No. 734,055. PATENTED JULY 21, 1903.

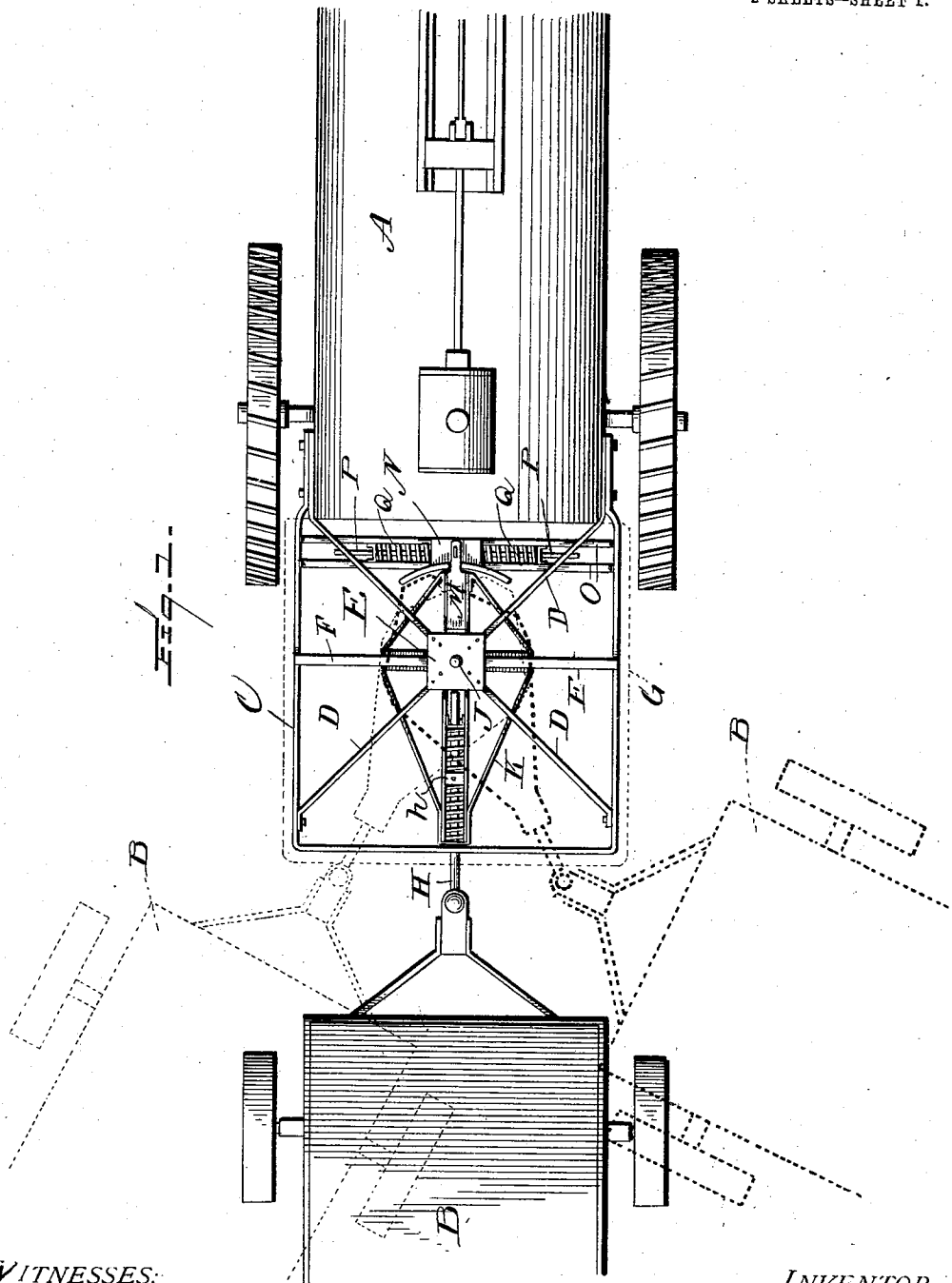
D. R. GARDINER.

TRACTION ENGINE PLATFORM.

APPLICATION FILED MAY 18, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 2.



WITNESSES:

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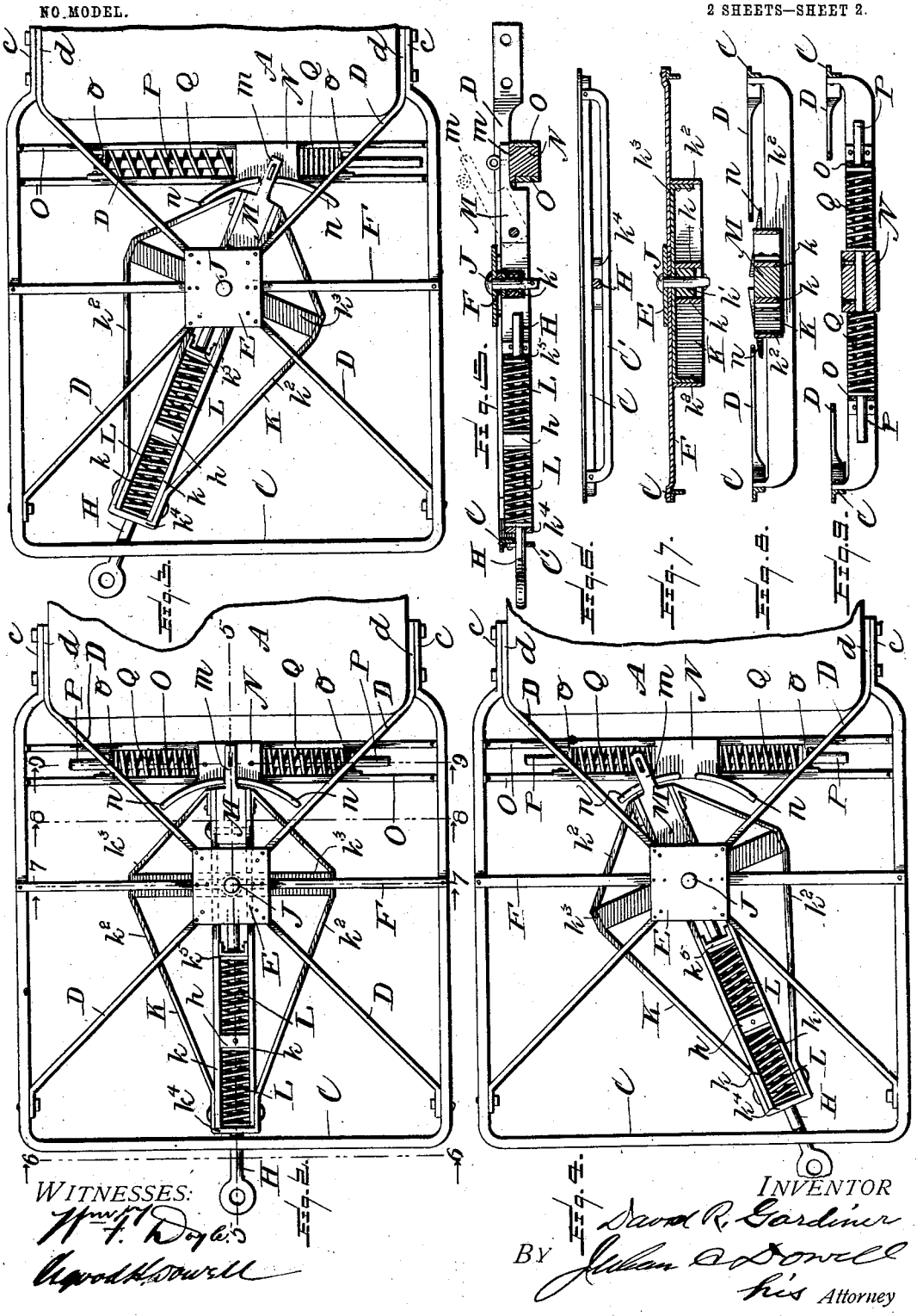
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No. 734,055. Patented July 21, 1903.

UNITED STATES PATENT OFFICE.

DAVID RICHARD GARDINER, OF NEEPAWA, CANADA.

TRACTION-ENGINE PLATFORM.

SPECIFICATION forming part of Letters Patent No. 734,055, dated July 21, 1903.

Application filed May 18, 1903. Serial No. 157,718. (No model.)

To all whom it may concern:

Be it known that I, DAVID RICHARD GARDINER, a citizen of Canada, residing at Neepawa, in the county of Neepawa and Province of Manitoba, Canada, have invented certain new and useful Improvements in Traction-Engine Platforms; 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.

This invention relates to platforms for traction-engines; and the principal objects are, first, to provide a strong and durable platform-frame with efficient draft devices for coupling with a grain-separator or other machine or vehicle to be drawn by the engine, the construction being such as to avoid severe twisting strains on the platform or its attachment to the boiler or fire-box when the engine is turning or taking a side pull on the separator, and, second, to provide means for cushioning the draw-bar against sudden lateral movements, thus saving both the engine and separator or other machine drawn thereby from severe strains and damaging blows when traveling over rough ground or crossing culverts and at the same time to allow for readily coupling or uncoupling the draw-bar with the tongue of the grain-separator or other machine when the latter is standing at an angle or out of direct line with the traction-engine.

With these and other minor objects in view my invention will hereinafter be first fully described with reference to the accompanying drawings, which form a part of this specification, and then more particularly pointed out in the appended claims.

In said drawings, Figure 1 is a top plan view of the rear portion of a traction-engine having a platform-frame and draft appliances embodying my invention attached thereto and the front part of a grain-separator coupled with the draw-bar, the floor or covering of said platform-frame being represented in dotted lines and two different positions of the separator off the direct line of draft or at an angle to the engine also being indicated by dotted lines. Fig. 2 is a top plan view of the platform-frame and accompanying draft devices, showing the draw-bar in central or normal position and connected or in engagement with the lateral buffer-springs at the forward portion of the platform which cushion said draw-bar against sudden lateral movements. Fig. 3 is a similar view showing the draw-bar at an angle and compressing one of said springs as when the engine is taking a side pull on the separator. Fig. 4 is a similar view showing the draw-bar disconnected from said lateral buffer-springs and turned at an angle for convenience in coupling to the separator when standing oblique to the engine or off the direct line. Fig. 5 is a longitudinal vertical section of the platform-frame on line 5 5 of Fig. 2; and Figs. 6, 7, 8, and 9 are transverse vertical sections on lines 6 6, 7 7, 8 8, and 9 9, respectively, of Fig. 2.

Referring to the drawings, in which corresponding parts in the different figures are indicated by the same letters of reference, A designates the rear portion of a traction-engine, and B the front portion of a grain-separator, both of which parts are of ordinary construction and are conventionally represented for the purpose of illustrating an application of the invention.

The platform-frame comprises in the main an outer member C, consisting, preferably, of a single beam bent into U-shaped or other suitable form and diagonal cross-beams or stays D D, the outer ends of which are secured to said member C, while their central portions are riveted to a plate E or otherwise rigidly connected at the middle of the frame. The front ends *d d* of the diagonal cross-beams D are preferably bent forwardly and brought together with the front ends of the beam or member C, both of which are bolted or otherwise rigidly secured to the sides of the fire-box or boiler of the engine. One or more additional stays or braces, as F, may also be employed to increase the strength and rigidity of the construction. A suitable flooring or covering may be placed upon said platform-frame, the outer edge or margin of such a flooring being indicated by dotted lines and designated by the letter G in Fig. 1.

The letter H denotes the draw-bar for coup-

ling with the grain-separator or other machine or vehicle to be drawn by the traction-engine. Said draw-bar projects through a horizontal slot at the rear of the platform formed between the beam C and a lower beam C', secured thereto, as shown in Fig. 6. The draw-bar is carried by a frame K, pivoted at the junction of the diagonal stays or cross-beams D D by means of a pin or king-bolt J. Said frame K consists of a pair of parallel straight bars k, between which is secured the bearing-block k', through which the king-bolt is inserted, and lateral bent or truss-like strengthening members k^2, with interposed struts or braces k^3. The draw-bar is slidably fitted in suitable guides k^4 and k^5, rigidly secured between the bars k, and is formed or provided with an intermediate cross-head h, between which and said guides stout spiral compression-springs L L are arranged, said springs serving as buffers to prevent sudden or violent pull or thrust upon the platform or engine.

It will be observed that the construction of the platform-frame is such that the strain of a heavy side draft is transmitted along an almost direct line through the draw-bar, king-bolt, and one of the diagonal stays or cross-beams D, thus avoiding severe twisting strains on the platform or its attachment to the fire-box or boiler when the engine is turning or taking an oblique pull on the separator.

Fitted between the front ends of the bars k is a pivoted locking-piece M, having a forward lug or projection m, adapted to engage a transversely-slidable block N. As a means for such engagement said block is preferably formed or provided with a pair of laterally-extending narrow ribs or wings n, between the inner rounded ends of which the said lug m of the locking-piece is adapted to lie, this arrangement permitting movement of the frame K and block N when the locking-piece and said block are connected. The ribs or wings n are shown arc-shaped, being preferably described from the king-bolt L as a center, so as to receive lengthwise the lateral thrust exerted against them when the draw-bar frame K is turned. The block N is preferably slidably fitted between a pair of transverse bars O, the opposite ends of which are secured to the side portions of the platform-frame, and said block is also mounted upon a rod P, inserted through suitable guides o, rigidly secured between the bars O. Stout spiral compression-springs Q are fitted around the rod P between said guides o and the block N, whereby when the locking-piece M is engaged with said block the frame K can turn only against resistance of said springs, as shown in Fig. 3. The springs Q thus serve to cushion the draw-bar against lateral movements, and thereby save both the engine and separator from many sudden severe strains and blows. When it is necessary to couple the draw-bar with the separator or other machine off the direct line of draft or at an oblique relation to the engine, the locking-piece M may be raised and disengaged from the block N, as represented by dotted lines in Fig. 5, and the frame K may then be turned without resistance by the springs Q, as illustrated in Fig. 4.

It is obvious that the construction described is susceptible of various changes in detail and arrangement of parts without affecting the scope of the invention.

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

1. In a traction-engine platform, diagonal cross-beams rigidly connected at their junction and having their front ends secured to the engine, and a draft device coupled by a pin or king-bolt at the junction of said beams, substantially as described.

2. In a traction-engine platform, an outer U-shaped frame member, and diagonal cross beams or stays rigidly connected at their junction, the front ends of said outer member and cross-beams being secured to the engine, and a draft device coupled by a pin or king-bolt at the junction of said cross-beams, substantially as described.

3. In a traction-engine platform, a pivoted or swinging draw-bar frame consisting of a pair of bars between which the draw-bar is suitably supported, a bearing-block secured between said bars to receive the pivot-pin, and lateral truss-like strengthening members, substantially as described.

4. In a traction-engine platform, a pivoted or swinging draw-bar frame consisting of a pair of bars between which the draw-bar is suitably supported, a bearing-block secured between said bars to receive the pivot-pin, and lateral truss-like strengthening members, and interposed struts or braces, substantially as described.

5. In combination with a draw-bar, laterally-disposed buffer-springs adapted to cushion said bar, and means for connecting and disconnecting said bar and springs, substantially as described.

6. In a traction-engine platform, the combination with a horizontally-swinging draft device, of laterally-disposed oppositely-acting compression-springs connected therewith and adapted to cushion said draft device against lateral movement, substantially as described.

7. In a traction-engine platform, a pivoted or swinging draft device, a locking-piece carried thereby, and oppositely-acting springs adapted to be engaged or disengaged by said locking-piece, substantially as described.

8. In a traction-engine platform, a pivoted or swinging draft device, a locking-piece carried thereby, a transversely-movable block adapted to be engaged or disengaged by said locking-piece, and buffer-springs acting on

opposite sides of said block, substantially as described.

9. In a traction-engine platform, a pivoted or swinging draft device, a locking-piece carried thereby, a transversely-movable block having a pair of ribs or wings thereon between which said locking-piece is adapted to lie to connect the draft device with said block, and buffer-springs acting on opposite sides of said block, substantially as described.

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

DAVID RICHARD GARDINER.

Witnesses:

DELBERT THURSTON,

J. J. HAMILTON.