

March 14, 1944.

K. C. RAYDON

2,344,216

ROADWAY RECORDING APPARATUS

Filed Jan. 23, 1942

2 Sheets-Sheet 1

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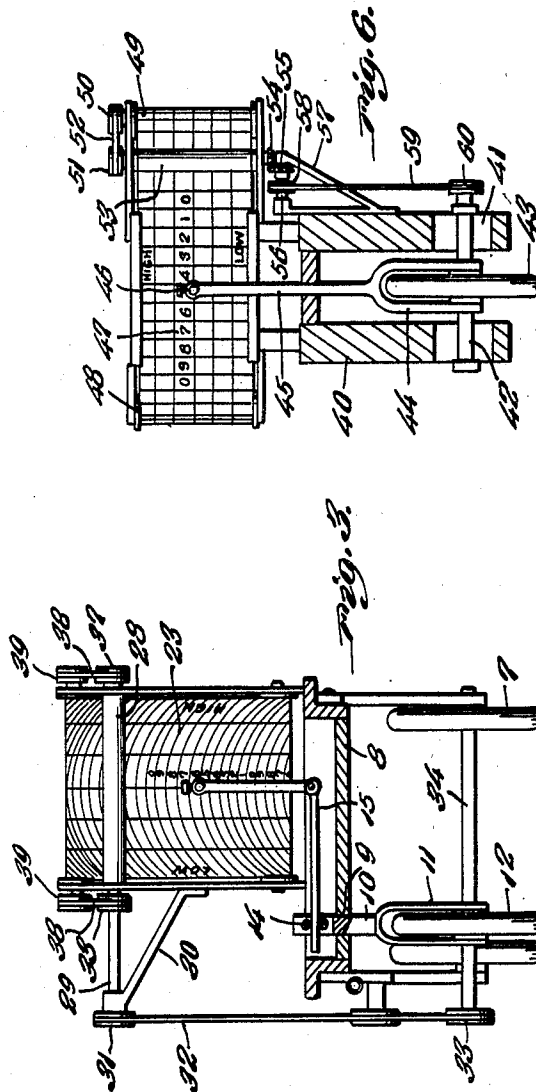
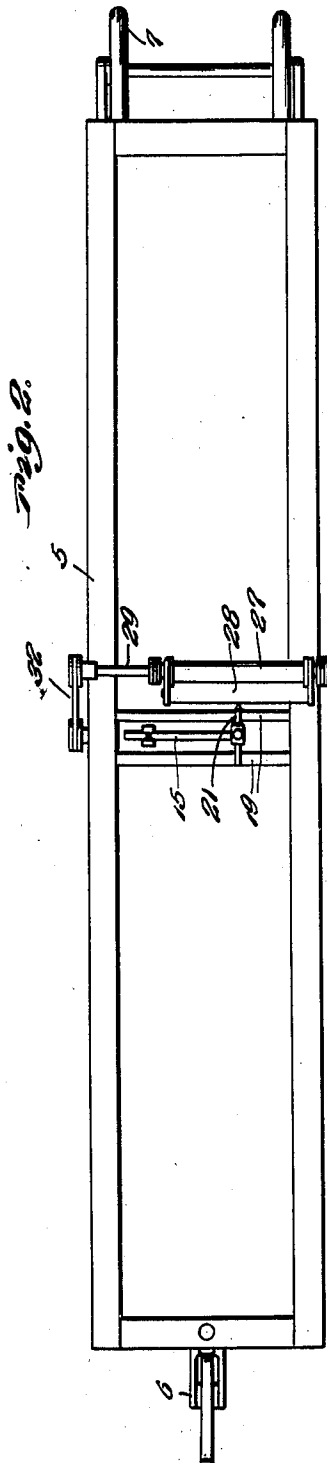
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UNITED STATES PATENT OFFICE

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ROADWAY RECORDING APPARATUS

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1 Claim. (Cl. 33—174)

The present invention relates to new and useful improvements in devices for recording irregularities in the surface of a highway or the like and has for its primary object to provide a wheeled vehicle adapted to travel over the surface of a highway and including a floating wheel responsive to irregularities in the surface of the roadway and operatively connected to a recording mechanism to indicate on a chart the presence of such irregularities.

A further object is to provide a device of this character of simple and practical construction, which is efficient and reliable in performance, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which—

Figure 1 is a side elevational view.

Figure 2 is a top plan view.

Figure 3 is a vertical transverse sectional view taken substantially on a line 3—3 of Figure 1.

Figure 4 is a vertical sectional view through the mounting for the chart.

Figure 5 is a fragmentary perspective view of the recording needle, and

Figure 6 is a transverse sectional view of a modified form of recording mechanism.

Referring now to the drawings in detail and with particular reference to Figures 1 to 5, inclusive, the numeral 5 designates a substantially rectangular vehicle frame having a single wheel 6 swivelly mounted at one end and a pair of wheels 7 mounted at its opposite end, the wheels being adapted to convey the frame over the surface of a highway or other surface.

The body of the frame 8 is provided with an opening 9 in which a post 10 is slidably mounted, the post being formed on the upper end of a yoke 11 on which a floating wheel 12 is journaled. The upper end of the post 10 is bifurcated, as shown at 13, and provided with a pair of vertically spaced pins 14 between which one end of a horizontal arm 15 is freely positioned, the arm 15 being connected at its other end to a vertical arm 16 by means of a tubular bearing 17 mounted on a pin 18 carried by a pair of transverse members 19 on the frame.

On the upper end of the vertical arm 16 is a tubular guide 20 having a pencil 21 secured in adjustable position therein by a set screw 22.

One end of the pencil 21 bears against a chart 23 which travels across a guide 24 supported between a pair of uprights 25 rising from the frame 5.

Between the uprights 25 adjacent the lower portion thereof is a feed roller 26 for the chart and rotatably supported between the uprights adjacent their upper ends is a winding roller 27 on which the chart is adapted to be wound.

Also mounted between the uprights 25 immediately above the guide 24 is a pair of guide rollers 28, one of which has a shaft 29 extending therefrom and journaled on a bracket 30 projecting outwardly from one of the uprights 25. On the outer end of the shaft 29 is a pulley 31 driven by a belt 32 from a pulley 33 secured on the axle 34 of the floating wheel 12. A belt tightener 35 is pivoted on the frame 5 and is provided with a coil spring 36 for maintaining the belt in a taut condition.

The shaft 29 is also provided with a pair of rollers 37—37 for driving belts 38—38 connecting pulleys 39—39 secured on the end of the roller 27.

In the operation of the device as the vehicle travels over the surface of a roadway, the spool 27 will be driven through the belts and pulleys connected to the floating wheel 12 for moving the chart 23 across the guide 24 and a record thus made thereon by the pencil 21 in accordance with the vertical movement of the wheel 12 as the latter encounters any irregularities occurring in the surface of the road.

In the form of the invention illustrated in Figure 6 of the drawings, the frame of the vehicle is designated at 40 having slots 41 in the lower portion thereof in which the shaft 42 of the floating wheel 43 is free to move vertically. The shaft supports a yoke 44 from which a rod 45 rises having the pencil 46 secured at its upper end in position for engaging the chart 47.

The chart 47 is mounted on rollers 48 and 49 for movement transversely of the frame, the roller 49 having a pulley 50 thereon driven from a pulley 51 by means of a belt 52 from a guide roller 53, the guide roller 53 having a bevel gear 54 at its lower end driven by a similar gear 55 on a stub shaft 56 journaled in a bracket 57 supported by the frame. The shaft 56 also has a pulley 58 secured thereon driven by a belt 59 from a pulley 60 on one end of the axle 42. The belt 59 may be provided with a belt tightener (not shown) similar to the belt tightener illustrated in Figure 1 of the drawings.

It is believed the details of construction, ad-

vantages and manner of use of the device will be readily understood from the foregoing without further detailed explanation.

Having thus described the invention what I claim is:

A recording device of the class described comprising a wheel vehicle, a floating wheel carried by the vehicle and adapted to engage the ground for free movement in accordance with irregularities in the surface over which the vehicle is trav-

eling, a chart carried by the vehicle, an L-shaped scribe pivoted intermediate its ends to the vehicle, one end of the scribe engaging the chart, an upstanding yoke connected to the floating wheel, the other end of the scribe being loosely connected to the upper end of the yoke for actuating the scribe in accordance with a raising and lowering movement of the wheel, and means for actuating the chart by said wheel.

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