

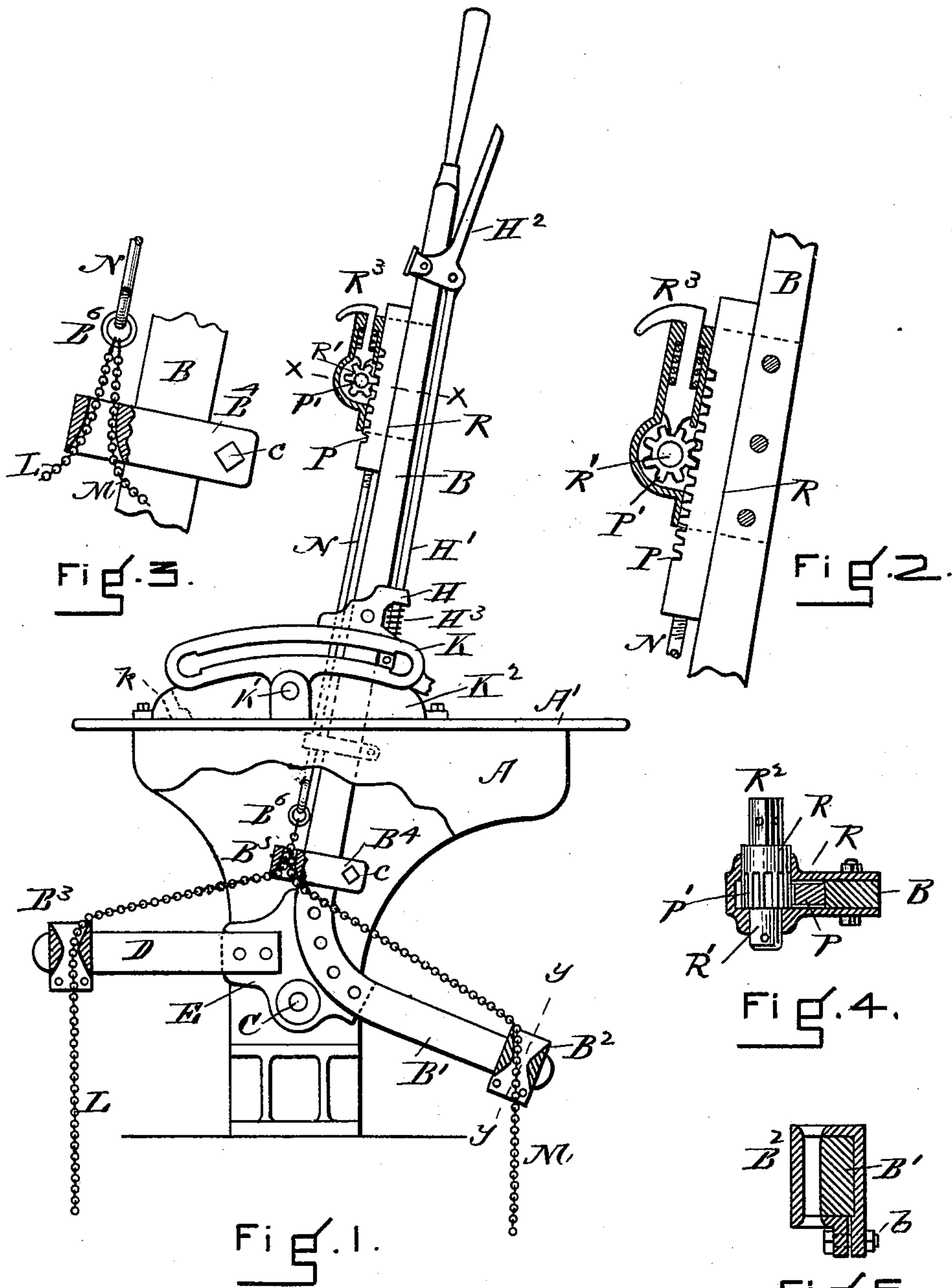
(No Model.)

J. T. HAMBAY.

TENSION ADJUSTING DEVICE FOR RAILWAY SIGNALS.

No. 520,397.

Patented May 22, 1894.



WITNESSES.

Frank A. Parker.
William Edison

FIG. 5.
INVENTOR.

James T. Hambay

UNITED STATES PATENT OFFICE.

JAMES T. HAMBAY, OF BOSTON, MASSACHUSETTS.

TENSION-ADJUSTING DEVICE FOR RAILWAY-SIGNALS.

SPECIFICATION forming part of Letters Patent No. 520,397, dated May 22, 1894.

Application filed May 12, 1893. Serial No. 473,996. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. HAMBAY, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Tension-Adjusting Devices for Railway-Signals, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to that class of railway signals in which long lines of chain, wire, rods, or combinations of the same, are used, and in which the expansion and contraction due to change of temperature materially interfere with the proper working of the signals, the object being to provide a device which is always within reach of the operator, and easily manipulated, by which the said operator may, without leaving his post, adjust the lengths of the chains, wire, or rods, so as to bring upon them the exact tension required for the best working of the same. This object I attain by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a view in elevation (but showing some of the minor parts in vertical section) of a signal lever and its connecting parts, with my device attached to it. Fig. 2 is a view, partly in elevation and partly in vertical section, showing some of the details of my invention. Fig. 3 shows a device for guiding the chains or wire rope, and is intended to be made fast to the lower part of the main lever. Fig. 4 is a view partly in horizontal section and partly in plan illustrating details. Fig. 5 is a sectional view, taken on line *y—y* of Fig. 1, showing in detail one of the guide blocks which are attached to the lower ends of the lever, the function of these blocks being to form guides or sheaves for the chains to pass through.

To properly understand the nature and use of my invention, it is necessary to describe some of the parts in common use in connection with railway signals, which I will now proceed to do.

A, Fig. 1, represents a casting, usually called a plate or leg, to which the operating parts are attached, and by which they are firmly held.

B represents the main lever, which is curved at its lower end so as to form the branch B', and is firmly bolted, or otherwise made fast, to the shoe E, the shoe E being pivoted at C, so that the lever is free to swing back and forth.

D is an arm, also firmly bolted or otherwise attached to the shoe E, and of course moves with the lever B and the branch B'.

K² is a quadrant piece, firmly bolted to the top plate A', as shown. This quadrant piece has notches with which the end of the latch-rod H' may engage, and thus hold the lever in any desired position. The rod N being located at the edge of the lever B, it is necessary to cut a small groove in the stop or buttress at the end of the quadrant piece K², as shown by dotted lines *k*.

K is a rocker piece, pivoted at K'.

H is a shoe, bolted to the lever B, and forms a guide for the latch-rod H' and also a holding socket for the spring H³.

H² is a small hand lever, pivoted to the main lever B, and serves to operate the latch-rod H'.

The parts thus briefly described above are old, and form no part of my invention.

Now I will describe the parts that I consider new, and of my invention.

M and L represent two chains or ropes, L being usually termed the back connection and M the front connection. These chains pass through the blocks B² B³, which act as guides or sheaves, the blocks being located as shown, at the terminals of the branches B' and D of the lever B. A cross section of one of the blocks B² B³ is shown in Fig. 5, and is made as shown, so that it may be firmly clamped by the bolt *b* to the branch B' or D. The chains M and L, after passing through the blocks B² B³, are brought together and united, as shown at B⁵, and are connected by a ring or hook B⁶ to the adjusting rod N. Before connecting with the rod N, they pass through a guiding block B⁴, shown in Fig. 1, and also shown enlarged in Fig. 3. This block is made with two branches, which are adapted to embrace the lever B, and by which, with the aid of the bolt *c*, it is firmly clamped to the said lever. The rod N, Figs. 1 and 2, is

attached to the rack P; this rack P slides in a housing R, which is firmly bolted to the lever B (see Figs. 1, 2, and 4).

P' is a pinion formed on the shaft R' (see Figs. 2 and 4); this shaft R' is squared at R² (Fig. 4) so as to receive a wrench or key, by means of which it may be turned.

R³ is a catch pawl, adapted to engage with and lock the pinion P', so as to firmly hold the rack P and the rod N in any desired position.

The operation of my device is as follows: When the operator, in the examination of his apparatus, finds that the tension on the chains M and L, on account of the low prevailing temperature, is too great, he can place his wrench upon the squared end of the pinion shaft R', and after withdrawing the catch-pawl R³, allow the rack P to descend; this, acting through the rod N, will slack up the chains L and M, until their tension is adjusted to the best working of the signal device. If, on the contrary, the operator finds that, on account of high temperature, the chains are too slack, then he turns the pinion shaft R' until he has drawn up the rack P and rod N sufficiently to increase the tension on the chains L and M to the desired degree.

The tension adjusting device that I have chosen for illustration is not in itself an indispensable feature of my invention.

In some cases but one of the chains L, M, may be required, a weight or spring being substituted for the omitted chain.

I claim—

1. In a signal device the combination of the main operating lever and the front and back chains, wires, or rods: with mechanism adapted to adjust, by one operation, both of the said front and back chains, wires, or rods, substantially as and for the purpose set forth.

2. In a signal device, the combination of the main lever B having a branch B' and block B²: with chain M, block B⁴, rod N and a tension adjusting mechanism, substantially as and for the purpose set forth.

3. In a signal device, the combination of the main lever B, having branches B' D, blocks B² and B³ and chains M and L: with block B⁴, rod N and an adjusting mechanism, substantially as and for the purpose set forth.

JAMES T. HAMBAY.

Witnesses:

FRANK G. PARKER,
WILLIAM EDSON.