2 Sheets--Sheet 1.

R. C. PARVIN.

Improvement in Traction Engine.

No. 122,849. Patented Jan. 16, 1872.

Fig 1

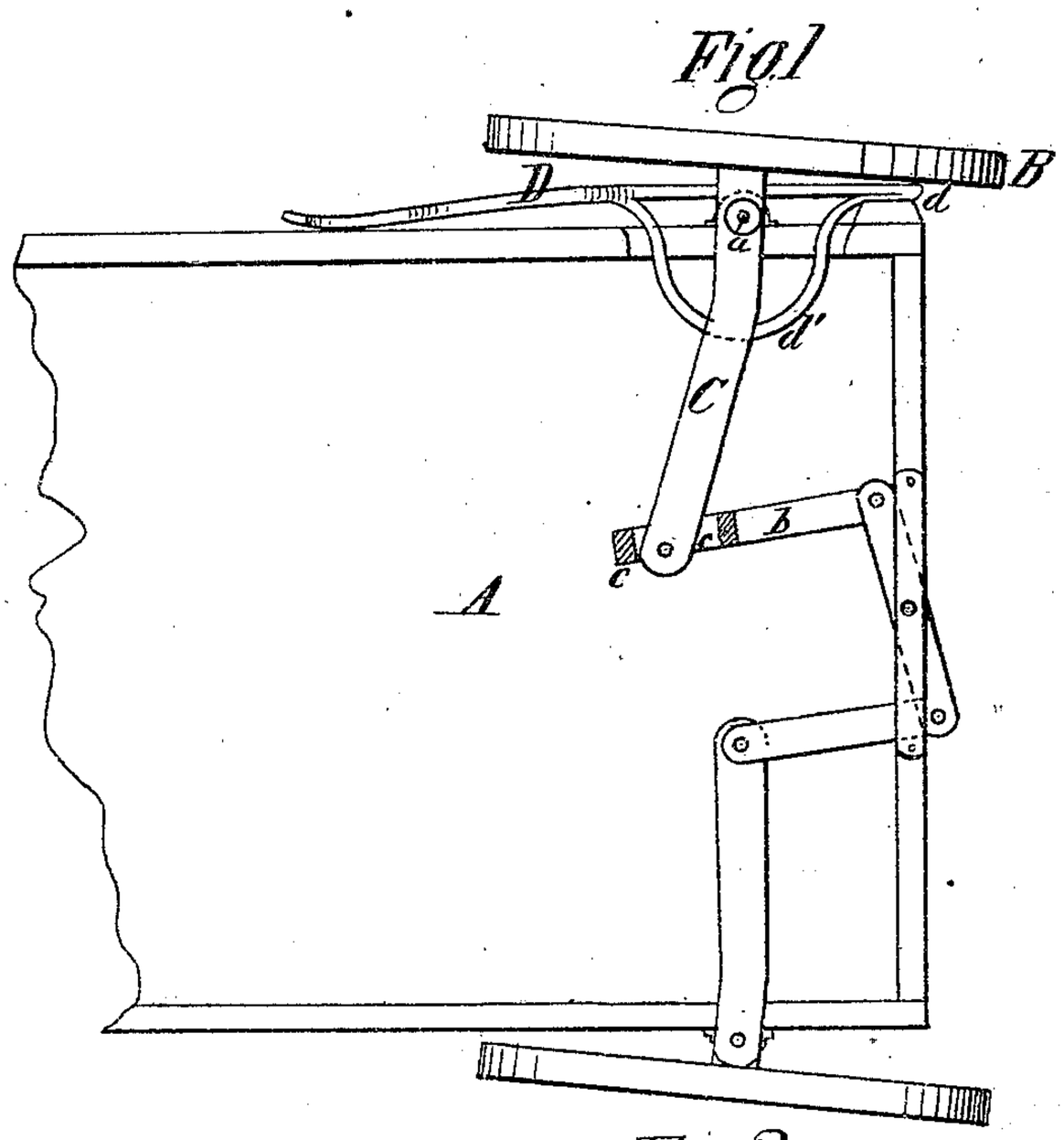

Fig 2

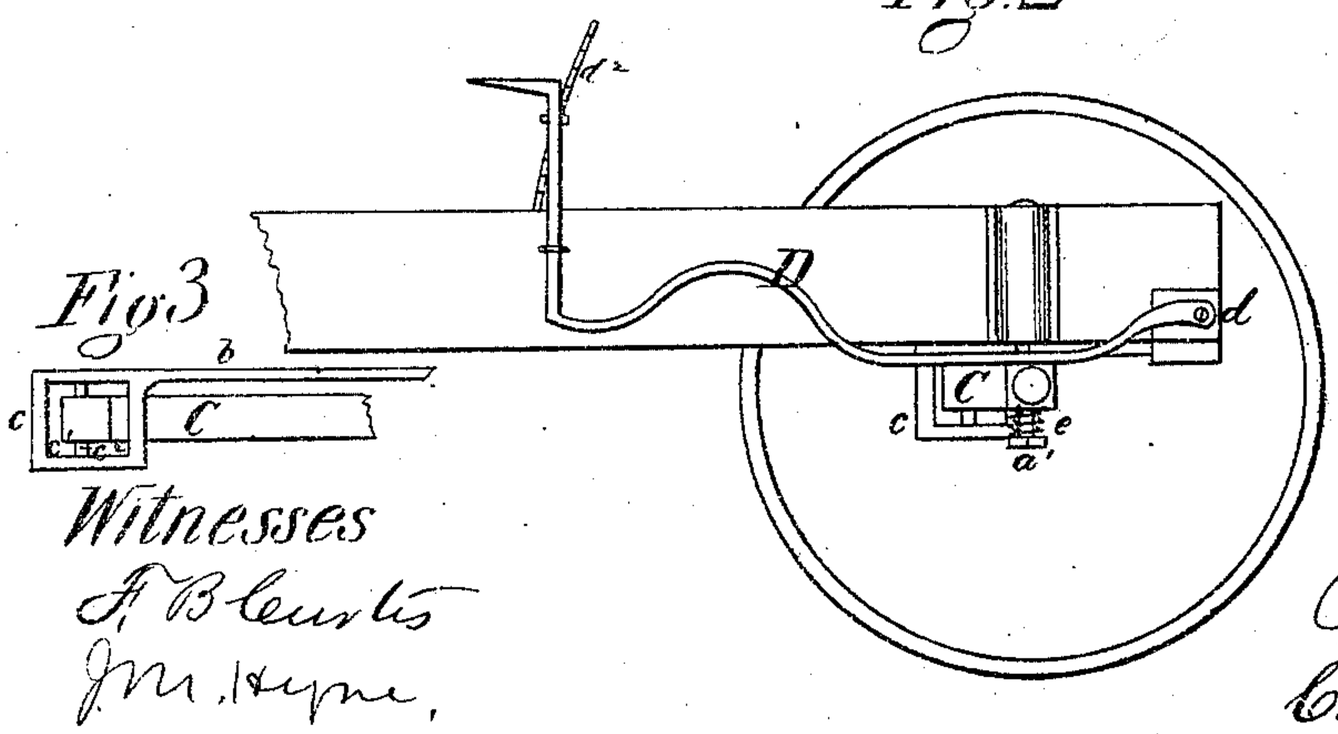

Fig 3

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2 Sheets--Sheet 2.

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Improvement in Traction Engine.

No. 122,849. Patented Jan. 16, 1872.

Fig. 4

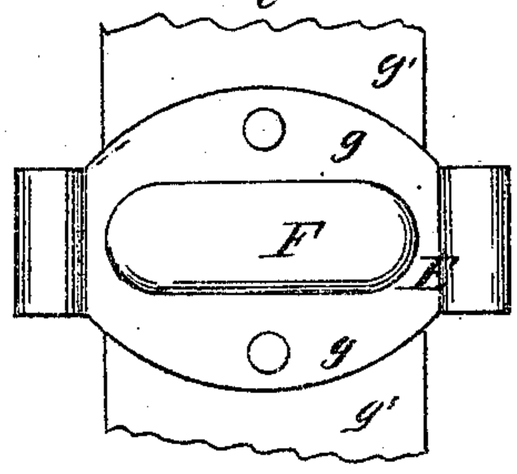
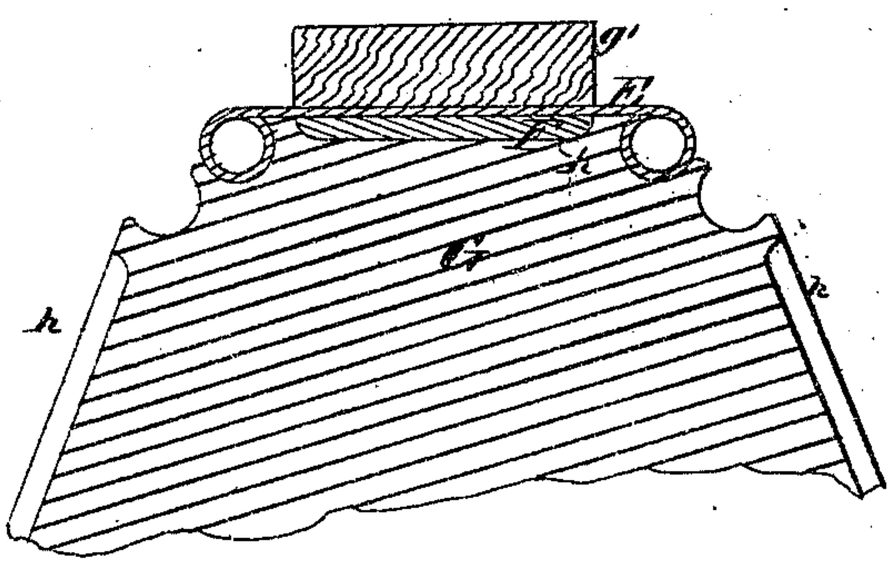


Fig. 5



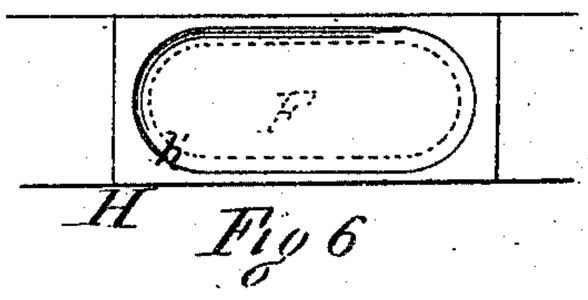


Fig. 6

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UNITED STATES PATENT OFFICE.

ROBERT C. PARVIN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN TRACTION-ENGINES.

Specification forming part of Letters Patent No. 122,849, dated January 16, 1872.

To all whom it may concern:

Be it known that I, ROBERT C. PARVIN, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and valuable Improvement in Traction-Engines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of my improved steering mechanism. Fig. 2 is a side view of the same. Fig. 3 is a detail view. Fig. 4 is a plan view of the long link, showing flanges and improved form of rib. Fig. 5 is a view of the front driving-wheels, showing the improved construction of recesses therein. Fig. 6 is a view showing construction of recess in hind driving-wheels.

My invention has reference to traction-engines, and particularly to that described in the Letters Patent granted me bearing date October 10, 1871. My improvements are fourfold; and consist, first, in an improved construction of the guiding mechanism, having reference to the arrangement hereinafter fully described, whereby I am enabled to raise and lower the right-hand wheel and axle of the engine as may be found necessary and convenient.

In Fig. 1 of the drawing, A represents the bed of the engine, and B the right-hand wheel mounted on the axle C, which is pivoted at a' to allow a backward and forward motion communicated from the guide-arm b. To allow a vertical motion of the axle, I extend the bolt a' any necessary length, say six inches, and I provide the guide-arm with a block, c, having a long slot, c^1, in which the axle moves. Through this block also passes a bolt, c^2, on which the axle slides, and by which it is kept in position. D shows a lever pivoted at d to the side of the car, having a curved brace, d^1. By means of this lever I am enabled to depress the axle any desired distance. The curved brace d^1 enables me to move the axle along its entire length, while the spring e on the bolt a', serves to keep the axle pressed closely up against the lever. A ratchet-bar, d^2, or other equivalent may be employed to hold the lever D at any desired position.

Secondly, in an improved construction of the "camel's-back," or ridge of the long link in the endless chain which carries the feet in the traction-engine referred to in my patent aforesaid. The object of this improvement is to reduce the friction on this ridge, by allowing a larger bearing surface in turning on the driving-wheel, as hereinafter described. When constructed according to the method exhibited in my patent referred to—that is to say, with outer corners, and of such shape that a cross-section would show a right-angled parallelogram—the friction in turning comes all on one corner. To obviate this, I now propose to construct the ridge with a rounded or oval surface, thus doing away with the corners and giving a larger bearing-surface on the ridge in turning the engine. By reference to the drawing this improvement will be fully understood. In Fig. 2, E shows the long link of the endless chain, and F the ridge, having a rounded upper surface.

Thirdly, in the addition of wings or flanges to the long links of the endless chain. This feature is very plainly shown in Fig. 2 of the drawing, in which g shows the wings, secured by suitable means to the shoe g'. The object of this improvement is to give a larger and stronger bearing on the shoe to the link E. In my patent already referred to, the link is constructed without wings, the consequence of which is that the bearing is so insecure that the shoe has to be connected to the endless chain at both ends as well as in the middle. But with my improved construction, by means of the wings I am enabled to do away with the end connections, thus doing away with a great number of joints, and lessening the expense of construction to a considerable extent.

Fourthly, in a novel construction of the recesses of the driving-wheels of the endless chain in my patent above mentioned. G and H in Fig. 3 of the drawing refer to these wheels, and h and h' the recesses therein. These recesses are designed for the reception of the ridge F already described. The first feature of this improvement consists in making the recesses of a shape to conform to the improved outline of the ridge F. In the front wheel G the recess h is made of such size that the ridge will fit snugly therein. In the rear wheel H,

while the ridge fits closely in the recess *h'* from end to end, this latter is made sufficiently wide, as shown, to allow a lateral movement of the rib therein. This I have found necessary in order to retain the rib in position in the recess in turning corners with the machine, as then the endless clain swings around considerably on the rear wheel.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The slotted guide-block *c*, substantially as shown and set forth.

2. The pivoted axle C when made vertically adjustable along its entire length.

3. The combination of the bolt *a'* with the axle C, when said bolt is so constructed and arranged as to allow the axle to both slide and turn thereon, as set forth.

4. In combination with axle C the lever D, provided with the curved brace d^1.

5. The ridge F, constructed substantially as shown and described.

6. The improved construction of the recesses *h* and *h'*, made to conform to the shape of the ridge, as and for the purpose described.

7. The recess *h'*, made as shown and described, to admit a lateral play of the ridge F, as set forth.

8. The link E constructed with wings *g*, as described and shown, for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

Witnesses: ROBERT C. PARVIN.

D. D. KANE,

F. B. CURTIS. (94)