

A. H. MARTIN.
SPEED RECORDER.
APPLICATION FILED NOV. 7, 1911.

1,018,330.

Patented Feb. 20, 1912.

Fig. 1.

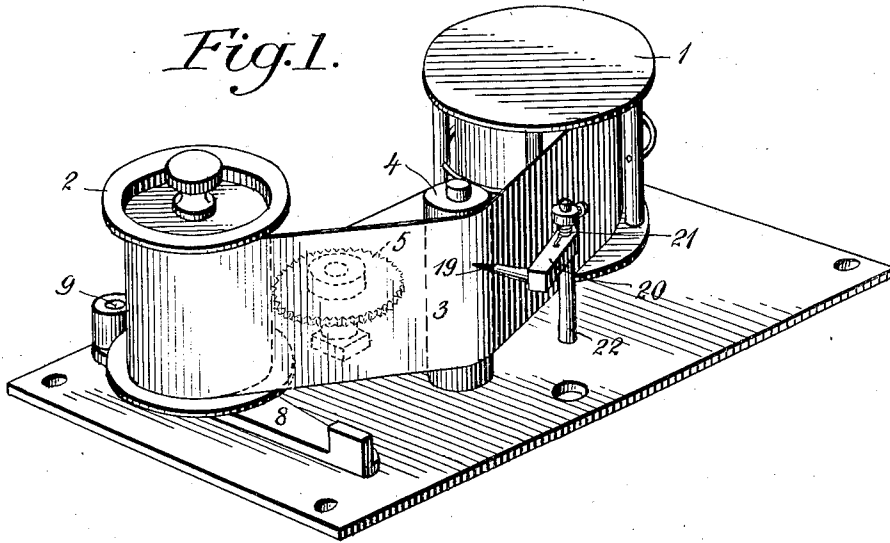
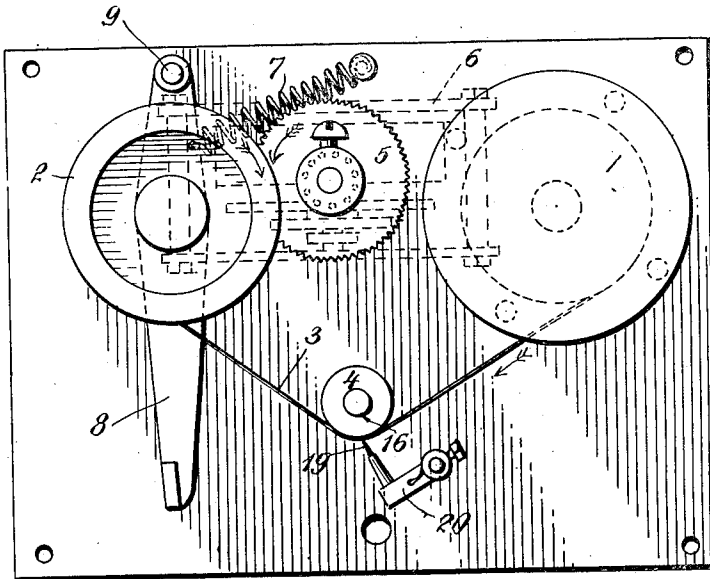


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

AUBRY H. MARTIN, OF SHORT HILLS, NEW JERSEY, ASSIGNOR TO RECORDING SPEED-OMETER COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SPEED-RECORDER.

1,018,330.

Specification of Letters Patent.

Patented Feb. 20, 1912.

Application filed November 7, 1911. Serial No. 652,965.

To all whom it may concern:

Be it known that I, AUBRY H. MARTIN, a citizen of the United States, and residing at Short Hills, county of Essex, State of New Jersey, have invented certain new and useful Improvements in Speed-Recorders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in speed recorders, of the type illustrated and described in my co-pending application for Letters Patent of the United States, Serial No. 622,853, filed April 24, 1911.

In speed recorders of the type referred to, the recording member or stylus, adapted to be moved back and forth automatically from a vehicle or the like, coöperates with a paper strip or tape which is fed in predetermined amounts past the stylus, by means of a clock-work mechanism. The tape-feeding device consists of a storage receptacle for the tape, a roll adapted as it revolves, to wind the tape from the storage device, and a disk (or a disk and idler, as the case may be), together with means for maintaining the roll, and consequently the tape, in operative relation to the disk or to the idler, so that the disk or the idler will feed a predetermined amount of tape upon the roll; all as specifically set forth in my co-pending application referred to.

In my former construction, the paper strip or tape, on its passage from the storage device to the take-up roll, is passed over a stationary, flat table or guide, so as to sustain the pressure of the recording stylus, used in speed recorders of this character, as, for instance, the recording stylus of United States patent to Maxwell, No. 949,000, dated February 15, 1910, referred to in the specification of my said co-pending application. In the present instance, I substitute for the flat or stationary tape-guide or table, a rotatory table consisting of an idle roll, over which the paper strip or tape passes, and which is preferably out of line with the storage device and take-up roll. By means of this rotatory support or table, I reduce the friction of the paper strip or tape upon its support, thereby permitting the spring stylus to make its indication with a diminu-

tion of frictional drag, and, the feature of locating the rotatory table out of line with the storage device and take-up roll permits me to obtain and preserve to advantage the slight tension which is desirable in devices of this character.

In the accompanying drawing, Figure 1 represents, in perspective, a view of the tape-feeding device and the proximate parts of the speed recorder with which it operates; and Fig. 2 represents a top plan view of the parts shown in Fig. 1, and likewise illustrates, in dotted lines, the location of the driving clock-work.

Similar numerals indicate similar parts in both views.

Referring to the drawing, 1 indicates the supply case in which the paper strip or tape 3 is stored in any convenient manner.

2 indicates the take-up roll which is mounted to revolve upon a swinging arm 8, adapted to swing upon the pivot pin 9.

A disk 5 driven from the clock-work 6, so as to make one complete revolution in every hour, is maintained by means of a spring 7 in operative relation with the take-up roll 2 and the tape 3 as the latter is wound upon the said take-up roll; that is to say, the swinging arm 8 is so arranged with reference to the disk 5 that the spring 7 will maintain the roll 2 and the disk 5 in operative relation with each other and with the tape 3. The periphery of the disk 5, as shown, is provided with milled or roughened surfaces so that it will grip the tape 3 on the roll 2, the roughened periphery being preferably prepared by means of a knurl. The arrows shown in the drawing indicate the directions of rotation of the take-up roll and the disk. It will be understood that by substituting for the disk 5 another disk of different diameter, the amount of tape fed during a single revolution of the disk may be varied.

The paper strip or tape is fed over the rotatory guide or table 4 which is mounted to revolve freely upon its supporting pin 16. The stylus, which may conveniently consist of a pencil point 19 mounted upon an arm 20, is held with light pressure against the tape by the spring 21 and the arm 20 is mounted upon the rod 22, which is automatically reciprocated back and forth by intermediate mechanism actuated from the traction wheels of the automobile or

like vehicle. Suitable mechanism for thus automatically reciprocating the rod 22 is shown, for instance, in the Maxwell Patent No. 949,000, hereinbefore referred to.

5 Having thus described my invention, what I claim is:

1. A speed recorder for recording the movements of a member driven automatically from a vehicle, including a device for feeding tape in predetermined amounts past said member and a clock-work for operating the tape-feeding device, said tape-feeding device consisting of a storage device for the tape, a roll adapted as it revolves to wind the tape thereon, a rotatory table intermediate of the storage device and the winding roll, a disk having a circumference equal to the predetermined amount of tape to be fed and provided on its periphery with a surface adapted to grip the tape, and means for maintaining said roll and the tape thereon, in operative relation with said disk; substantially as described.

2. A speed recorder for recording the movements of a member driven automatically from a vehicle, including a device for feeding tape in predetermined amounts past said member and a clock-work for operating the tape-feeding device, said tape-feeding device consisting of a storage device for the tape, a roll adapted as it revolves to wind the tape thereon, a rotatory table intermediate of the storage device and the winding roll and out of line therewith, so as to give the tape an angular feed in passing from the one to the other, a disk having a

circumference equal to the predetermined amount of tape to be fed, and provided on its periphery with a surface adapted to grip the tape, and means for maintaining said roll and the tape thereof, in operative relation with said disk; substantially as described.

3. A speed recorder, including a recording member adapted to be moved back and forth, a device for feeding the tape in predetermined amounts past said recording member and a clock-work for operating the tape-feeding device, said tape-feeding device consisting of a storage device for said tape, a roll adapted as it revolves to wind the tape thereon, a rotatory table intermediate of the storage device and the winding roll, a disk substantially midway of the tape and having a circumference equal to the predetermined amount of tape to be fed and provided on its periphery with a surface adapted to grip the tape, said roll, disk and tape, being arranged so that said disk is in contact with said tape only at the point where the peripheries of said roll and said disk are urged together, said roll being driven from said clock-work, and means for maintaining said roll in operative relation with said disk; substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses.

AUBRY H. MARTIN.

Witnesses:

JOHN C. PENNIE,
MINERVA LOBEL.

Correction in Letters Patent No. 1,018,330.

It is hereby certified that the name of the patentee in Letters Patent No. 1,018,330, granted February 20, 1912, for an improvement in "Speed-Recorders," was erroneously written and printed "Aubry H. Martin," whereas said name should have been written and printed *Aubrey H. Martin*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 2nd day of April, A. D., 1912.

[SEAL.]

C. C. BILLINGS,

Acting Commissioner of Patents.