for door-checks. There is not sufficient analogy between the devices and their uses to justify the conclusion that there was no invention in what Richards did, nor to warrant us in limiting the invention of Richards to the grooved screw for adjusting the vent.

We now come to the consideration of the second branch of the case,—whether the defendants infringe the Norton patent. The Norton is an improvement upon the Richards machine. The patent states that the invention described consists chiefly in the combination of a door-check with a door and jamb, by means of certain connecting and operating mechanisms, "all so arranged together that when the door is being closed at a constant rate of speed there will be a material increase in the rapidity with which the piston is driven home, as the door nears the jamb, and consequently the resisting or cushioning power of the air in the cylinder in front of the piston will not materially affect the motion of the piston until the piston is driven nearly home, and the door is about to strike the jamb." In the Norton patent the cylinder is hinged to the jamb, and there is a crank-arm, called the guide-rod, to control the piston stroke, and a connecting arm to operate the piston-rod. The two arms are connected by brackets 323 to the door and jamb. One end of the connecting arm has a flattened surface, which the patent calls a disk. To the lower part of this disk is pivoted the piston-rod, and to the upper part of it is pivoted the guide-rod. These two pivots are termed respectively *h* and *h'* The specification says that the purpose of the guide-rod is to control the length and direction of the piston stroke, and its pivot, *h'*, acts as a fulcrum upon which the connecting arm turns, "and which is necessary for the proper working of the device; the leverage acquired by the use of these two pivots being sufficient to do away with any fear of a

dead point" when the door is open wider than a point at right angles to the jamb.

In the Elliott machine we find two arms pivoted together and connected to brackets on the door and jamb. The piston-rod is hinged and the cylinder is set parallel with the jamb. But Elliott uses only one pivot in place of two. Norton, in his specification, considers two pivots necessary to the proper working of his device. If the first claim of the Norton patent, which is the only one in controversy, embraces a connection between the two arms and the piston-rod, where two pivots are used for a purpose which the patentee regards as necessary for the proper working of his device, and if Elliott uses but one pivot, he does not infringe, because be does not employ the same elements, or their equivalents, in combination.

The first claim of the Norton patent is for the combination with a door and its jamb of a compressed-air door-check, provided with an arm whereby its piston-rod may be operated, a guide-rod whereby the stroke of its piston will be controlled, and suitable devices for attachment of the arm, guide-rod, and door-check to the door or its jamb; *all connected and operating together substantially as and adapted for the purposes set forth.* In our opinion, this claim, taken in connection with the specification and drawings, includes, as a part of the mechanism therein described, the two pivots by means of which the arm is connected, first to the guide-rod and then to the piston, and the defendants, not using this device, do not infringe. The single pivot of Elliott is not the equivalent of the two pivots in the Norton machine. The fact that the Norton machine may be operative with the use of one pivot, does not meet the point.

We deem it unnecessary to dwell upon the other defenses which are urged. Our conclusion is that the Elliott machine infringes the second claim of the

Richards patent, and that it does not infringe the first claim of the Norton patent. Decree for complainants.