

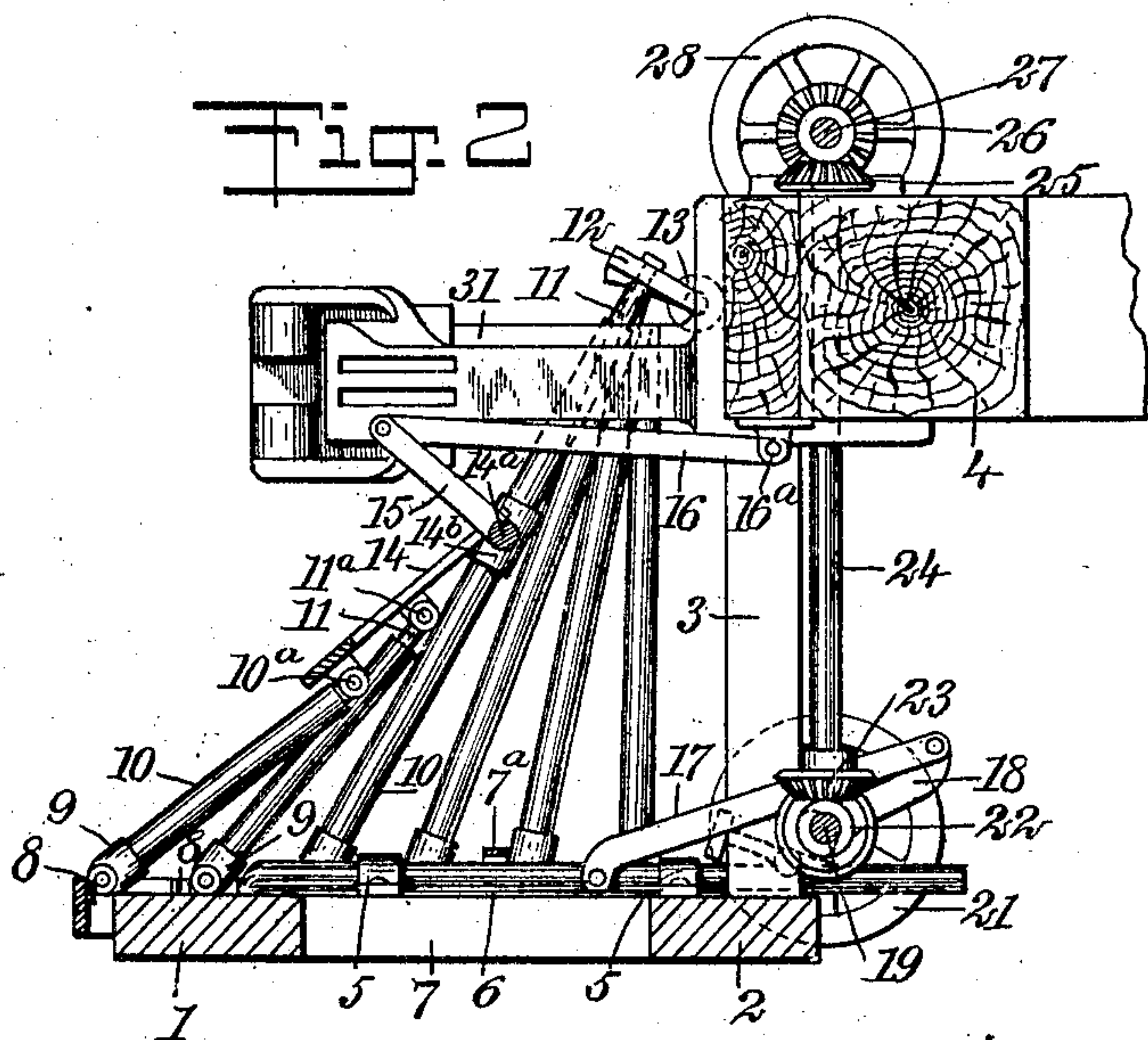
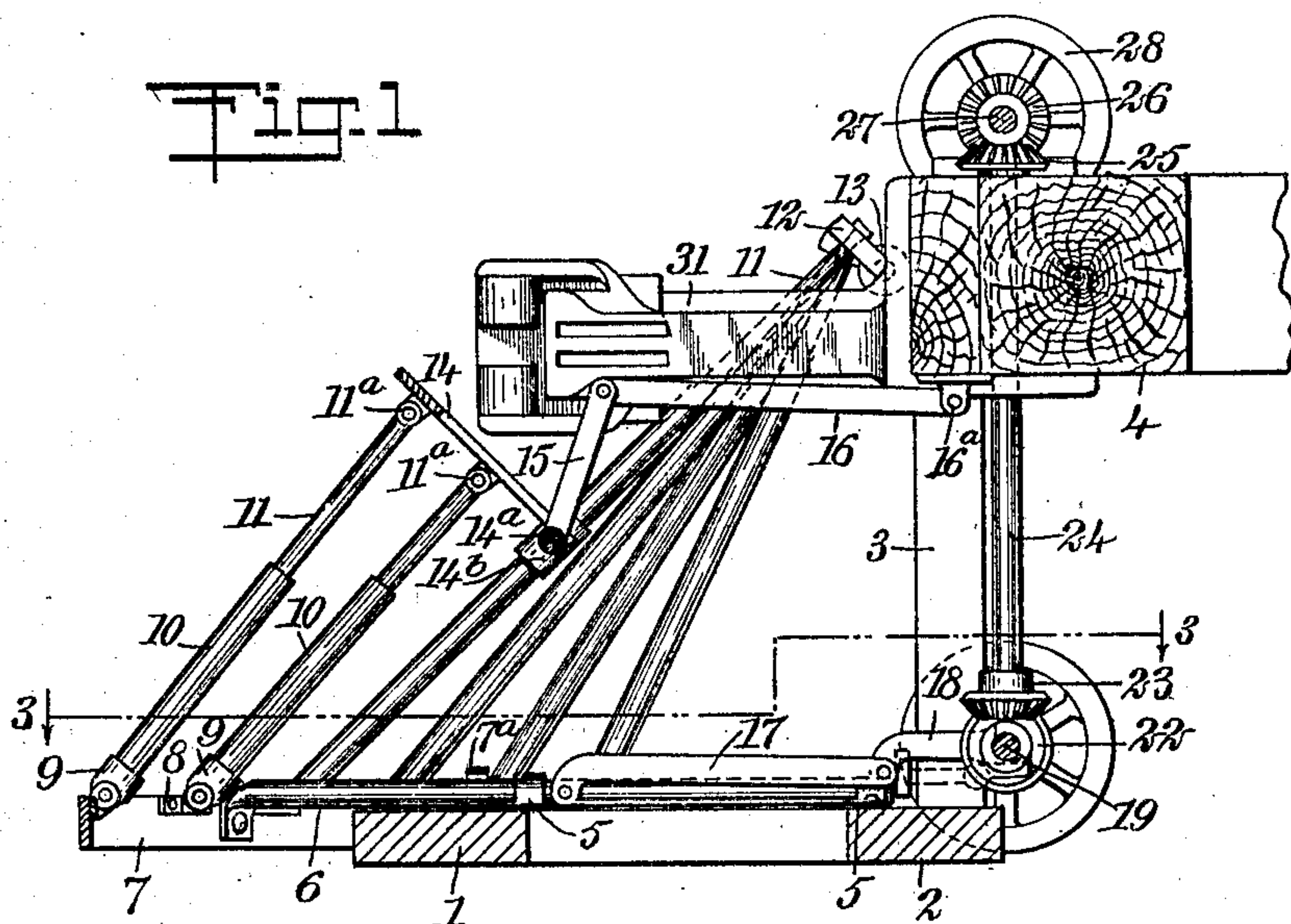
No. 860,374.

PATENTED JULY 16, 1907.

B. T. HAMILTON.
LOCOMOTIVE PILOT.

APPLICATION FILED NOV. 21, 1906.

2 SHEETS—SHEET 1.



WITNESSES

F. D. Sweet.
R. W. Hardie

INVENTOR

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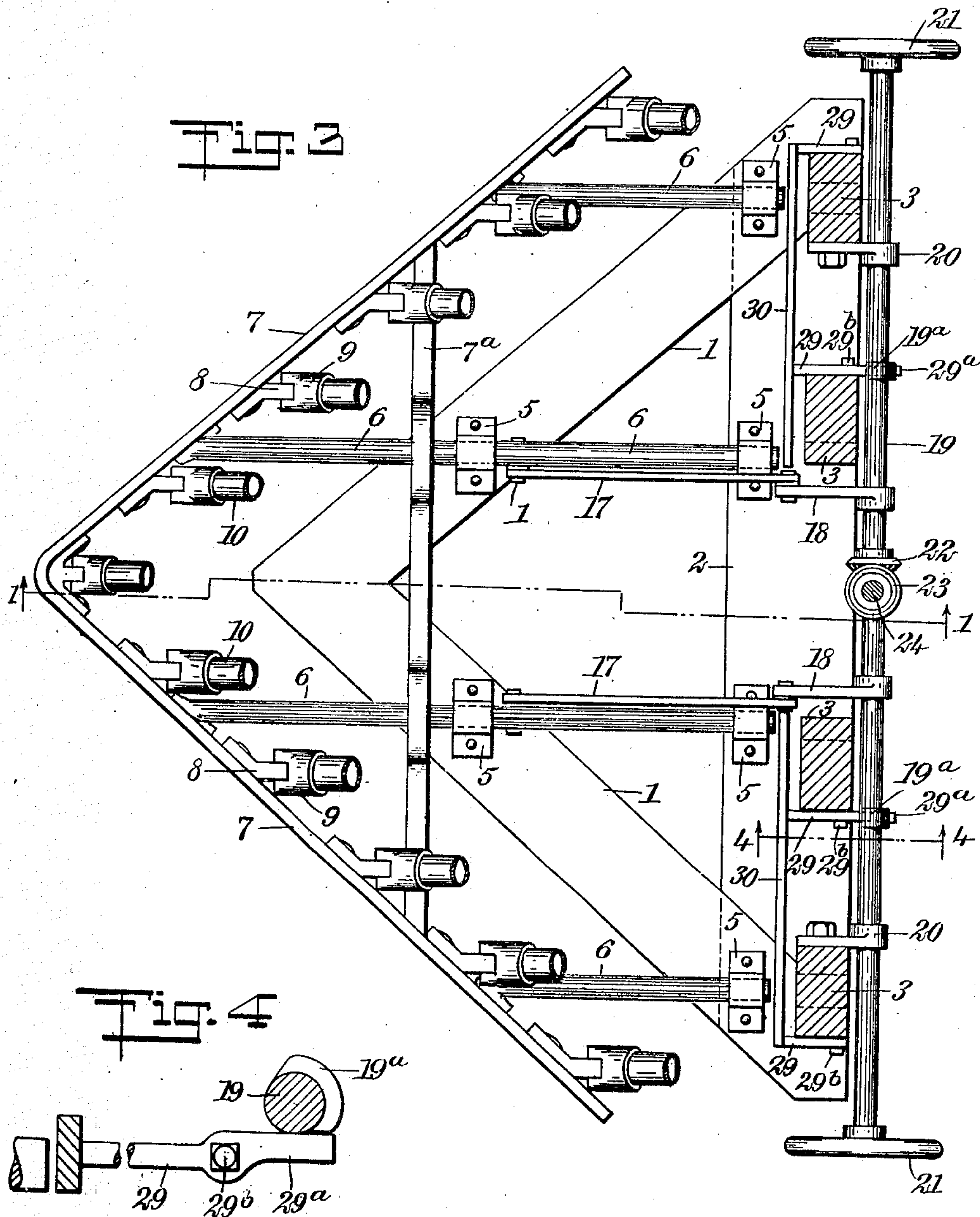
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UNITED STATES PATENT OFFICE.

BENJAMIN TOLIVER HAMILTON, OF FORT SMITH, ARKANSAS.

LOCOMOTIVE-PILOT.

No. 860,374.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed November 21, 1906. Serial No. 344,396.

To all whom it may concern:

Be it known that I, BENJAMIN TOLIVER HAMILTON, a citizen of the United States, and a resident of Fort Smith, in the county of Sebastian and State of Arkansas, have invented a new and Improved Locomotive-Pilot, of which the following is a full, clear, and exact description.

This invention relates to pilots designed to be used on engines for switching cars. Engines of this character are provided on their forward ends with draw-beams by means of which the end is coupled on to a train of cars. The draw-beam extends outwardly from the frame of the engine to such an extent that engines of this character are used with no pilot, or if a pilot is used it is so constructed as not to project far enough in advance of the draw-beam to interfere with coupling the engine to a car. This leaves the draw-beam projecting outwardly beyond the pilot to such an extent that live stock struck by the pilot frequently become lodged under the projecting draw-beam and fall off the pilot on to the track, thereby frequently causing accidents to a train.

My invention has for its object, therefore, to provide a pilot adapted to remove obstacles and live stock from the path of the train when used for road service, and to be adjusted relatively to the draw beam so as not to interfere with the coupling of the cars to the forward end of the engine when used for switching purposes. Such objects I accomplish by the means illustrated in the accompanying drawings, in which drawings like characters of reference indicate like parts throughout the views, and in which

Figure 1 is a vertical section on the line 1—1 of Fig. 3, of a pilot embodying my invention attached to the pilot beam of an engine, showing the pilot arranged for road service; Fig. 2 is a sectional elevation of the pilot shown in Fig. 1, arranged for switching purposes; Fig. 3 is a horizontal section of the lower portion of the pilot taken on the line 3—3 of Fig. 1; and Fig. 4 is a transverse vertical section of an operating bar and stop mechanism, taken on the line 4—4 of Fig. 3.

As illustrated in the drawings, the main frame of the pilot is mounted upon an auxiliary frame comprising converging side beams 1, secured at one end to a transverse beam 2. The transverse beam 2 is mounted upon hangers 3 which are secured at their upper ends to a pilot beam 4, attached to the main frame of the engine. Bearing boxes 5 are secured to the side beams and cross beam of the auxiliary frame, adapted to receive guide-rods 6 which are rigidly secured at their forward ends to converging side beams 7 of the main frame of the pilot. Lugs 8 are secured to the side beams 7 of the main frame, and are pivotally connected with heads 9 having sectional slats secured thereto. The sectional slats are comprised of socket members

10, connected with the heads 9, and bar members 11, having a telescoping connection with the socket members 10.

The bar members of the outer or side slats of the pilot are connected with a transverse bar 12 which has a limited rocking movement on the pilot beam 4 by means of eyes 13, having a loose jointed connection with said beam. The bar member of the central slat of the pilot and one or more slats arranged on each side thereof, are pivoted at their upper ends 11^a to a V-shaped frame 14 having its ends pivotally connected in any suitable manner with two of the side slats of the pilot preferably by means of pins 14^a secured to sleeves 14^b mounted upon said slats. A link 15 is rigidly secured to the frame 14, the upper end whereof is pivotally attached to a forwardly extending arm or bracket 16 which is connected with the pilot beam 4 in any suitable manner, preferably by means of a pivot pin 16^a. The lower side beams 7 of the main frame are connected with a transverse bar 7^a adapted to serve as a brace and hold said beams in their proper position. Links 17 are pivotally connected with the central guide bars 6 at one end, and their opposite ends are pivoted to cranks 18 which are rigidly secured to a transverse shaft 19 journaled in suitable bearings 20 attached to the hangers 3 of the auxiliary frame.

The shaft 19 is provided on each end with a hand wheel 21, and at its central portion with a bevel gear 22 which meshes with a corresponding gear 23 attached to a vertical shaft 24. The shaft 24 is provided on its upper end also with a bevel gear 25 which meshes with a corresponding gear 26 rigidly secured to a shaft 27, which is provided on its end with a hand wheel 28. The shaft 19 is also provided with cam surfaces 19^a, shown in Fig. 4, adapted to bear against the projecting ends 29^a of bars 29, which are pivoted to hangers 3 of the auxiliary frame by means of pivot pins 29^b. The arms 29 support on their forward ends transverse bars 30 extending transversely of the ends of the guide bars 6, and adapted to operate as stops to prevent backward movement of said bars and the main frame of the pilot connected therewith. When the transverse bars or stops 30 are arranged back of the guide bars 6, as shown in Fig. 3, the main frame of the pilot is projected forward to its full extent, as shown in Fig. 1, and adapted for road service. When so arranged the upper ends of the central slats are inclined upward in advance of the end of the draw-beam 31, so that if live stock or other obstacles are struck while the car is in motion they will be thrown from the track, instead of becoming lodged under the projecting end of the draw beam, as is common with the construction now in use. When the engine is to be used for switching purposes, however, and is

to be coupled at its forward end to a car, the main frame of the pilot is drawn backward on the auxiliary frame into the position shown in Fig. 2, thereby enabling the draw beam to be readily coupled to a car
 5 without interfering with the pilot. Such backward movement of the pilot is accomplished by rotating the transverse shaft 19 by means of either the upper hand wheel 28 or lower hand wheels 21. As the shaft 19 is rotated in its bearings the cams 19^a secured to
 10 said shaft bear against the projecting ends 29^a of the arms 29, depressing said ends and raising the arms 29 and the transverse bars 30 secured thereto, so as to clear the way for the backward movement of the pilot bars 6 supporting the main frame of the pilot. As
 15 the rotation of the shaft 19 is continued the cranks 18 are raised, lifting the rear ends of the links 17 upward and drawing said links backward bodily into the position indicated in Fig. 2, thereby carrying with said links the guide bars 6 attached to the main frame of
 20 the pilot. When the rotary motion of the shaft 19 is reversed, the side bars 6 are moved bodily forward by means of the connecting links 17 and cranks 18, and the transverse bars 30 drop downward back of the rear ends of the guide bars 6, and prevent a back-
 25 ward movement of said guide bars and the main frame of the pilot.

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

- 30 1. A locomotive pilot provided with sectional slats pivoted at their lower ends to converging beams, and at their upper ends to a pivot bar.
2. A locomotive pilot provided with an expansible frame, and central slats shorter than the side slats and adapted to extend in line with the end of a draw beam.
- 35 3. A locomotive pilot having central slats shorter than their adjacent side slats, and pivoted at their upper end to a frame mounted to rock on the adjacent side slats.
4. A locomotive pilot comprising an auxiliary frame, a main frame, slats pivoted at their lower ends to the main frame, and means for sliding the main frame on the aux-
 40 iliary frame.
5. A locomotive pilot having converging side bars, and vertically inclined telescoping slats pivoted to said side bars.

6. A locomotive pilot having converging side bars, and 45 vertically collapsible slats pivoted to said side bars.

7. A locomotive pilot having converging side bars, a collapsible frame comprising vertically inclined collapsible slats, having vertically inclined collapsible central slats extending from the converging ends of the side bars. 50

8. A locomotive pilot comprising an auxiliary frame and converging side bars having vertically inclined telescoping slats pivoted thereto, adapted to move backward and forward on the auxiliary frame.

9. A locomotive pilot having horizontally inclined side 55 bars, vertically inclined telescoping slats pivotally connected with said side bars, an auxiliary frame, and means adapted to move the pilot backward and forward in said auxiliary frame.

10. A locomotive pilot comprising an auxiliary frame, a 60 main frame movable backward and forward in the auxiliary frame, and comprising horizontally inclined side bars, vertically inclined telescoping slats connected therewith, guide bars connected with the auxiliary frame, and stops adapted to limit the backward movement of the main 65 frame on the auxiliary frame.

11. A locomotive pilot having an auxiliary frame, and a main frame comprising horizontally inclined side bars and vertically inclined telescoping slats pivoted to said side bars, mechanism adapted to move said main frame on 70 the auxiliary frame, stops adapted to limit the backward movement on the main frame, and mechanism adapted to release said stops in advance of the backward movement of the main frame.

12. A locomotive pilot having horizontally inclined side 75 bars, vertically inclined side slats attached to said bars, and telescoping slats connected with the converging ends of said side bars adapted to be operated independently of the side slats.

13. The combination with a draw beam, of a pilot hav- 80 ing horizontally inclined side bars, side slats extending vertically from said side slats on opposite sides of said draw beam, and central slats shorter in length than the side slats pivotally attached to the converging ends of said side bars, and adapted to be arranged at their upper 85 ends in line with the ends of said draw beam, or be depressed beneath said beam so as to enable the draw beam to project beyond the pilot.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 90

BENJAMIN TOLIVER HAMILTON.

Witnesses:

M. C. REIS,

A. C. CUNKLE.