

ide Vs. Ball Engine Co.

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Appellant : ide

Respondent : Ball Engine Co.

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Ide v. Ball Engine Co. - 149 U.S. 550 (1893)

U.S. Supreme Court Ide v. Ball Engine Co., 149 U.S. 550 (1893)

Ide v. Ball Engine Company

No. 227

Argued April 21, 1893

Decided May 10, 1893

149 U.S. 550

*APPEAL FROM THE CIRCUIT COURT OF THE UNITED
STATES FOR THE NORTHERN DISTRICT OF ILLINOIS*

SYLLABUS

Letters patent No. 301,720, issued July 8, 1884, to Albert L. Ide for new and useful improvements in steam engine governors are void for want of novelty in the invention claimed in the specification.

Page 149 U. S. 551

This was a bill in equity for the infringement of letters patent No. 301,720, issued July 8, 1884, to the plaintiff, Ide, for a steam engine governor. Another patent, No. 308,498, issued to the same party November 25, 1884, was originally embraced in the bill, but upon the trial in the court below, the charge relative to this patent was not pressed, and the case was rested wholly upon No. 301,720.

"This invention," said the patentee, in his specification,

"relates to that class of steam engine governors known as 'flywheel governors,' and has for its primary object to provide means for holding the eccentric steadily in its proper poised position, in opposition to the tendency of certain extraneous forces which are calculated to disturb the movements of the valve as sought to be determined by the balanced forces of weights and springs when the engine is in motion."

"To this end, the invention consists in the combination of a dashpot with the governor and pulley, said dashpot connected with a fixed and movable part, or with two relatively or unequally movable parts -- as, for example, with the extremity of a weight lever and the pulley hub. In this class of governors, the position of the eccentric is variably determined by the opposing and self-balancing forces exerted by the centripetally acting spring or springs, and the centrifugally acting weight or weights connected with said springs, the tendency being to hold the eccentric permanently in a certain poised position for a given speed of the wheel to which the governor is applied, and to vary the position of the eccentric exactly as the speed of said wheel is varied. There are, however, certain temporarily acting causes of disturbance, calculated to change the position of the eccentric

independently of the speed of the wheel. . . . At a regular and very high speed of the governor wheel or pulley, these disturbing forces operate but slightly, owing to the momentum of the weights, which serve to prevent their deflection from a regular course, but at lower speeds than that at which the apparatus is adjusted to run, and particularly in accelerating or retarding the engine, as in starting up or slowing down, these incidental disturbing forces interfere materially with the valve action and give an objectionable

Page 149 U. S. 552

irregularity to the movements of the weights. In the case of an engine used for running a dynamo for electric lighting purposes and subject to sudden and wide changes in requisitions of power and speed, the effects of the disturbances referred to manifest themselves also in the quality or intensity of the lights. A dashpot constructed and attached to the apparatus in such a manner as to prevent sudden movements of the weight levers or of the eccentric is found in practice to wholly overcome the defects indicated, and to give a desirable steadiness and regularity to the movements of the movable parts of the governor, as well as accuracy and reliability to the cut-off action of the valve."

After giving a description of the device by reference to the drawings, the patentee added:

"The cylinder of the dashpot is filled with glycerine or some other noncompressible liquid, preferably one that is also not congealable at a temperature to which the engine is likely to be exposed. By means of the dashpot applied to the relatively movable and stationary parts or to the unequally moving parts, as described, wide and sudden radial movements of the weights, E', are prevented and, as a consequence, the governor will have a steady and efficient action at all speeds of the pulley or wheel to which said governor is applied. . . . The dashpot, while preferably connected with the end of the lever, E, may obviously be attached to the eccentric itself, and to a fixed or less movable part of the apparatus."

The single claim of the patent was as follows: "In a flywheel governor, the combination, with relatively moving parts, of a dashpot, substantially as described."

The defendants set up in their answer the invalidity of the patent by reason of prior use, and also noninfringement. Upon a hearing in the court below upon pleadings and proofs, the bill was dismissed upon the ground of want of novelty, 39 F. 548, and plaintiff appealed to this Court

Page 149 U. S. 553

MR. JUSTICE BROWN, after stating the facts in the foregoing language, delivered the opinion of the Court.

The stress of this case is upon the novelty of the invention covered by the patent of July 8, 1884, to the plaintiff, Albert L. Ide.

Both the plaintiff and defendant are manufacturers and dealers in a particular type of steam engines known as "electric lighting engines," and used for generating and controlling the electric lighting circuits now in common use, principally under the incandescent system.

The governors used upon these engines are not the old and familiar flyball governors, but consist of weights whose centrifugal action is counterbalanced by centripetally acting springs, attached to the lever by which the weights are suspended, the object of which is to hold the eccentric constantly in a fixed position for a given speed of the wheel and to vary the position of the eccentric exactly as the speed of the wheel is varied. This style of governor is enclosed either within the flywheel or some other wheel connected and revolving with the shaft. It was found, however, that when the burden of the engine was suddenly lifted by the extinguishment of a large number of lights, there was a tendency on the part of the governor to "race," as it is termed, causing an unsteadiness and irregularity in the speed of the engine, which in its turn produced an objectionable pulsation and variation in the intensity of the lights. It was also found to operate

destructively upon the carbon filaments of which the illuminants are composed. For the purpose of obviating this difficulty and producing a perfectly isochronous movement of the engine under extreme changes of load, plaintiff attached to the governor what it called a "dashpot" -- a device in common use for easing the shutting of spring doors, and preventing slamming. As used upon doors, it consists simply of a closed cylinder filled with air and a piston having a passage or leak through or around it. When used in connection with the governor of a steam engine, the cylinder is filled with glycerine or other similar fluid. A dashpot thus constructed and attached

Page 149 U. S. 554

to the apparatus in such manner as to prevent sudden movement of the weight levers or of the eccentric is found in practice to overcome the defect indicated and to give a desirable steadiness and regularity to the movements of the governor, as well as accuracy to the cut-off action of the valve.

Mr. Ide was not, however, the first to discover the value of a dashpot in connection with the governor of a steam engine. As early as 1880, the Buckeye Engine Company of Salem, Ohio, one of the largest manufacturers of steam engines in the country, constructed engines in which the governor consisted of a metal disk clamped upon the driving shaft, such disk being about forty inches in diameter and weighing in the neighborhood of 200 pounds. These disks were used simply as a casing to enclose the governor, which was equipped with arms arranged to swing by centrifugal force as the shaft revolved, and kept from swinging too freely by springs acting centripetally. In this connection, the superintendent of the Hartford Engineering Company testified that he had a case of what is called the "racing" of a governor on a pair of engines running in the Hartford Carpet Company, in Thompsonville, Connecticut. To use his own words:

"I took the foreman of the engine shop with me to the factory and attempted to correct the trouble. We were unsuccessful. We then determined to put on dashpots filled with oil or similar fluid, as the Buckeye people had done in similar cases. Within a short time, the dashpots were made, sent to the Hartford Carpet

Co., and attached to the governor by their men. Mr. Steele, the engineer in chief, came to the shop a few days later and reported most excellent results from the application of the dashpots."

This testimony was corroborated by that of Steele, the engineer, who swore the dashpots were applied in 1881, had been constantly in use since, and had performed their work satisfactorily.

It also appeared that a similar dashpot had been attached to an engine run by the Hartford Manilla Company of Burnside, Connecticut, and that the results there were equally satisfactory. There was also evidence of the employment of Buckeye engines at the Pacific Elevator in Brooklyn, to the

Page 149 U. S. 555

governors of which was attached a dashpot to prevent any sudden, violent fluctuation of the governor. These governors were located upon the opposite ends of the main shaft, but not in the flywheels. A similar dashpot was attached to the governor of a Buckeye engine at the Syracuse Iron Works. None of these governors, however, was attached to the flywheels of the engine, but upon a separate wheel, mounted upon the shaft, and revolving with it.

There was some testimony that the Buckeye engines were defective in their construction or operation, and that the dashpots were put into the governors to prevent the engines from wrecking themselves, and to avoid suits for damages. But however this may be, the testimony is uncontradicted that the addition of the dashpots had the desired effect of steadying the action of the governor.

As the testimony, then, demonstrates that governors without dashpots had been attached indiscriminately, not only to the old flyball governor, but to the shaft governors, whether connected with the flywheel or the pulley wheel or a separate wheel of their own connected with the shaft, and that a governor with a dashpot had also been attached to a separate wheel revolving with the shaft, the invention of Ide consists only in removing the governor, with the dashpot, from a separate wheel to the flywheel. If the dashpot performed any new function when attached to

a governor in the flywheel, such change in location might be the basis of a patent, but the testimony is that it was attached to the Buckeye governors for the very purpose for which Mr. Ide attached it to his governor, and that it accomplished that purpose to the entire satisfaction of the parties interested.

It is true that plaintiff claims certain advantages from locating his governor in the flywheel of the engine, which is very much larger than the special wheel used for the governor in the Buckeye engines, but these advantages seem to be largely fanciful, such as existed before the dashpot was added, and in any event are not such as rise to the dignity of invention. They were advantages which a governor placed in a flywheel has over a governor placed in any other wheel,

Page 149 U. S. 556

but to which the addition of the dashpot contributed nothing new. It is evident that plaintiff, in taking out his patent, supposed that he had first discovered the advantage of attaching a dashpot to the class of governors known as shaft or shifting eccentric governors, and when confronted with the Buckeye governors, sought to limit his patent to a dashpot connected with a governor located in the flywheel, and to discover some special advantage to be gained by locating it there, instead of in any other wheel revolving upon the shaft.

The introduction of these governors seems to have resulted in a large increase in plaintiff's business and in the establishment of agencies in all the principal cities for selling engines containing this improvement. While this may have been occasioned by his introduction of the dashpot, he has no right to a monopoly of this feature, since he had been anticipated in this particular by the Buckeye engines. The only novelty he has any possible right to claim is in the application of this style of governor, with the dashpot, to an electric lighting engine, which seems to have been the thing needed to obviate the difficulty of a variable intensity of light and to secure the requisite steadiness; but this is not what is claimed in the patent. There can be no doubt that if the attachment of a dashpot to a shaft governor had been a novelty at the time his patent was taken out, the Buckeye governors would have been an infringement. This being so, it is equally clear that, existing as they

did before his patent, they are an anticipation.

The decree of the court below dismissing the bill is therefore

Affirmed.

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