A. J. PIERCE.

Horse-Powers.

No. 152,166. Patented June 16, 1874.

Fig. 1.

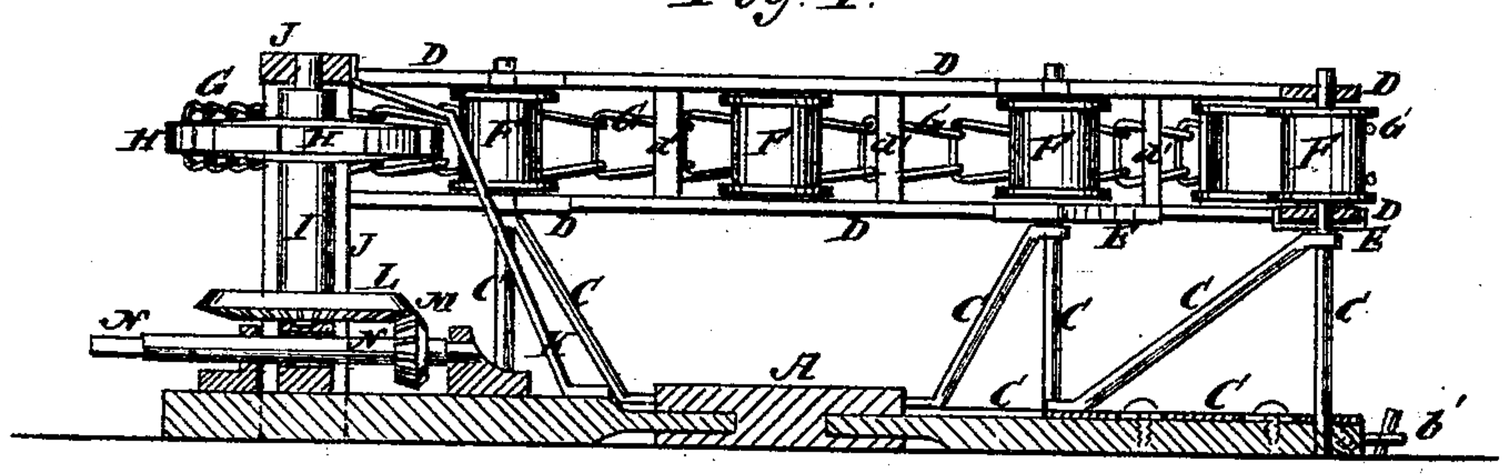
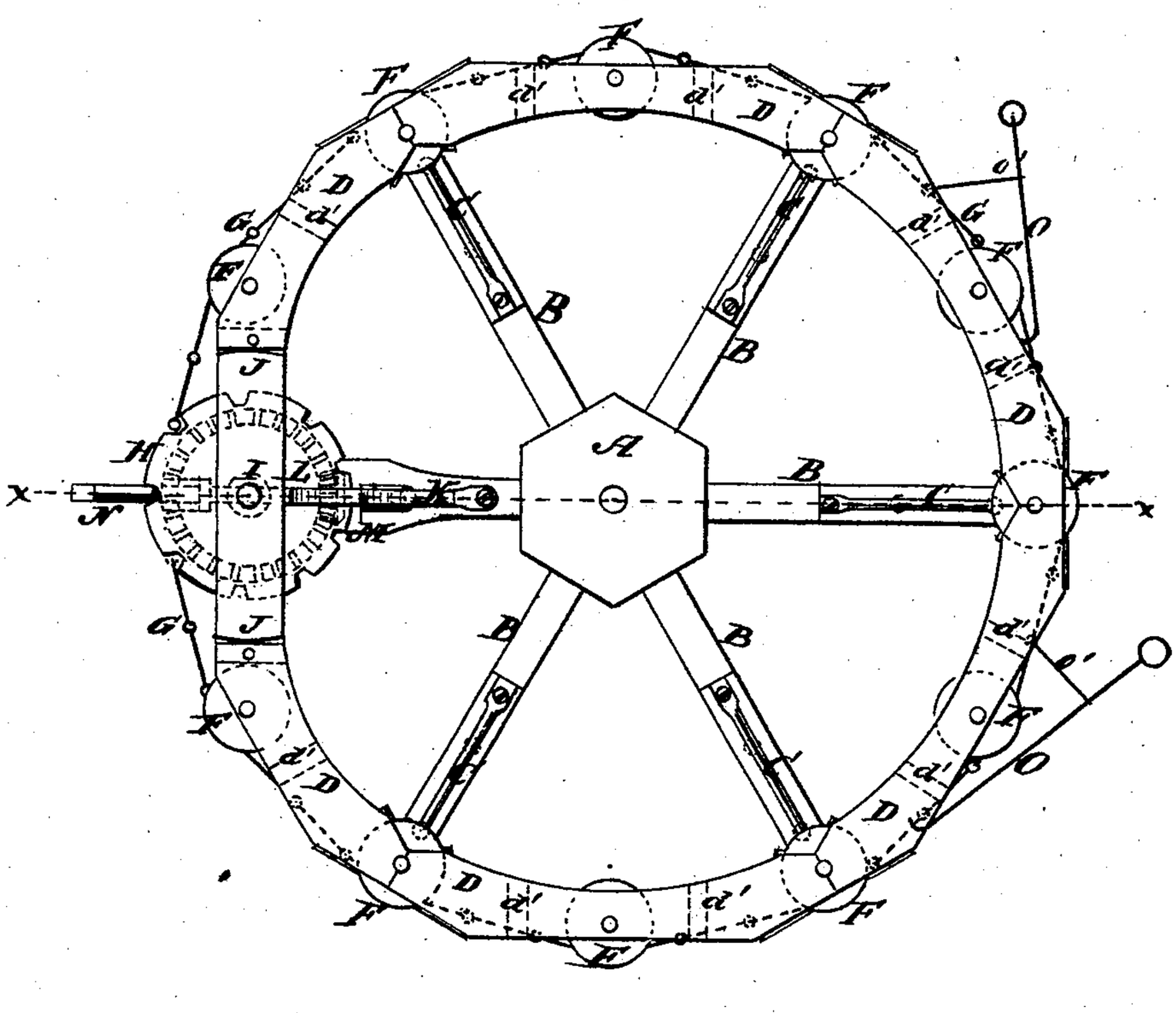


Fig. 2.



WITNESSES.

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ANDREW JACKSON PIERCE, OF CHERRYVALE, KANSAS.

IMPROVEMENT IN HORSE-POWERS.

Specification forming part of Letters Patent No. **152,166**, dated June 16, 1874; application filed May 23, 1874.

To all whom it may concern:

Be it known that I, ANDREW J. PIERCE, of Cherryvale, in the county of Montgomery and State of Kansas, have invented a new and useful Improvement in Horse-Power, of which the following is a specification:

Figure 1 is a vertical cross-section of my improved horse-power, taken through the line *x x*, Fig. 2. Fig. 2 is a top view of the same.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved horse-power, which shall be simple in construction and convenient in use, being so constructed that it can be conveniently taken down, set up, and carried from place to place, and which shall be strong, durable, and not liable to get out of order, and will allow as many horses to be attached to it as the work to be done may require.

The invention consists in the pulley-frame, made in sections, and provided with supporting-plates at their joints; in the combination of the center block, the radial sills, and the triangular adjustable frames, with the pulley-frames and pulleys; in the combination of the spur-wheel, the shaft, the gear-wheels, and the frame, with the tumbling-rod, the endless chain, and the sectional pulley-frame, as hereinafter fully described.

A represents a polygonal center block, which is staked or otherwise secured to the ground, and in the lower part of the sides of which are formed mortices or notches to receive the inner ends of the radial sills B, the outer ends of which are provided with loops *b'*, or other appliances, to enable them to be conveniently secured in place by stakes. C are metallic frames, made in the form of right-angled triangles, the base bars of which are made flat, and are slotted longitudinally to receive the bolts by which the said frames are secured to the sills B, so that by loosening the said bolts the frames C may be moved from or toward the center to tighten or slacken the endless chain. The upper part of the vertical bars of the frames C project above the upper ends of the inclined bars of said frames to serve as journals for the pulleys for the endless chain, and as posts to support the sections of the pulley-frame. D are the sections of the pulley-frame, any desired number of which may be used, and each of which consists of a top and bottom bar, connected by one or more short studs, *d'*. The ends of the top and bottom bars are beveled or inclined so that the sections may meet at an angle, and fit upon each other, and are notched to receive the projecting upper part of the vertical bars of the frame C. The adjacent ends of the sections D rest upon plates E, placed upon the projecting upper part of the vertical bars of the frames C, and which have their outer and inner side edges bent upward or flanged to fit upon the side edges of the adjacent ends of the bottom bars of the sections D. Similar plates may be placed above the ends of the sections D, and secured by keys passed through holes in the upper ends of the vertical bars of the frames D, if desired. F are flanged pulleys, one of which is placed upon the projecting upper end of the vertical bar of each of the frames C, between the ends of the top and bottom bars of two adjacent sections, D. To, and between the top and bottom bars of each section D are pivoted one or more of the pulleys F. G is an endless chain, which passes around the pulleys F, and is kept in place upon them by their flanges. The links of the chain G are so formed as to receive and fit upon the spurs of the spur-wheel H, attached to the vertical shaft I, the journals of which revolve in bearings in the top and bottom bars of the frame J, by which a portion of the pulley-frame D is replaced, and the base of which is securely staked to the ground. To the sides of the upper end of the frame J are attached brackets, to which the ends of the adjacent sections D are detachably secured by pins. The frame J is strengthened against inward draft by a brace, K. To the lower part of the vertical shaft I is attached a large bevel-gear wheel, L, the teeth of which mesh into the teeth of the small bevel-gear wheel M, attached to or formed upon the tumbling-rod N, which revolves in bearings in the base of the frame J, and from which motion is taken to the machinery to be driven. O are the draw-rods, the rear ends of which are attached to the endless chain G, and the forward ends of which are provided with loops, rings, or hooks for the convenient attachment of the draft. The

forward parts of the draw-rods O are connected with the chain G by short rods *o'* to prevent them from dropping down, and to keep the point of draft attachment at the proper distance from the chain G.

The upright frames C may be strengthened against lateral movement by inclined braces extending from the upper part of each frame to the lower part of the next frames. These braces are not shown in the drawings.

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

1. The pulley-frame, made in sections D, and provided with supporting-plates E at their joints, substantially as herein shown and described.

2. The combination of the center-block A, the radial sills B, and the triangular adjustable frames C, with the pulley-frames D and pulleys F, substantially as herein shown and described.

3. The combination of the spur-wheel H, shaft I, gear-wheels L M, and frame J, with the tumbling-rod N, endless chain G, and sectional pulley-frame D, substantially as herein shown and described.

ANDREW JACKSON PIERCE.

Witnesses:
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