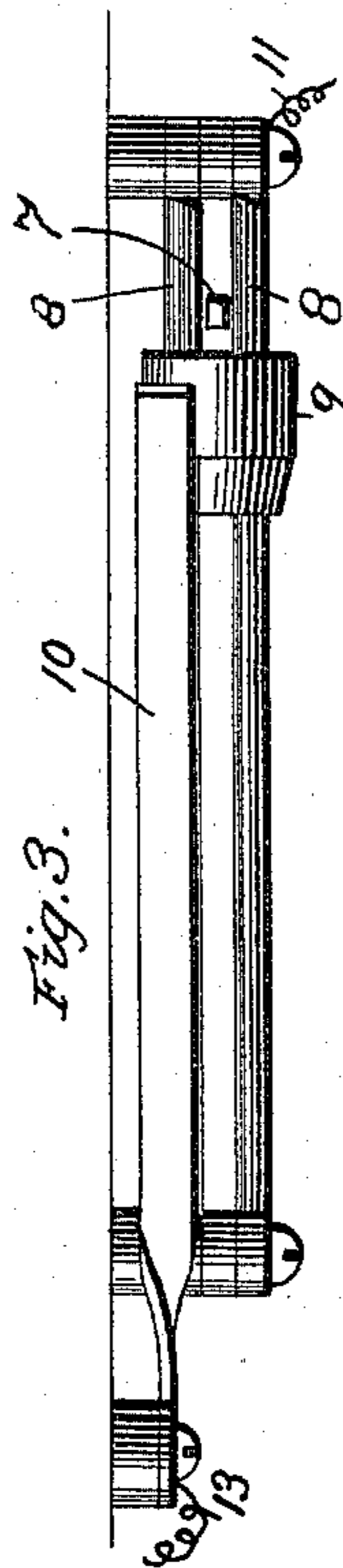
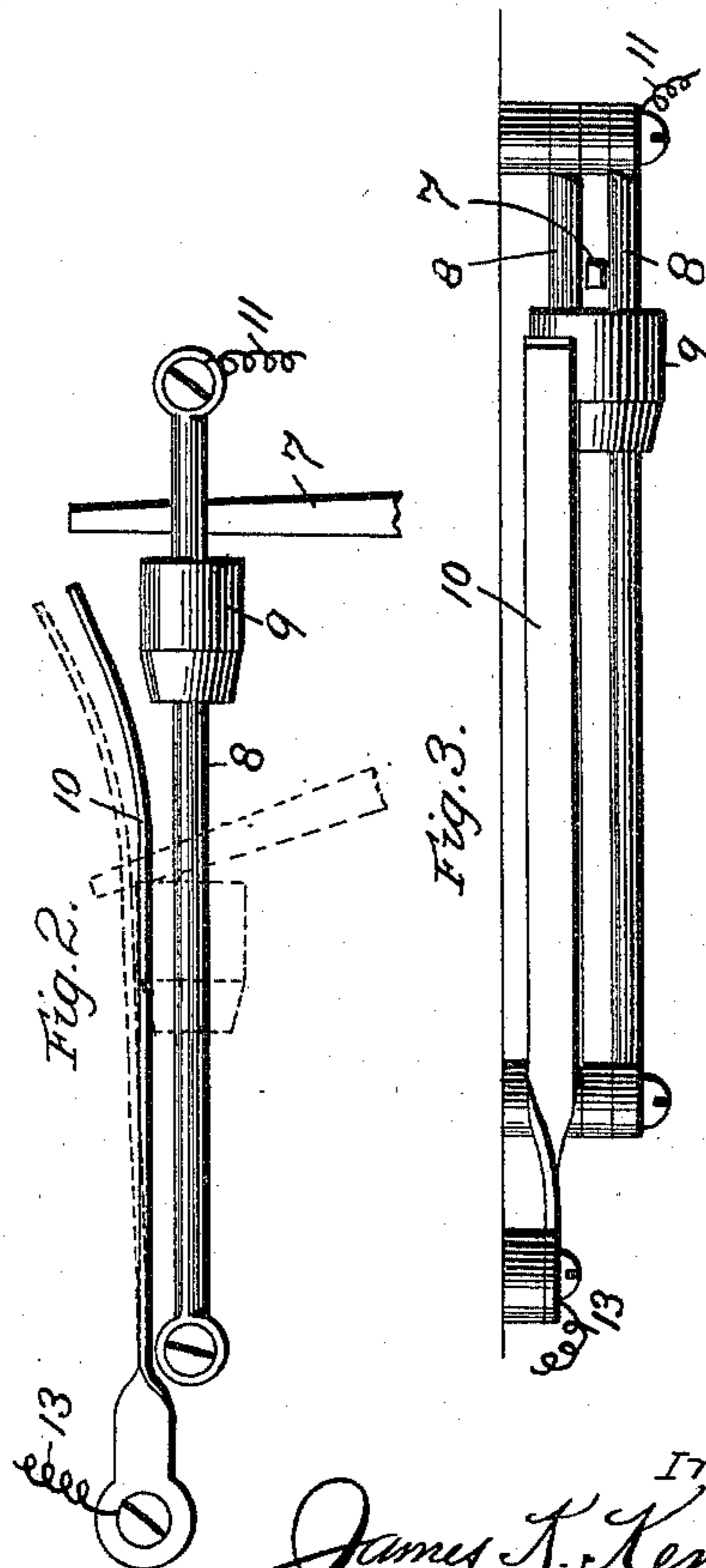
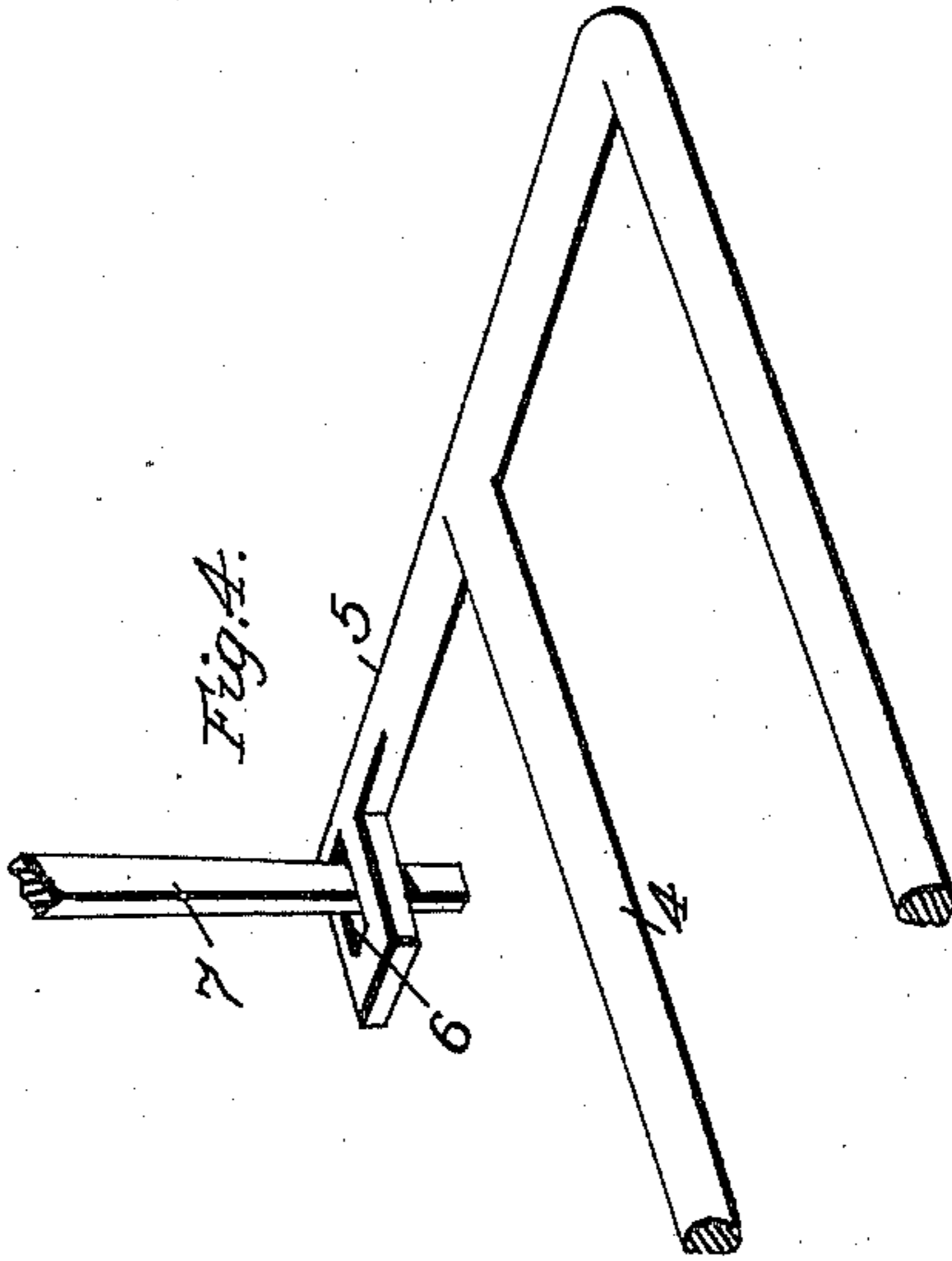
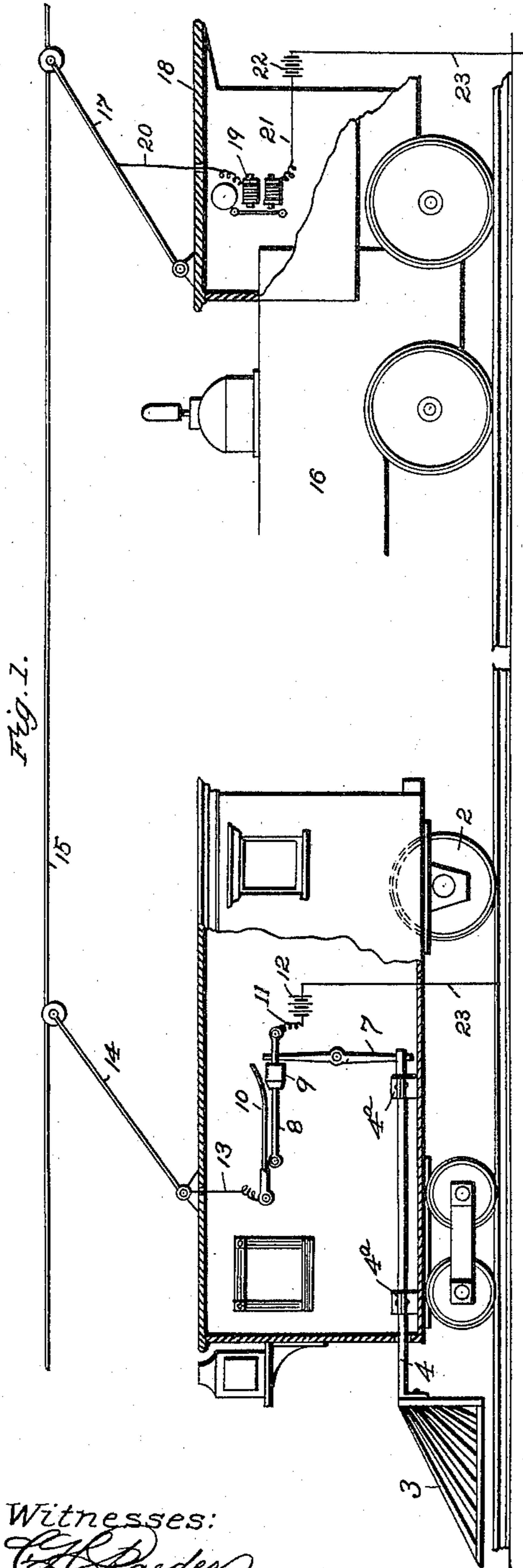


(No Model.)

J. K. KENDRICK.
RAILWAY DANGER SIGNALING.

No. 585,676.

Patented July 6, 1897.



Witnesses:

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UNITED STATES PATENT OFFICE

JAMES K. KENDRICK, OF GERMANTOWN, CALIFORNIA.

RAILWAY DANGER-SIGNALING.

SPECIFICATION forming part of Letters Patent No. 585,676, dated July 6, 1897.

Application filed November 2, 1896. Serial No. 610,897. (No model.)

To all whom it may concern:

Be it known that I, JAMES K. KENDRICK, a citizen of the United States, residing at Germantown, in the county of Glenn and State of California, have invented certain new and useful Improvements in Railway Danger-Signaling; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in railway danger-signaling; and the object of my invention is to provide a means of communicating a warning to an approaching train of danger ahead; and it consists in a pilot-car which is adapted to be run at a suitable distance ahead of the train, an electric connection between such pilot-car and the train, suitable means for giving an alarm from such pilot-car to the train following, and such other devices and combination of devices, as will more fully appear in this specification, and particularly pointed out in the claims hereunto annexed.

Referring to the accompanying drawings, Figure 1 is a view illustrating portions of a pilot-car and a locomotive equipped with my improved signal apparatus. Fig. 2 is an enlarged detail side elevation showing the contact devices on the pilot-car. Fig. 3 is a plan view of the same, and Fig. 4 is a detail enlarged view of the bars to which the cow-catcher of the pilot-car is connected.

Similar figures of reference indicate corresponding parts throughout the several views.

A pilot-car 1 is suitably mounted on trucks and provided with drive-wheels 2, which may be propelled by any suitable motive power. (Not illustrated.)

A cow-catcher 3 is attached to parallel horizontal bars 4 and adapted to project in front of the pilot-car 1, such bars 4 being suitably arranged in bearings 4^a on the bed of the car 1 and adapted to slide longitudinally, for the purpose hereinafter specified.

The rear ends of the bars 4 are provided with a laterally-extending arm 5, which is provided with a vertically-disposed slot 6 in

the free end of the same. A vertical lever 7 is pivotally journaled in the center of the same to the side of the car 1. The lower end of the lever 7 is arranged in the slot 6 in the arm 5, and the upper end of such lever 7 is arranged between two horizontal parallel slide-bars 8, which are rigidly attached to the side of the car 1. A sliding lug 9 is arranged on the bars 8 in front of the lever 7. The front end of the lug 9 is cone-shaped for the purpose of rendering an easy contact with a spring 10, which is arranged parallel with and above the bars 8 and rigidly attached to the side of the car 1. A wire 11 is attached at one end to the bars 8 and at the other end to a battery 12, which is suitably located on the car 1.

13 represents a wire which is attached at one end to the spring 10 and at the other end to a trolley 14, which is of ordinary construction and is adapted to engage with a trolley-wire 15, which is suitably suspended directly over the road-bed at the desired height. The locomotive 16, which is drawing the succeeding train, is provided with a trolley 17, which is mounted in the usual manner on the roof of the engine-cab 18 and adapted to engage with the trolley-wire 15, and such trolley 17 has electrical connection with a magnetic bell 19 by means of a wire 20. The bell 19 is provided with a wire 21, which is attached thereto and to a battery 22, which is located on the locomotive 16 at any suitable point.

The electric current may be grounded by means of ground-wires 23, which are suitably located on the pilot-car and on the locomotive.

The mode of operation of my improved railway-train-signaling device is as follows: The cow-catcher 3 is pressed forward, which tilts the upper end of the lever 7 rearwardly by means of the arm 5 and slot 6 engaging the lower end of the lever 7. The lug 9 is pressed rearwardly against the upper end of the lever 7 and the batteries 12 and 22 being suitably charged the trolley is placed in position on the trolley-wire. The motive power is applied to the pilot-car and the same is sent ahead of the train at a distance sufficient to permit the locomotive to stop the train should an obstacle be encountered by the pilot-car. When an object is encountered on the track,

the cow-catcher of the pilot-car is pressed rearward by its contact with the object, which movement presses the lug 9 against the spring 10 by means of the lever 7. By the lug 9 engaging with the spring 10 the electric circuit is completed and the bell 19 in the cab of the locomotive is rung, which is a warning of danger ahead, and the engineer may stop without injury to his train.

10 By a code of signals the engineer may be apprised of any information in the possession of the operator of the pilot-car.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device for signaling railway-trains the combination with a suitable locomotive and road-bed of a pilot-car mounted on suitable trucks and provided with suitable motive power and adapted to precede the locomotive at a suitable distance, a cow-catcher mounted in front of such pilot-car on horizontal parallel bars which are arranged longitudinally in suitable bearings on such pilot-car, a lever pivotally attached to the side of the pilot-car and adapted to engage with the parallel bars and a sliding lug 9, suitable electric connection between the lug 9 and a bell in the cab of the locomotive, and such bell, all arranged and operating substantially as shown and described.

2. In a device for railway-train signaling the combination with a locomotive and road-bed of a pilot-car adapted to precede the locomotive at a suitable distance, suitable motive power for propelling the pilot-car, a cow-catcher attached to longitudinally-sliding parallel bars, and adapted to project in front

of such pilot-car, the longitudinally-sliding parallel bars arranged in bearings on the pilot-car, a laterally-extending arm 5 attached to the rear end of the parallel bars, the lever 7 pivotally attached to the side of the pilot-car, the lower end of such lever 7 being adapted to engage with the free end of the arm 5, the contact device composed of the lug 9 mounted on the bars 8, and adapted to engage with the upper end of the lever 7, the bars 8 rigidly attached to the side of the car and provided with electrical connection to an electric battery 12 suitably located on the pilot-cab, the spring 10 adapted to engage with the lug 9, the wire 13 attached at one end to the spring 10 and at the other end to the trolley 14, such trolley 14 suitably mounted on the top of the pilot-car and adapted to engage with the trolley-wire 15, the trolley-wire 15 suitably suspended over the road-bed, the trolley 17 suitably mounted on the cab of the locomotive, and adapted to engage with the trolley-wire 15, the wire 20 attached at one end to the trolley 17 and at its other end to the bell 19, the bell 19 suitably situated in the cab of the locomotive, the wire 21 attached to the bell and to the electric battery 22, the battery 22 suitably located on the locomotive, and the ground-wires 23 attached to the batteries 12 and 22, all arranged and operating substantially as shown and described.

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

JAMES K. KENDRICK.

Witnesses:

JOSHUA B. WEBSTER,
MOLBRY HAYNES.