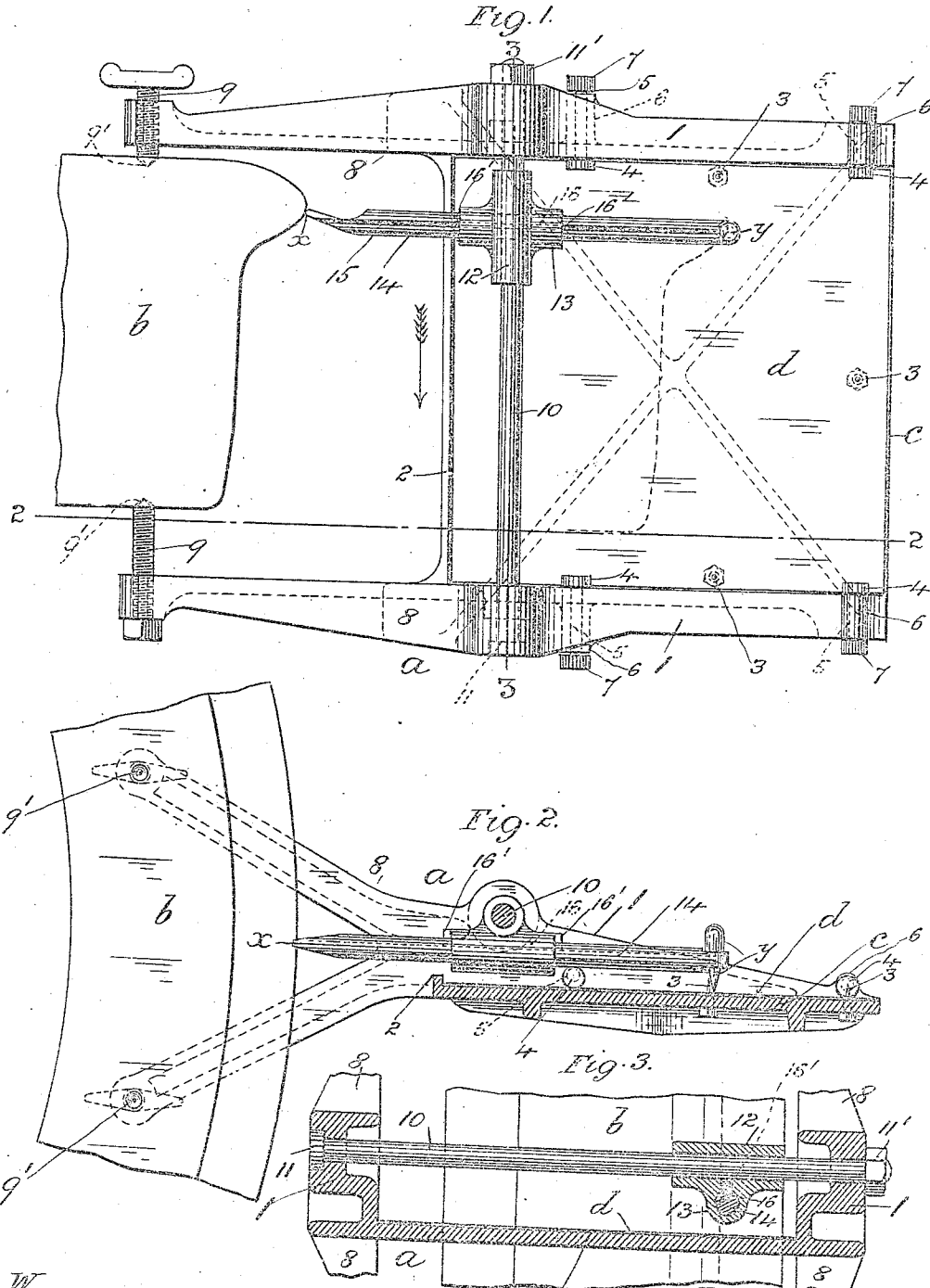


W. C. ARP & F. F. HILDRETH.
WHEEL TIRE CONTOUR RECORDER.
APPLICATION FILED MAY 17, 1909.

935,728.

Patented Oct. 5, 1909.



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UNITED STATES PATENT OFFICE

WILLIAM C. ARP AND FRED F. HILDRETH, OF TERRE HAUTE, INDIANA.

WHEEL-TIRE CONTOUR-RECORDER.

935,728.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed May 17, 1909. Serial No. 496,572.

To all whom it may concern:

Be it known that we, WILLIAM C. ARP and FRED F. HILDRETH, citizens of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented a new and useful Improvement in Wheel-Tire Contour-Recorders, of which the following is a specification.

Our invention relates to a device for indicating and recording the inequalities of the tread and flange, or contour, of a railroad vehicle wheel-tire and the like, and has for its object to provide a light, portable, and accurate instrument for the purpose.

It consists in features of novelty as hereinafter described and claimed, reference being had to the accompanying drawings forming part of this specification, whereon,

Figure 1, is a top plan view of our improved contour recorder as applied to a flanged car wheel-tire (broken away); Fig. 2, a vertical longitudinal section thereof on line 2, 2, in Fig. 1, and Fig. 3, a vertical transverse section through the same on line 3, 3, in Fig. 1.

Like letters and numerals of reference denote like parts in all the figures.

a represents our improved contour recorder as applied to the flanged wheel-tire (broken away) *b* of a railroad car, but similarly applicable to a locomotive or other vehicle wheel-tire of like nature.

The recorder *a* consists preferably of a rectangular-shaped metallic tablet or plate *c* of suitable length and width which in applying the recorder *a* is arranged preferably horizontally opposite to the periphery of the wheel-tire *b*, the tablet *c* being formed or provided longitudinally along each side edge or thereabout, with an upwardly projecting bracket 1, and at its rear edge with an upwardly projecting flange 2, the brackets 1 and flange 2 operating respectively, as guides and as a limiting stop to a suitable card *d* which is placed and adjusted on the tablet *c*, and held in position thereon preferably, by metal pegs or pins 3 which pass through the card *d* in its adjusted position on the tablet *c*, the card *d* being pressed at its lateral edge portions closely against the upper face of the tablet *c* by eccentrics 4 which are fixed on spindles 5 rotatable in suitable bearings 6 in the brackets 1 and provided outside the latter with knurled heads 7 by which the eccentrics 4 are operated.

Projecting rearwardly from the tablet *c*

at each side thereof and preferably in alignment with the corresponding side bracket 1, is an arm 8 which is bifurcated in a vertical plane, the arms 8 being adapted to straddle the wheel-tire *b* and having their bifurcated portions similar and opposite to each other. Through the free end or adjacent part of each bifurcated portion is screw-threaded a set screw 9 having a suitable head on the outside and tapered to a central point on the inside of the said portion, so that, on straddling the wheel-tire *b* by the arms 8 and adjusting the screws 9, the pointed ends thereof are caused to tightly engage in corresponding depressions 9' formed or punched in the two opposite sides of the wheel-tire *b* (or rim as the case may be) whereby the tablet *c* is firmly secured to the latter in the desired position, and by clamping the bifurcated portions of the arms 8 to the wheel-tire *b* at four points instead of two as when straight arms are used a firmer hold of the tablet thereto is obtained.

Spanning the tablet *c* for its entire width between the side brackets 1 at a suitable distance above the card *d*, is a preferably, circular rod or bar 10 which is fixed at each end to the corresponding side bracket 1, preferably in the present case at one end by a head 11 which is recessed in one of the side brackets 1 and at its other end by a nut 11' tightened against the outside of the other bracket 1. On the rod 10 is adapted to slide a rotatable sleeve 12 having at right angles thereto and preferably integral therewith, a dependent sleeve 13 through which is adapted to slide over the tablet *c* with its card *d*, and beyond the rear end thereof, a preferably circular tracing rod 14 of suitable length which is adapted at its rear end *x* hereinafter termed the "indicator" to make contact with the tread and adjacent part respectively, of the flange and outside face of the wheel-tire *b*, the rod 14 at its front end having a dependent pencil or marker pencil or other tracing point *y* (hereinafter termed the "recorder") fixed thereto and adapted to make contact at its bottom pointed end with the surface of the card *d*.

For preventing its axial rotation within the sleeve 13 the rod 14 is formed with a longitudinal keyway 15 which is engaged by a feather 16 having a keyway in the sleeve 13 and formed at each end with a lug 16' which overlaps the corresponding end of the sleeve 12 and holds the feather 16 to the

latter while permitting free longitudinal movement of the rod 14 through the sleeve 13.

In operation, assuming the tablet *c* to be clamped as described to the wheel-tire *b* with the card *d* properly adjusted and held thereon, and the rear end *x* of the tracing rod 14, in contact approximately with the apex of the flange of the wheel-tire *b* on the side adjacent to the tread as shown in Figs. 1 and 2, on sliding the sleeve 12 with the sleeve 13 and rod 14 along the rod 10, across the tablet *c* in the direction indicated by the arrow in Fig. 1, and simultaneously holding and adjusting the rod 14 longitudinally so as to maintain an unbroken contact of its rear end with the wheel-tire *b*, the "pencil" *y* at the front end of the rod 14 (being movable with the latter) as the latter travels across the wheel-tire *b* will mark a fac-simile contour thereof on the card *d* as indicated by dotted lines.

By our invention, on removal of the card *d* so marked from the tablet *c*, and it being desired to record the contour of the wheel-tire *b* when worn, the card *d* is replaced on the tablet *c* in its original position (determined by the rear flange 2 and pegs 3) and the operation of moving the "tracing rod" 14 across the wheel-tire *b* being repeated, a fac-simile of the contour thereof is marked by the pencil *y* on the card *d* and its deviation from the original contour noted.

What we claim as our invention and desire to secure by Letters Patent is:—

1. A wheel-tire contour recorder, comprising a tablet having a card thereon, means for clamping the tablet to the said tire, means for holding the said card in its adjusted position on the tablet, a tracing rod adapted at one end to make unbroken contact with and movable across the said tire, and at its other end with and movable across the said card, and means fixed to the tablet for carrying and guiding the said rod, substantially as described.

2. A wheel-tire contour recorder, comprising a tablet having a card thereon, two opposite bifurcated arms projecting from one end of the tablet in planes at right angles thereto, and adapted therewith to straddle the said tire, means for holding the said card in its adjusted position on the tablet, a tracing rod adapted at one end to make unbroken contact with and movable across the said tire, and at its other end with and movable across the said card, and means fixed to the tablet for carrying and guiding the said rod, substantially as described.

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