

Case No. 6,166.

HARTSHORN V. ALMY ET AL.

[Holmes, 493; 2 Ban. & A. 46; 8 O. G. 94.]²

Circuit Court, D. Massachusetts.

April, 1875.

PATENT—INFRINGEMENT—SPRING-FIXTURES FOR SHADES.

The claim of the reissue patent for improvement in spring-fixtures for shades, granted Stewart Hartshorn, Aug. 27, 1867, construed with reference to the actual invention of the patentee, is not limited to the peculiarly shaped pawl and ratchet described in the specification and mentioned in the claim. The claim is infringed by any arrangement of a pawl and ratchet such that they will engage on checking the upward movement of the shade, and the shade thus be retained at any desired height, by simple manipulation of the shade itself.

[Cited in *Hartshorn v. Shorey*, Case No. 6,167; *Hartshorn v. Eagle Shade Roller Co.*, 18 Fed. 90.]

[This was a bill in equity by Stewart Hartshorn against James P. Almy and others for the alleged infringement of reissued patent No. 2,756, granted August 27, 1867. The original patent, No. 44,624, was granted to complainant October 11, 1864.]

S. D. Law, for complainant.

J. E. Maynadier, for defendants.

SHEPLEY, Circuit Judge. The bill in this case is brought for alleged infringement of reissued letters-patent No. 2,756, dated Aug. 27, 1867, granted to Stewart Hartshorn for improvement in spring-fixtures for shades.

The claim is for the application to a shade-roller, provided with a spiral spring for automatically raising or rolling up the shade, of a pawl and ratchet, or notched hub, so arranged that the former will engage with the latter at any point or height of the shade, by simply checking the rotation of the roller and the upward movement of the shade under the influence of the spring, substantially as set forth.

Upon the construction of this claim depends the question of infringement in this case. Defendants contend for a construction which will limit the claim to the peculiarly shaped pawl and the peculiarly shaped ratchet described in the specification of the patent. Complainant contends for a construction which will embrace, in combination with the other elements, any pawl and ratchet, or notched hub, so arranged that the former will engage with the latter at any point or height of the shade by simply checking the rotation of the roller and the upward movement of the shade under the influence of the spring, substantially as set forth.

The state of the art before the invention of Hartshorn was this: A roller was used having within it a coiled spring, one end fixed to the roller and the other end to a loose journal of the roller; a pawl and ratchet were so applied to the roller that the pawl would hold the roller against turning under the action of the spring, but allow the roller to be turned against the action of the spring. The ratchet lifted and disengaged the pawl from the ratch-

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et in a downward pull of the curtain. These rollers were adapted, like the Hartshorn, to be hung in brackets. In the form of spring-fixtures for shades which was known as "the Coach fixture," and in use prior to Hartshorn's invention, a cord was used to lift the pawl and disengage it from the ratchet when it was desired to allow the curtain to roll up under the action of the spring. Hartshorn's invention differed from those which had preceded it in that it dispensed

with the cord used to disengage the pawl from the ratchet when the curtain is to be rolled up, and operated the fixture wholly by means of the shade or curtain. The operation of Hartshorn's fixture, so far as concerns winding up the curtain and stopping it at any desired height, is as follows: A pawl is attached by a pivot to one of the brackets in which the shade-roller is hung. The end of the pawl opposite the pivoted end has a tendency to fall by gravity on a hub attached to one end of the roller. Two notches are made in the periphery of this hub. The width of these notches is but slightly in excess of the width of the toe of the pawl. The ratchet supports the pawl for the full extent of its periphery, except as to the slight difference in excess between the width of the ratchet notch and the width of the toe of the pawl. Should the roller be revolving rapidly, the width of the ratchet notch will pass under the width of the toe of the pawl before the toe of the pawl has had sufficient time to gravitate into the ratchet notch. This space of time is very short, for it is only while the excess of width between the width of the notch and the width of the toe of the pawl is passing under the toe of the pawl. This only allows the pawl toe to gravitate into and engage with the ratchet notch under a slow movement of the roller. Under a quick revolution of the roller the pawl toe will not be unsupported by the periphery of the ratchet for a space of time sufficiently long to allow it to gravitate a sufficient distance into the ratchet notch to become engaged with it while the ratchet notch is passing under it. The patentee also states that, if desired, the pawl may be placed underneath or at one side of the hub instead of over it, as represented, and a spring be made to bear against it, in order that its projection may engage with the notches.

It will thus be seen that the invention of Hartshorn consisted (so far as concerned the spring-roller shade-fixture) in dispensing with the weights, counterpoises, and pulleys, which had been previously employed, and also with the cord which had been employed to operate the pawl and disengage it from the ratchet notch, and so arranging, the pawl and ratchet that the shade may be stopped and retained at any desired point within the scope of its movement by a simple manipulation of the shade itself; the arrangement of the pawl and ratchet being such that the former will engage with the latter at any point by simply checking the rotation of the roller and the upward movement of the shade under the influence of the spring.

In the fixture of the defendants the pawl or pin engages with the notch by the force of gravity acting on the pin. This mode of engagement is like that in the Hartshorn fixture. In the Hartshorn fixture the pawl is kept away from its engagement in the ratchet notch by being raised by the periphery of the hub, and kept up by portions of the periphery of the hub until the notch is under it and it is raised so high by the non-holding wall of the notch, that when the roller is rotating freely under the action of the spring, it will not have time to fall far enough to engage with the holding wall of the notch during the time the notch is passing under it. In the defendants' fixture the pin or pawl is kept from

engagement in the ratchet by centrifugal force. It is not supported by the periphery of the hub, or raised by the non-holding wall of the ratchet, or knocked up slightly by the blow of the holding wall of the ratchet as in Hartshorn's fixture. In the Almy roller there is a thimble with a side aperture surrounding the hub, forming a closed chamber when covered by the end cap of the roller. In this chamber is placed a little roller or pin lying horizontally, and allowed to revolve loosely, and in the rapid revolution of the roller to be thrown above the periphery of the notched hub by centrifugal force; but when the roller is revolved slowly, or its motion is arrested, the loose pin, roller, or pawl falls on to the hub and into the notch, and in rolling up the curtain it is caught between that part of the notch which is at right angles with the axis of the hub and the shoulder formed in the thimble at the pin chamber. In this respect the pawl and ratchet in the defendants may be properly said to have a different operation from the pawl and ratchet in the Hartshorn fixture. In a similar sense the pawl and ratchet in the Hartshorn patent operates in a different manner when actuated by a spring in one of the modes described in the patent and when left to engage by the pawl falling into the ratchet notch by gravitation, as in the mode stated as the preferable mode in that patent. In both the Hartshorn and the Almy roller the pawl and ratchet are so arranged that the one will engage with the other, at any point or height of the shade, by simply checking the rotation of the roller and the upward movement of the shade, under the influence of the spring, by simply manipulating the shade; dispensing with counterpoises, or the usual cord for operating the roller, or the cord for holding the pawl disengaged. In this respect, wherein Hartshorn differed from all that had preceded him, the mode of operation is the same; and even if Almy's fixture has some advantages over Hartshorn's, it clearly embraces what was his invention, and is secured by the claim of his patent, and is an infringement. As stated by Judge Blatchford in the case of *Hartshorn v. Tripp* [Case No. 6,168], in the circuit court for the Southern district of New York, "there is no difference between these two modes of operation in the withholding from engagement so far as regards the real invention of the plaintiff and the scope of the claim of his patent" Decree for injunction and account.

{For other cases involving this patent, see *Hartshorn v. Shorey*, Case No. 6,167; *Hartshorn v. Eagle Shade Roller Co.*, 18 Fed. 90.]

² [Reported by Jabez S. Holmes, Esq.; reprinted in 2 Ban. & A. 46, and here republished by permission.]