

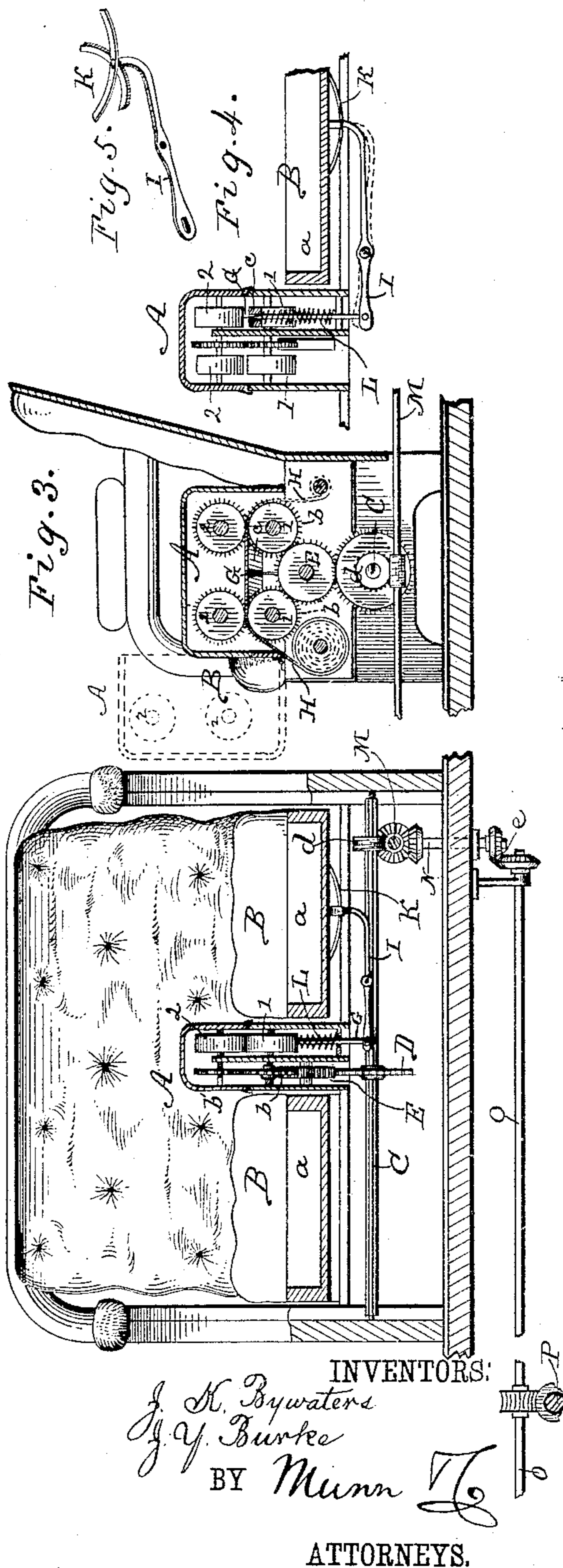
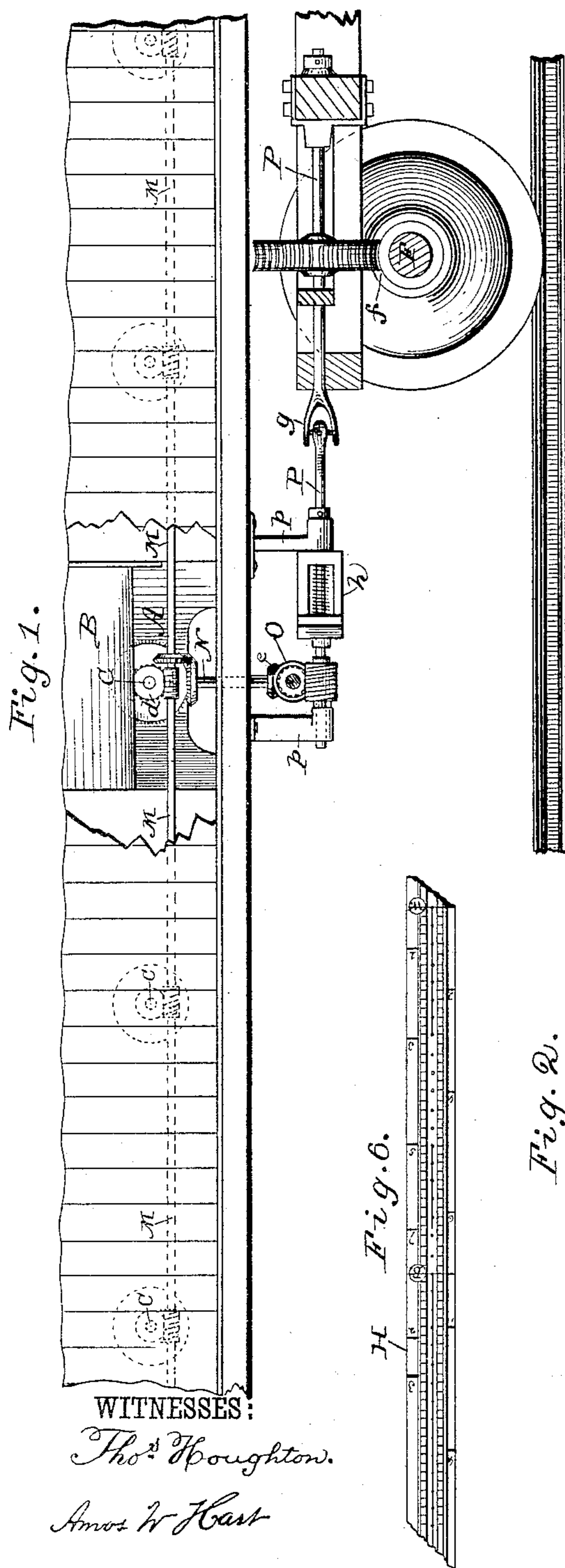
(No Model.)

J. K. BYWATERS & J. Y. BURKE.

CAR SEAT RECORDER.

No. 337,305.

Patented Mar. 2, 1886.



UNITED STATES PATENT OFFICE.

JOSEPH K. BYWATERS AND JOHN Y. BURKE, OF PARIS, TEXAS.

CAR-SEAT RECORDER.

SPECIFICATION forming part of Letters Patent No. 337,305, dated March 2, 1886.

Application filed October 19, 1885. Serial No. 180,372. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH K. BYWATERS and JOHN Y. BURKE, of Paris, in the county of Lamar and State of Texas, have invented a new and useful Improvement in Car-Seat Recorders, of which the following is a description.

Our invention is an improvement in the class of recorders adapted for connection with the seat of a passenger-vehicle for the purpose of recording the number of miles traveled by a passenger while occupying said seat. The novelty is embodied in the construction and combination of parts, as hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a view showing the application of our invention to a railway-car, part being in section and part broken away. Fig. 2 is a vertical transverse section showing the recording apparatus applied to a car-seat. Fig. 3 is another transverse section of the car-seat and recording apparatus. Fig. 4 is another sectional view of the same. Fig. 5 is a perspective view of the seat-spring and the lever that connects it with the puncturing device. Fig. 6 is a plan view of a portion of the graduated strip indicating distances.

The recording apparatus A is located in the middle of the car-seat B, the latter being thus divided into two separate equal parts, *aa*, each of sufficient width to accommodate a passenger. Each part *a* is spring-supported, and when depressed by the weight of a passenger effects the desired recording, as hereinafter described.

Beneath the seat A is a shaft, C, arranged lengthwise thereof, and having a spur-gear, D, which rotates with it and meshes with a smaller gear, E, that imparts motion to the recording apparatus proper, A. The shaft C is rotated slowly by means of a gear-connection with a car-axle, F, as will be presently described.

The recording apparatus A is formed, mainly, of two pairs of friction feed-rollers, 1 2 and 1 2, a spear-pointed cutter, G, and a card or paper strip, H, laid between the rollers. The rollers are all arranged with their axes horizontal, and the lower rollers, 1 1, having pinions *b*, which mesh with the intermediate gear, E, before referred to. Thus positive motion in the same direction is imparted to said rollers

1 1. The cutter G works vertically in a guide, *c*, Fig. 4, between the pairs of rolls 1 1. The lower end is attached to a centrally-fulcrumed lever, I, whose other end connects with a four-armed spring, K, Fig. 5, applied to the bottom of one of the parts *a* of the car-seat, Fig. 2. It will now be perceived that when the seat portion *a* is depressed the lever I is tilted, and the cutter G forced up through the strip H, and will remain in that position so long as the seat is occupied. As the strip H is continuously traveling, it is obvious it will be slit by the cutter during the time the passenger is seated, and, as the strip is in practice inscribed with names of stations and is also graduated, Fig. 6, in sixteenths of an inch, one for each mile of the road, it will be seen that the length of the slit in strip H will indicate the number of miles of travel during which the seat is occupied. To throw the cutter down so that its point will be below the paper strip H, as when the seat *a* is unoccupied, we employ a spring, L, that encircles the shank of the cutter. The lever I connects with the four-armed spring K at its center, so that pressure applied to any portion of the seat will be transferred to the lever I, and therefore effect the desired record.

Two recording apparatus might be used—one for each part *a* of the car-seat; but the axes of the rollers 1 and 2 may be extended and have other rolls 1 1 applied thereto, as shown in Fig. 4, so that two recording apparatus proper may be operated from the same set of gears. The upper rolls, 2 2, are journaled in a portion of the recording-case, which is hinged, and by opening this portion access is had to the strip H. The whole is inclosed in a case provided with lock and key.

The gearing for imparting motion from the car-axle to the shaft C of the registering apparatus is constructed and arranged as follows: Referring to Figs. 1, 2, 3 it will be seen that a shaft, M, extends longitudinally of the car, beneath a row of seats, and is connected by worm-gear *d* with the several shafts C of the recording apparatus applied to the respective seats—that is to say, a shaft, M, is arranged on each side of the car beneath each row of seats, and operates the recording apparatus of each of the latter. Each shaft M derives slow motion from a vertical shaft, N, Figs. 1, 2, that

has a worm-gear connection, *e*, with a transverse shaft, *O*, supported in hangers *p* beneath the car. This transverse shaft *O* in turn gears with a shaft, *P*, arranged horizontally at right angles to it, and extending to the inner axle, *F*, of one of the car-trucks, with which it is connected by worm-gear *f*. Said shaft *P* has a universal joint, *g*, and sliding spring-coupling, *h*, to provide for the difference of oscillation between the truck and body of the car.

What we claim is—

1. The combination, with the depressible seat, the traveling paper strip, the mechanism for imparting motion to said strip, the cutter *G* and its encircling spiral spring *L*, of the lever *I*, and the four-armed plate-spring *K*, attached to one end of said lever, and applied to the under side of the seat, so as to support the latter, whereby depression of any portion of the seat tilts the lever and effects the desired record, as specified.

2. The combination of the following elements: a car-axle, *F*, the depressible car-seat *B*, and the recording apparatus *A*, arranged alongside the seat, and consisting of friction feed-wheels 1 2 1 2, a paper strip, *H*, meshing spur-gears, and a puncturing device, *G*, arranged vertically, a lever, *I*, which operatively connects said seat and apparatus, and gearing which connects the latter with the axle, whereby movement of the car operates said apparatus and enables the record to be made by slitting the strip when the seat is depressed, as specified.

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Witnesses:

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