

FIRMAN *ET AL.* V. NEW HAVEN CLOCK CO.

*Circuit Court, D. Connecticut.*

December 5, 1890.

PATENTS FOR INVENTIONS—SIGNALING APPARATUS—INFRINGEMENT.

Claim 5 of letters patent No. 192,644, granted July 3, 1877, to Leroy B. Firman for improvements in automatic signaling apparatus, is for “the combination, with a call writing wheel, of a signal writing wheel, moved by the same power, when the latter is provided with a number of equal spaced teeth, which write the signal desired by making a certain number of equal spaced impulses.” Two wheels acting in succession, but operated by separate acts of the user, and a single wheel, which made in succession the two impulses, had been previously known. *Held*, that the claim must be limited to the mechanism substantially as described therein, and was not infringed by an apparatus in which two wheels coasted to produce a similar result, one producing the impulses, and the other determining which of the impulses should be transmitted.

In Equity.

*George P. Barton and Wm. Edgar Simonds*, for plaintiffs.

*Harry M. Turk and Arthur V. Briesen*, for defendant.

SHIPMAN, J. This is a bill in equity to prevent the alleged infringement of the fifth claim of letters patent No. 192,644, dated July 3, 1877, granted to Leroy B. Firman for improvements in automatic signaling apparatus, used in the system known as the “district telegraph system,” in which “each station is designated by a number, and the apparatus is constructed to write that number as a ‘call,’ and subsequently to write any one of several signals, at the will of the operator.” The apparatus was an improvement upon the device described in letters patent No. 185,455 to G. S. Ladd and S. D. Field, which contained, one circuit breaking wheel, described by one of the experts for the plaintiff as follows:

“Having a certain set of teeth or notches upon its rim, extending partly around, so as to give a station number or call, the remaining portion of the rim being divided into teeth, placed at regular intervals apart, so that they will cause a series of equal spaced dots upon the paper of the register at the receiving station, amounting altogether to one more than the number of special signals provided for.”

A movable plate, with enough to cover two teeth, is placed against one side of the wheel, and thus a dash is formed, instead of two dots, when these teeth pass the contact point. Any two adjacent teeth may thus be combined, and the special signal depends upon where the dash is formed. The operator determines the special signal by observing which two dots are united to form a dash. The patentee divided this single wheel into two wheels. Upon part of the rim of one wheel there were the unequally spaced notches, which designated the call, the remaining portion of the rim being without teeth, and connected with a segment of a cog-wheel, and upon part of the rim of the other wheel were equally spaced notches, which designated the special signal. The second wheel is

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brought into action after the call, which has finished its work. It is connected with another segment of a cog-wheel, the teeth

of which are capable of being moved into position in which they will be engaged by the teeth of the segment on the first wheel. After the call has been given, the teeth of the segment of the call wheel are brought into position to engage the teeth of the segment of the signal wheel. This description of the Firman wheel is abbreviated from a longer description given by Mr. Quimby, one of the defendant's experts. Two signaling wheels are described in letters patent to B. A. Calahau, No. 129,526, and to T. A. Edison, No. 146,812, each issued before the date of the Firman patent, for sending, when successively operated by successive and distinct acts of the operator, different signals by prescribed different systems of breaks of the circuit, but not for sending automatically these different signals. It does not appear that either of these inventions went into actual use. The improvement consisted in two wheels instead of one, which automatically and successively communicated to the central office the two sets of signals. It is thus described, in detail, in the first claim:

“(1) The signal mechanism operated by suitable clock-work, provided with a writing wheel constructed to give the call or number of the station, and another adjustable wheel, which stands still while the call is being written, and is engaged by the median sin after call has been sent, and is caused to turn through whatever space or number of teeth desired, by setting the pointer, substantially as specified.”

The fifth claim, and the one which is said to have been infringed, is as follows:

“(5) The combination, with a call writing wheel, of a signal writing wheel, moved by the same power, when the latter is provided with a number of equal spaced teeth, which write the signal desired by making a certain number of equal spaced impulses, substantially as specified.”

The defendant uses an apparatus which is described in letters patent No. 321,073, dated June 30, 1885, to Frank B. Wood. It produces a compound signal by the joint action of two wheels. It has—

“Two signal wheels, which are geared to each other and to the clock-work, so that they both move simultaneously and in unison during the time that both parts of the compound signal are being transmitted. While thus in motion they are acted upon by opposite ends of the same electrical contact spring.”

The smaller wheel runs continuously, has a series of equally spaced notches, and tends to transmit a recurring series of breaks at equal distances apart. The larger wheel has certain portions of the periphery cut away. When both of these wheels are moved simultaneously in the same direction, the small wheel sends a continuous series of signals, but those which are not needed are canceled and prevented from being sent by the action of the larger wheel, with its spaces of “cut-away” periphery, and thus the final result is to give, first, the signal, and then the call. The result is, substantially, that of the Firman, device.

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The plaintiffs claim that the equivalent of the Firman signal wheel is the small wheel of the defendant, which transmits a series of equally spaced impulses, and; that the equivalent of the call wheel is the large

wheel of the defendant, which has its periphery so cut away as to determine the numerical signal which is sent, notwithstanding that the actual transmission of the signal is performed by the other wheel, and that thus the defendant's device contains the call wheel and the signal wheel of the fifth claim. If a literal construction is to be given to the fifth claim, and the requisites of infringement are a signal writing wheel, with equally spaced teeth, which makes equally spaced impulses, and a call writing wheel in combination, regardless of the manner in which these two wheels operate to produce the result, the remaining element being power operating the two wheels in such manner as to transmit it compound signal at one operation, then the defendant infringes. In my opinion, such a broad construction cannot be given, but the scope of the patent must be confined to mechanism substantially such as is, described in the patent, viz., two wheels moving acting by the same power, in succession and automatically, one of which produces a part of the signal by its sole and the other of which produces the other part by its sole action, It is true that the Firman invention was the first one having two wheels which did both parts of the work automatically, but this Step cannot give, the device the character of a primary invention and permit the inventor to include within his patent wheels which differ so widely from his apparatus as do the double wheels of the Wood patent. This seems manifest from the place which the invention occupied in the history of the art. Two wheels, acting in succession, but operated by separate acts of the user, had been known, and a single wheel, which made in succession the two acts or impulses, preceded Firman, whose advance was to make the single wheel into two wheels, one having equally, and the other having unequally, spaced notches, and to move them by the same power, so that two signals should be transmitted successively by one operation; but this step did not entitle him to include in His patent two wheels which coact with each other and produce a compound signal, one wheel actually producing the impulses and the larger wheel determining which of the impulses shall go through the line and be recorded. These wheels cannot, in view of the limited character of the Firman invention, be properly styled the equivalents of the call writing wheel and the signal writing wheel of the patent, although they produce the same result.

The bill is dismissed.