

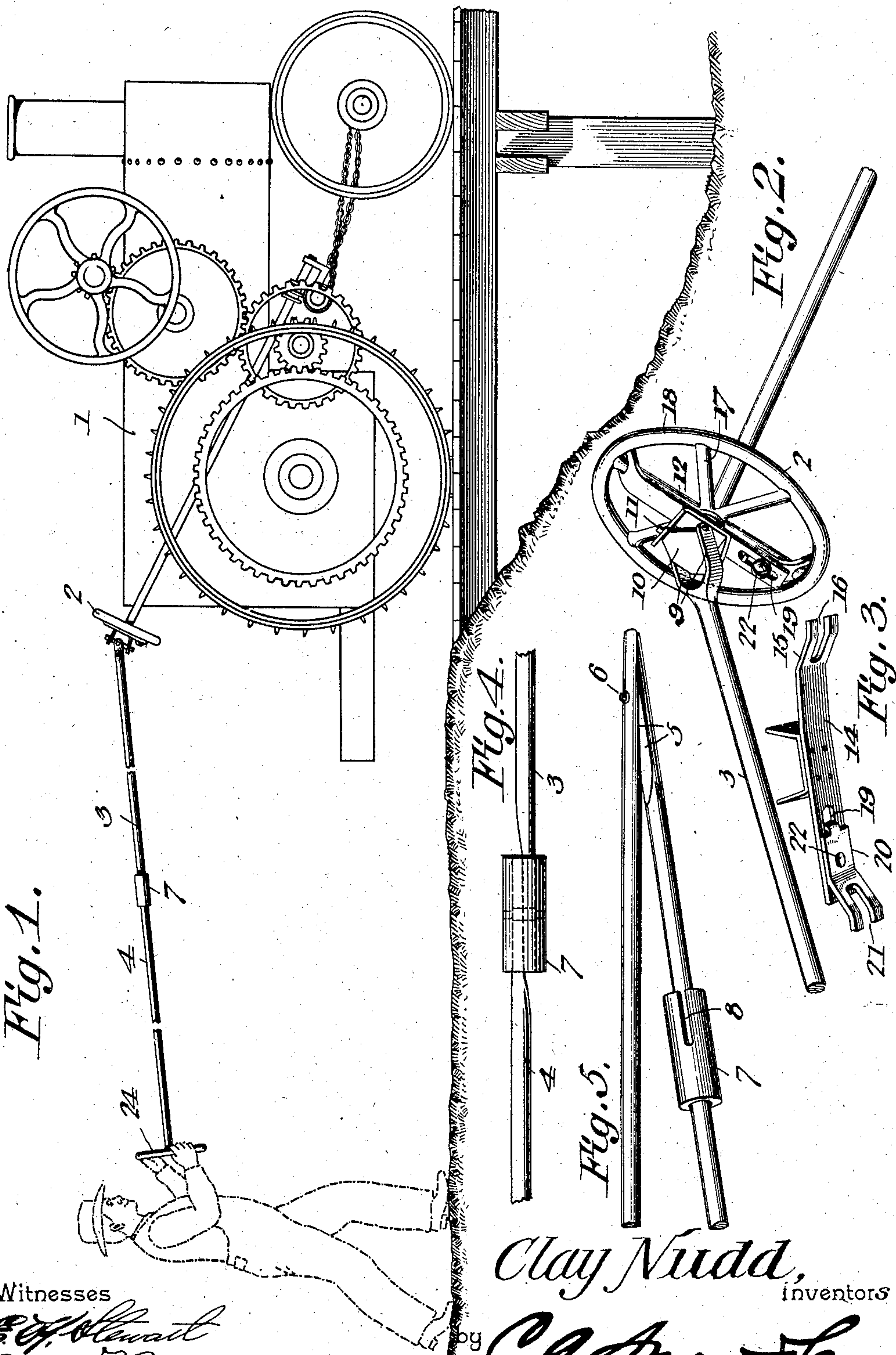
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C. NUDD.

STEERING DEVICE FOR TRACTION ENGINES.

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Witnesses

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STEERING DEVICE FOR TRACTION-ENGINES.

SPECIFICATION forming part of Letters Patent No. 791,571, dated June 6, 1905.

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To all whom it may concern:

Be it known that I, CLAY NUDD, a citizen of the United States, residing at Laharpe, in the county of Hancock and State of Illinois, have
 5 invented a new and useful Steering Device for Traction-Engines, of which the following is a specification.

This invention relates to steering devices for traction-engines.

10 Accidents frequently happen and lives are frequently lost in the attempt to convey traction-engines and road-engines of various kinds across frail bridges, especially when the latter structures are weakened by floods or other
 15 circumstances.

The object of the present invention is to provide means whereby road-engines may be steered from a distance, the operator walking behind the engine, so that the latter may be
 20 conveyed across bridges in advance of the operator, who after sending the engine across the bridge may himself cross in safety, while if the bridge should give way under the weight of the engine the operator will escape with his
 25 life.

With these ends in view the invention consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of embodiment of the invention, it being, however, understood that no limitation is necessarily
 30 made to the precise structural details therein exhibited, but that the right is reserved to any changes, alterations, and modifications to which recourse may be had within the scope of the invention and without departing from the spirit or sacrificing the efficiency of the
 40 same.

In said drawings, Figure 1 is a side view diagrammatically illustrating a conventional form of traction-engine in the act of being
 45 steered across a bridge by the operator, who is walking behind the engine. Fig. 2 is a perspective detail view showing the front end of the steering device connected with the steering-wheel of an engine. Fig. 3 is a perspec-

tive detail view showing the connecting member detached. Fig. 4 is a side view showing two rods constituting a part of the steering mechanism connected or coupled together. Fig. 5 is a perspective detail view showing the said rods partly folded together.
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Corresponding parts in the several figures are indicated throughout by similar characters of reference.

1 designates a conventional form of traction-engine, the steering-gear of which is manipulated by the steering-wheel 2, which is an ordinary cast-iron spoke-wheel.
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The steering-rod of the improved attachment is preferably composed of a plurality of members capable of being extended to any desired length. In the drawings two such members (designated, respectively, 3 and 4) have been shown; but it will be understood that any desired number of members may be used to form a steering-rod of any desired length.
 65 70 The individual members have been shown as provided with flattened ends 5, connected pivotally by means of pins 6. Other suitable connecting means which shall admit of the members being extensibly connected may, however, be used within the scope of the invention. Under the construction illustrated slidable sleeves 7 are provided, which may be adjusted over the pivotal joints to brace the latter and to prevent the steering-rod members
 75 80 from buckling when extended. Said sleeves are preferably provided with slots 8 for the reception of the extended ends of the pivotal pins 6.

The front member 3 of the steering-rod is bifurcated, and between the arms 9 9 of the fork is pivotally mounted a plate 10, provided at the ends thereof with pins or trunnions 11, pivotally engaging the arms of a yoke 12, which is firmly secured upon a cross-bar 14, which is in this manner connected for universal movement with the rod 3. The cross-bar 14 is provided at one end thereof with a downturned bracket 15, having a slot 16, adapted to engage over one of the spokes 17 and under the rim 18 of the steering-wheel 2. The opposite end of the cross-bar 14 has a slot 19, in which is slidably mounted a bracket member
 85 90

20, having a slot 21 for engagement with a spoke at the opposite side of the steering-wheel, the slidable bracket member 20 being secured in adjusted position by means of a clamping-screw 22. The rod member 3 may thus be swiftly and securely connected for operation with the steering-wheel 2 of the engine.

The rear end of the rear member 4 of the steering-rod is provided with a hand-wheel 24, adapted to be grasped by the operator, as will be plainly seen in Fig. 1 of the drawings.

The device comprising the invention may be folded together in small compass and may be conveniently stored upon the traction-engine when not in use. When the traction-engine arrives at a bridge which is not considered absolutely safe, the operator dismounts, extends the steering apparatus, and connects the same with the steering-wheel of the engine. He then proceeds to the rear end of the steering apparatus, which, as stated, may be of any desired length, when by means of the hand-wheel 24 he may manipulate the steering-gear so as to conduct and guide the engine across the bridge. If the latter should prove to be unsafe and should collapse under the strain, the operator will be out of the range of danger.

Having thus described the invention, what is claimed is—

1. The combination with the hand steering-wheel of a road-engine, of an auxiliary steering device including a steering-rod, a hand-wheel at one end of said rod, and means for detachably connecting the other end of said rod with the hand steering-wheel of the engine.

2. A steering device for road-engines including a jointed and collapsible steering-rod composed of a plurality of members, means for securing said rod in extended position, a hand-wheel at one end of said rod, and means for

connecting the other end of said rod with the steering-wheel of the engine.

3. A steering device for traction-engines including an extensible rod having a hand-wheel at one end and provided at its other end with means for connecting said rod with the steering-wheel of an engine, said connecting means being connected for universal movement with relation to said rod.

4. A steering device for traction-engines including a steering-rod, a cross-bar, means for clamping said cross-bar upon the steering-wheel of an engine, and flexible connecting means between said cross-bar and the steering-rod.

5. A steering device for traction-engines including an extensible and collapsible steering rod or member having a hand-wheel at one end and bifurcated at its opposite end, a clamping member adapted to be detachably connected with the steering-wheel of a traction-engine, a yoke upon said clamping member, and a plate pivoted in the bifurcated end of the steering-rod and having trunnions pivotally engaging the arms of said yoke.

6. A steering-wheel, a cross-bar provided with means for detachable connection with said steering-wheel, a yoke upon said cross-bar, and an extensible and collapsible steering-rod having a hand-wheel at one end and connected at its other end for universal movement with the said yoke.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CLAY NUDD.

Witnesses:

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