

GAMWELL FIRE ALARM TEL. CO. v. MUNICIPAL SIGNAL CO.

(Circuit Court, D. Massachusetts. August 10, 1892.)

No. 2,543.

PATENTS FOR INVENTIONS—LIMITATION OF CLAIM—PRIOR ART—INFRINGEMENT.

Letters patent No. 164,425, issued June 15, 1875, to Stephen Chester, for an improvement in fire-alarm signal boxes, cover, in the third claim, "the combination of an independent pinion or equivalent device with a wheel, sector, or rack, and a key or equivalent implement which may pass through an orifice in a closed door, for the purpose of winding a spring or raising a weight." This claim was inserted after the rejection of a broad claim for "the winding up and preparing for action the motive force of said apparatus by turning the key, or similar device, inserted in the keyhole of a closed door or cover." *Held* that, in view of this action, and of the fact that the combination of a pinion, wheel, sector, or rack with a key or its equivalent, passing through an orifice in the door for the purpose of winding a spring or raising a weight, was old at the time of the invention, the claim must be limited to the specific devices set forth, or their equivalents, and is not infringed by a signal box in which the devices are widely dissimilar.

In Equity. Suit by the Gamewell Fire Alarm Telegraph Company against the Municipal Signal Company for infringement of letters patent No. 164,425, issued June 15, 1875, to Stephen Chester. Bill dismissed.

The issue was on the third claim of the patent, which reads as follows:

"The combination of an independent pinion or equivalent device with a wheel, sector, or rack, and a key or equivalent implement which may pass through an orifice in a closed door for the purpose of winding a spring or raising a weight."

Charles N. Judson, for complainant.

Fish, Richardson & Storrow, for defendant.

COLT, Circuit Judge. This bill in equity alleges the infringement of letters patent No. 164,425, dated June 15, 1875, issued to Stephen Chester. The invention relates to an improved form of signal box for the transmission of fire-alarm or other electro-telegraphic signals. The mechanism is somewhat complicated. It is only necessary in this case to particularly examine that part of the contrivance covered by the third claim. The Chester signal box has within the case an interior box which is described as containing a combination of gear-work capable of causing any electrical circuit closing and breaking devices to move with uniform speed, when the weight or spring necessary to produce motion shall be attached thereto and shall be wound up. The patentee further says:

"It has been customary to use clock-springs inclosed within this circular box, C, for impelling the said machinery, which, in very cold weather, are liable to fracture, or to inequality of motive force when subjected to greatly varying degrees of temperature; hence, in many parts of the country, demands have been made to have weights substituted to drive the machinery, which operate outside the box, C. The objection to this latter mode of propulsion has been that the method of winding up the machinery has been such that the weight would be raised with a sudden, impulsive motion, frequently

catching in the upper corner of the box, or its attachment to the arm, D², would be broken. This difficulty would be obviated if the method of winding were such that the weight would be raised with a steady and uniform motion."

The third claim has reference to the winding apparatus. A bell-crank lever is fixed upon the end of a shaft, and by revolving actuates the transmitting machine. One arm of this lever is attached to a weight, and the other arm is made in the form of a cogged sector or wheel, the teeth of which engage with a pinion. This pinion is so held upon a shaft that it can slide thereon in a longitudinal direction, and revolve loosely upon it. To the end of the shaft is fixed a disk, and the pinion is normally pressed towards the disk by a spiral spring surrounding the shaft. The shaft is also pressed outward by a spiral spring within its standard, which standard is fixed to the side of the box. The shaft is prevented from being thrown out from its bearing by a screw which normally rests in a longitudinal groove upon the surface of the shaft. In this position the shaft cannot be rotated, but the groove permits the shaft to be pressed backward against the force of the spring behind it until the screw is opposite a transverse groove surrounding the shaft, and when in this position the shaft can be rotated. Upon the cessation of pressure upon the spring the shaft will return to its normal position. On opposite sides of the door of the box are two plates, and held between them is a ratchet wheel which is engaged by a pawl, and so permitted to revolve only in one direction. The keyhole is cut through the plates, ratchet wheel, disk upon the end of the shaft, and into the pinion. The key is so shaped that when pressed in the proper distance it will revolve, and will turn with it the ratchet wheel, disk, and pinion, and thus permit the shaft to rotate. When the key is thus rotated the pinion winds up the transmitting mechanism, and the ratchet wheel prevents the key being rotated in the reverse direction, or withdrawn from the box, before the full rotation of the pinion and the winding up of the motor. The results accomplished by this form of apparatus are stated by the patentee, as follows:

"It is equally evident that, if the proper key be introduced and turned in the only direction permitted by the ratchet wheel, H, it will cause the weight, S, to be raised, or an equivalent effect be produced if a spring be used. Also, it is evident that the key must make an entire revolution before the pin, e, can escape from the transverse groove, d, into the longitudinal groove, c, of the shaft, F. When, however, this revolution has been performed, precisely as one would lock or unlock a lock, if no severe pressure be made upon the key at that moment it will be thrown out by the recovery of the spring under the shaft, F, and so soon as the points of the key escape from the slot or keyhole of the pinion, the latter, being entirely free, will be caused to revolve in the opposite direction by the descent of the weight, S, and consequent movement of arm, D¹, and the key cannot re-engage in the said slot or keyhole until the revolution of the pinion has again brought the keyholes opposite to each other. * * * When the key has once been turned and thrown out, as above described, it is impossible to reintroduce it, or in any way interfere with the evolutions of the interior machinery, until it has completed the functions assigned to it."

Fig. 1.

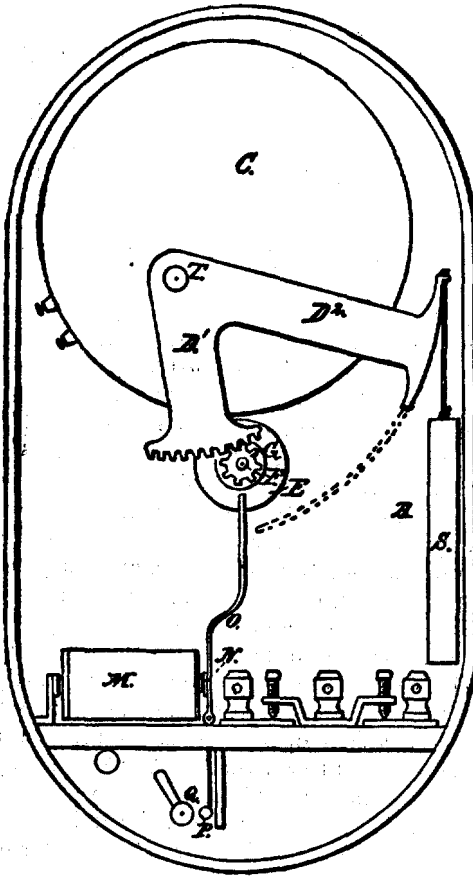


Fig. 2.

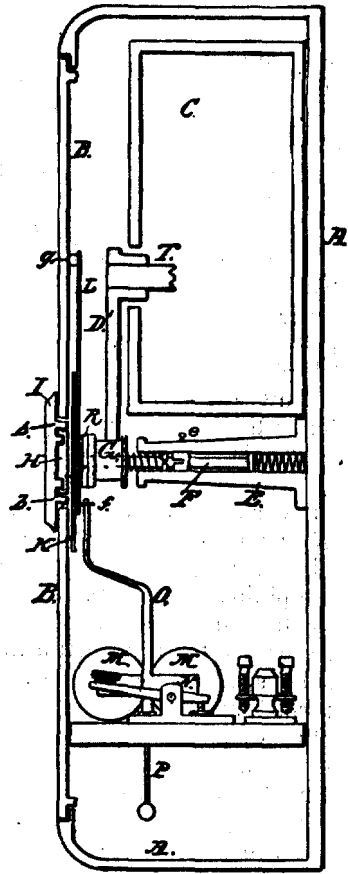


Fig. 3.

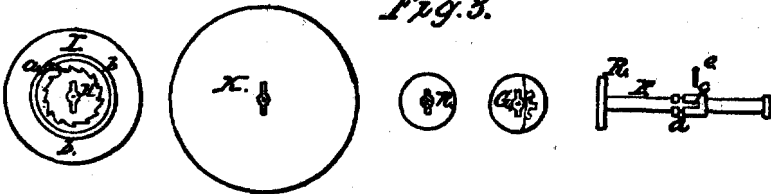


Fig. 4.

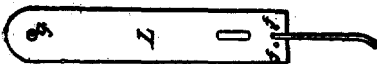


Fig. 5.



The utility of this ingenious contrivance seems to consist largely in preventing persons making mistakes in sending in an alarm. When the key is once inserted, and the turning begins, it cannot be turned backwards, and so send in a partial signal, but it must be turned until its rotation is completed. When the signal has been transmitted, the citizen is prevented from again turning the key around in the keyhole, as the spring behind the shaft tends to throw it out. By this method of winding up the machinery by means of the key and the pinion engaging the cogged sector upon the winding lever, a method of winding is provided whereby the weight is raised with a steady and uniform motion, and sudden jerks avoided.

The patentee originally sought, as shown by the file wrapper and contents, to obtain the following broad claim:

"In combination with any signaling apparatus, the winding up and preparing for action the motive force of said apparatus by turning the key or similar device inserted in the keyhole of a closed door or cover."

This was rejected, and claim 3, which embraces specifically the pinion, wheel sector, and key as elements in the combination, substituted.

The defendant's signal box does not, it seems to me, contain the specific devices, or their equivalents, covered by the third claim of the Chester patent. To be sure, it has a transmitting mechanism composed of a break wheel actuated by a spring, which was old at the date of the Chester patent, but the structure has not the peculiar shaped key, or the pinion for winding up the transmitter, or the cogged sector attached to the winding shaft, of the Chester patent, and which are the special features of the third claim thereof, nor does it accomplish the useful results specified by Chester. The key in defendant's box can be partly turned, and then turned back; it is not thrown out at the end of its revolution; nor does the winding mechanism operate so as to produce a steady and uniform motion. On the contrary, the key is turned only for a short distance, and moves the winding shaft at constantly increasing speed. In this apparatus an ordinary key is inserted through a keyhole, the barrel fitting upon a post, and upon being turned a quarter of a circle its bit engages with a projection upon an arm, and upon being further turned this arm pulls down a slide. This slide has a stud upon it, which lies upon the upper side of another arm attached to the winding shaft. When the slide is pulled down by the operation of the first arm actuated by the key the winding shaft is rotated.

A comparison of the defendant's signal box with the Chester box, with respect to the devices covered by the third claim, shows such dissimilarity that there can be no infringement, unless a very broad construction should be given to the claim. This is unwarranted in view of the proceedings which took place in the patent office, and of the state of the art at the time. I do not think it necessary to enter upon an examination of the prior art as disclosed in the record. It is sufficient to say that the combination of a pinion, wheel, sector, or rack, with a key, or its equivalent, passing through an orifice in a door for the purpose of winding a spring or raising a weight, was old and well known at the time of the

Chester invention. It follows that the third claim of the Chester patent should be limited to the devices, or their equivalents, set forth in that claim, and these are not found in the defendant's structure.

Bill dismissed, with costs.

ATWOOD *et al.* v. W. G. & A. R. MORRISON CO.

(Circuit Court, D. Connecticut. September 30, 1892.)

PATENTS FOR INVENTIONS—ANTICIPATION—INFRINGEMENT—APPARATUS FOR DRIVING SPINDLES.

Letters patent No. 296,377, issued April 8, 1884, to John E. and Eugene Atwood for an improvement in the means of driving spindles by bands, so as to permit the use of narrow spindle frames, consist of the combination of a drive pulley and a guide pulley having parallel axes, and arranged one above the other, two spindles on opposite sides of said pulleys, and two driving bands, each encircling both pulleys and the whirl of the spindle, and each consisting of three parts, two of which pass horizontally between the whirl and the adjacent sides of the pulley, and the third passing directly from one pulley to the other between the horizontal portions. *Held*, that the patent was not anticipated by a machine alleged to have been constructed and used continuously from 1877 by the W. G. & A. R. Morrison Company in its factory at Willimantic, Conn.

In Equity. Bill by John E. Atwood and Eugene Atwood against the W. G. & A. R. Morrison Company for infringement of patent. Decree for injunction and accounting.

Fish, Richardson & Storrow, for plaintiffs.

Charles L. Burdett, for defendant.

SHIPMAN, Circuit Judge. This is a bill in equity, which is based upon the infringement of the first three claims of letters patent No. 296,377, dated April 8, 1884, to John E. Atwood and Eugene Atwood for an improvement in the means for driving spindles by driving bands. The application was filed July 19, 1879. A spinning frame is a long frame having at each side a row of spindles rotating in vertical axes. A single shaft, extending lengthwise of the frame, drives all the spindles of the frame. This shaft was formerly provided with a drum, or with single separate pulleys, one for each spindle. In the Atwood patent of 1874 two driving drums were used, which were "arranged side by side, lengthwise of the frame, each driving, by separate bands, the row of spindles at the further side of the frame. In this arrangement the drum on the side next one row of spindles acts as a guide for the bands running from said spindles to the drum at the other side, which drives them, and in this manner the portions of the band approaching and leaving the whirl of the spindle are in the plane of rotation of the whirl," which is an important consideration, because, if, as in preceding inventions, the band approached and left the whirl at an angle to its plane of rotation, unnecessary friction was increased. The two drums placed side by side made a wide frame, and the same fault existed in the earlier inventions, which had also wide frames, because the spindle must be at a distance from the drum, so as