

C. E. MACARTHY.  
Horse-Power

No. 206,592.

Patented July 30, 1878.

Fig. 1.

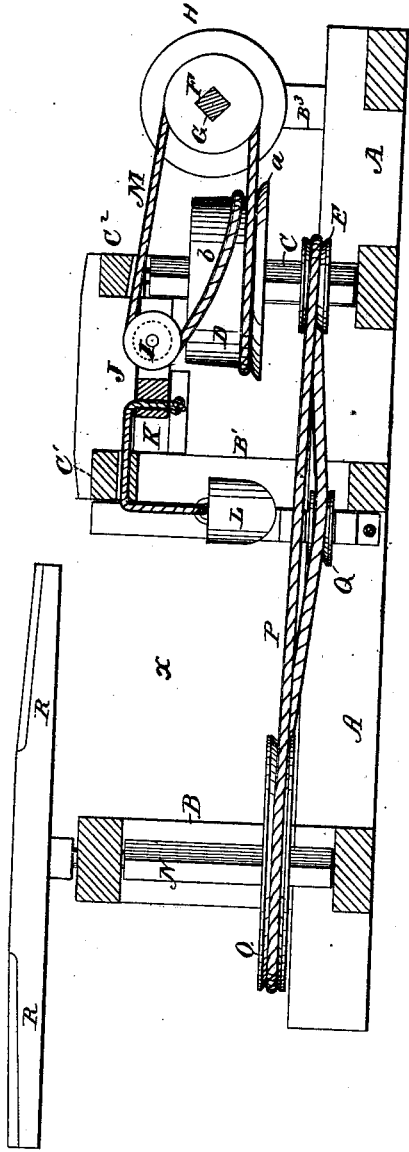
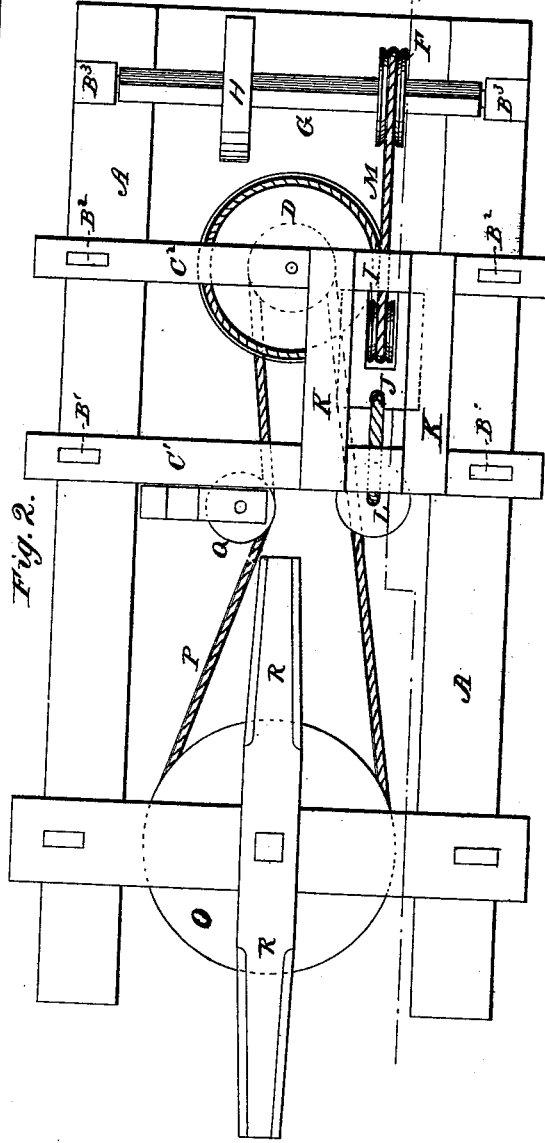


Fig. 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES E. MACARTHY, OF FORSYTH, GEORGIA.

## IMPROVEMENT IN HORSE-POWERS.

Specification forming part of Letters Patent No. **206,592**, dated July 30, 1878; application filed July 15, 1878.

*To all whom it may concern:*

Be it known that I, CHARLES E. MACARTHY, of Forsyth, in the county of Monroe and State of Georgia, have invented a new and Improved Horse-Power; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a vertical longitudinal section; Fig. 2, a plan view.

My invention relates to an improvement upon the horse-power for which Letters Patent were granted me March 26, 1878, in which an endless rope belt is distended around two pulleys in the same plane, and one side of said belt is wrapped once around a horizontal master-wheel at right angles to the said pulleys.

The invention consists in making said wheel with but one flange on its periphery, and said periphery beveled with a gradual taper from said flange, so that the portions of the belt extending from the same side of the wheel, instead of binding against each other, are separated, the portion near the smaller edge of the wheel being moved laterally from the plane of the other portion, so as to prevent any contact between the two.

The invention also consists in adapting the machine to use as a portable power, a second rope belt, with master-wheel, king-post, and lever-arms, being connected therewith, and located upon the same frame-work, sufficient space being left between this main wheel and the other parts to permit the team to pass between when moving round with the lever-arms, which space also affords a convenient place for carrying the thrasher and fan when the power is being transported, all as hereinafter more fully described.

In the drawing, A represents the base-frame of the horse-power, upon which are mounted vertical standards B B<sup>1</sup> B<sup>2</sup> B<sup>3</sup>. In a cross-bar of the base-frame is stepped a vertical shaft, C, the upper end of which is held in bearings in a cross-bar, C', connecting the upper ends of the standards B<sup>2</sup>. Upon this shaft is located a main wheel, D, and just below it a groove-pulley, E.

F is a speed-pulley, arranged at right angles

to the wheel D, upon a horizontal shaft, G, which shaft carries a band-pulley, H, for connection with the thrasher or other machine to be driven.

I is a tension-pulley, arranged in a sliding frame, J, moving from the action of a weight, L, or its equivalent, in horizontal guides K K, which are fixed upon the cross-bars B<sup>1</sup> B<sup>2</sup>. This tension-pulley I and the speed-pulley F are arranged in the same plane, and around the same is distended a rope belt, M, one side of which is wrapped entirely around the main wheel D, which is at right angles to F and I.

As so far described the arrangement of the belt, the two pulleys, and the main wheel does not differ substantially from that shown in my previous patent.

In improving this feature of the machine, I make the main wheel D with but a single flange, *a*, and with a beveled or tapering periphery, *b*. This construction I have found causes the two portions of the belt to separate, the portion next to the smaller edge moving laterally from the plane of the other. This, it will be seen, secures the benefit of a frictional contact between the rope and the wheel around the entire periphery of the same, and yet prevents the rope belt from binding against itself and wearing out.

In making the power portable, I locate in one end of the frame a vertical shaft, N, stepped in suitable bearings, and low down upon said shaft I fix a master-wheel, O, having in periphery of the same a V-groove. Around said wheel and the pulley E, I extend a second belt, P, whose tension is regulated by a tension-pulley, Q, hung upon a swinging frame. To the upper end of the shaft N are attached the lever-arms R, to which are connected draft attachments for the team. In arranging the master-wheel O with respect to the frame-work of the other part, sufficient space is left between, at *x*, to permit the passage of the team, and the belt is at this point bridged over by a flooring.

For transporting the power, as thus described, it may either be placed upon wagon-wheels or it may have permanent axles, turned to receive suitable wheels, while the space *x* affords a convenient place for carrying the thrasher and fan.

Having thus described my invention, what I claim as new is—

1. The combination, with two pulleys in the same plane, having a rope belt passing around the same, of a third wheel or pulley, having a single flange and a tapering periphery, the said wheel being arranged at right angles to the others and wrapped with the belt, substantially as described.

2. The combination of the frame-work A, the wheel D, having tension-pulley I and speed-pulley F, the endless rope belt M, and the

master-wheel O, with lever-arms, the latter located at a distance from the wheel D to give passage to the team, and connected with the shaft of said wheel by belt P and pulley E, substantially as and for the purpose described.

The above specification of my invention signed by me this 13th day of July, 1878.

C. E. MACARTHY.

Witnesses:

EDW. W. BYRN,

H. T. MATHEWS.