

O. HIMMELBERGER.  
Horse-Powers.

No. 152,993.

Patented July 14, 1874.

FIG. I.

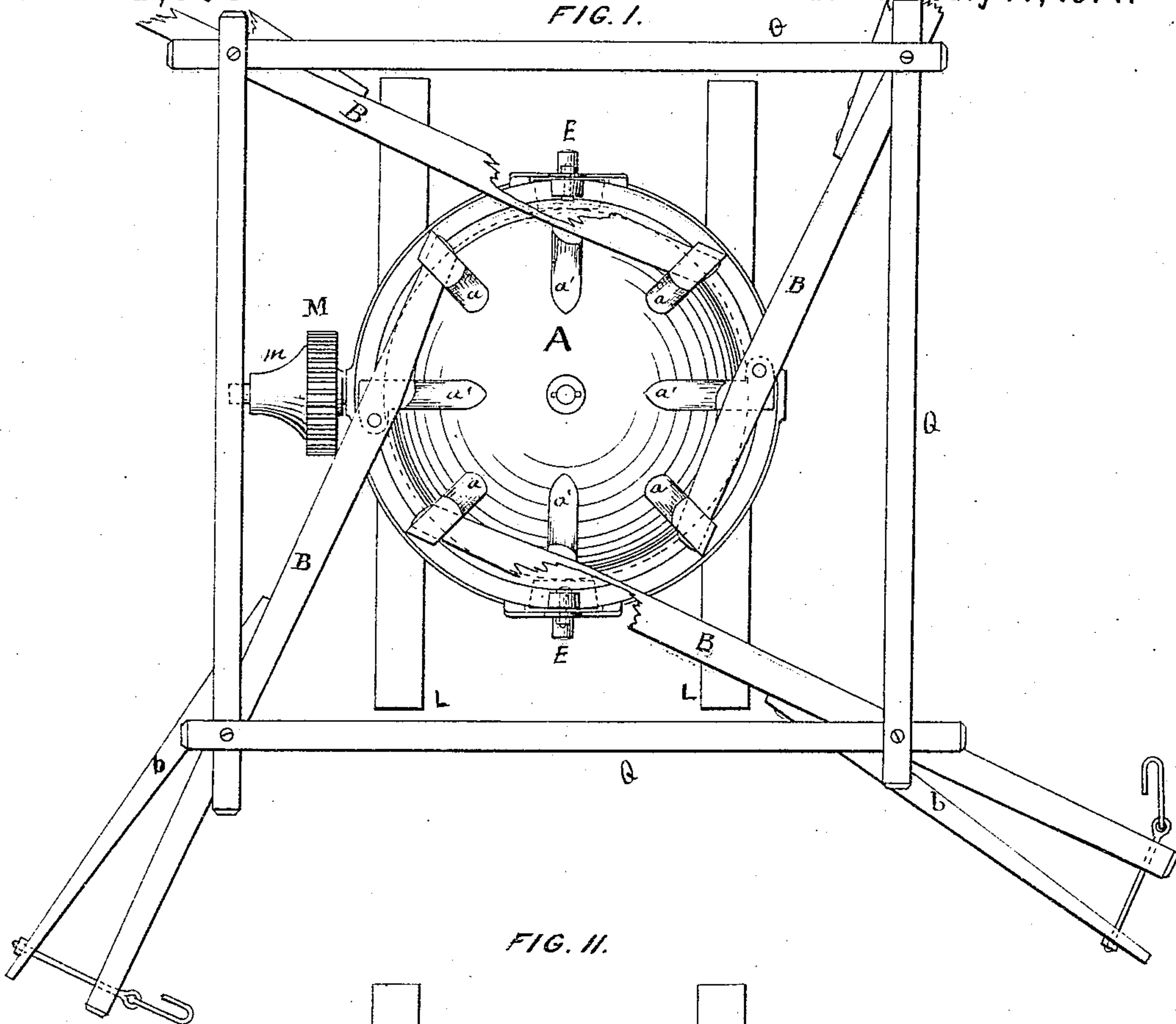
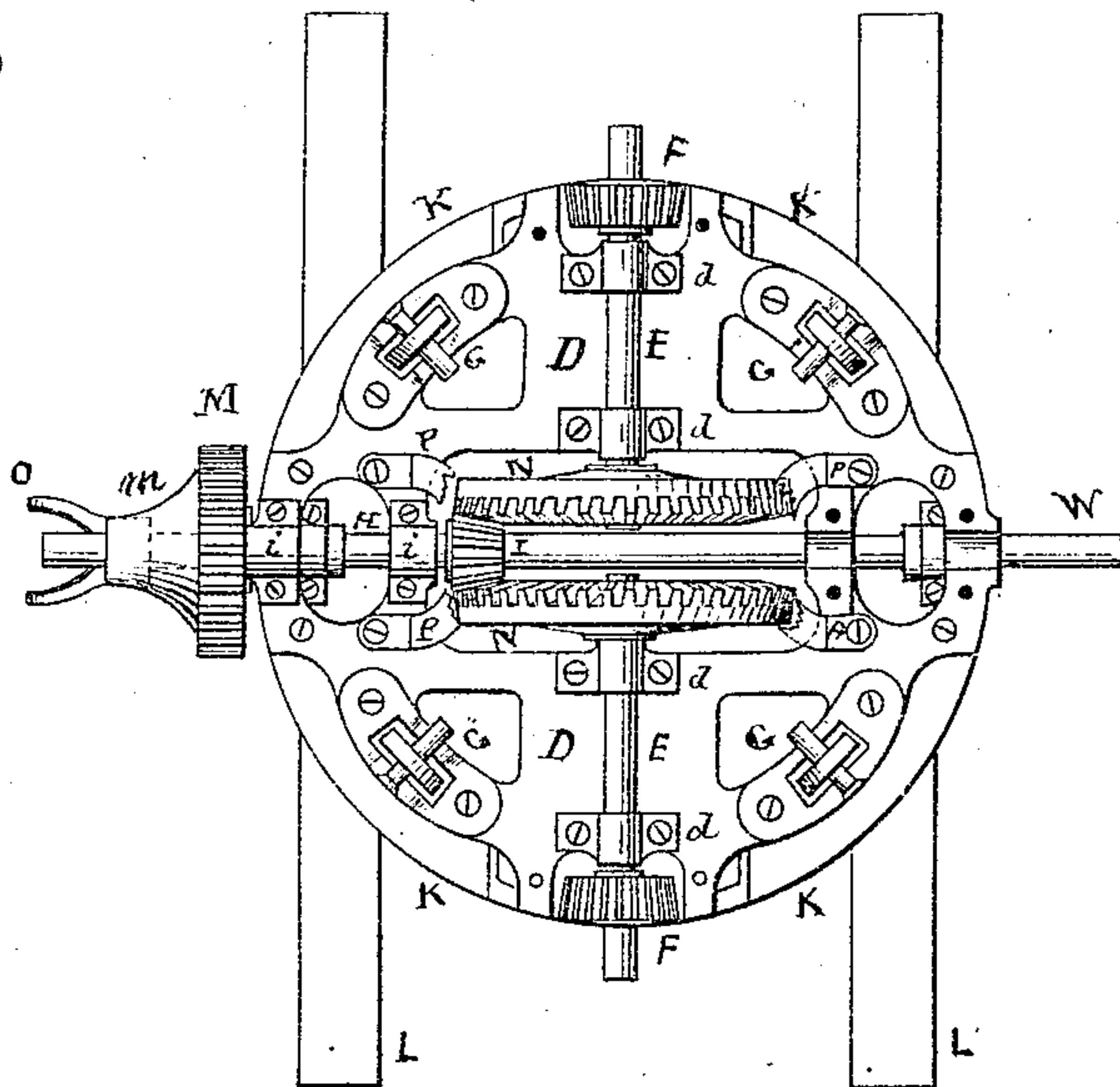


FIG. II.



WITNESSES:  
Solomon Sprecher  
Anthony Iske

INVENTOR:  
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per J. Stauffer, Atty.

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FIG. III.

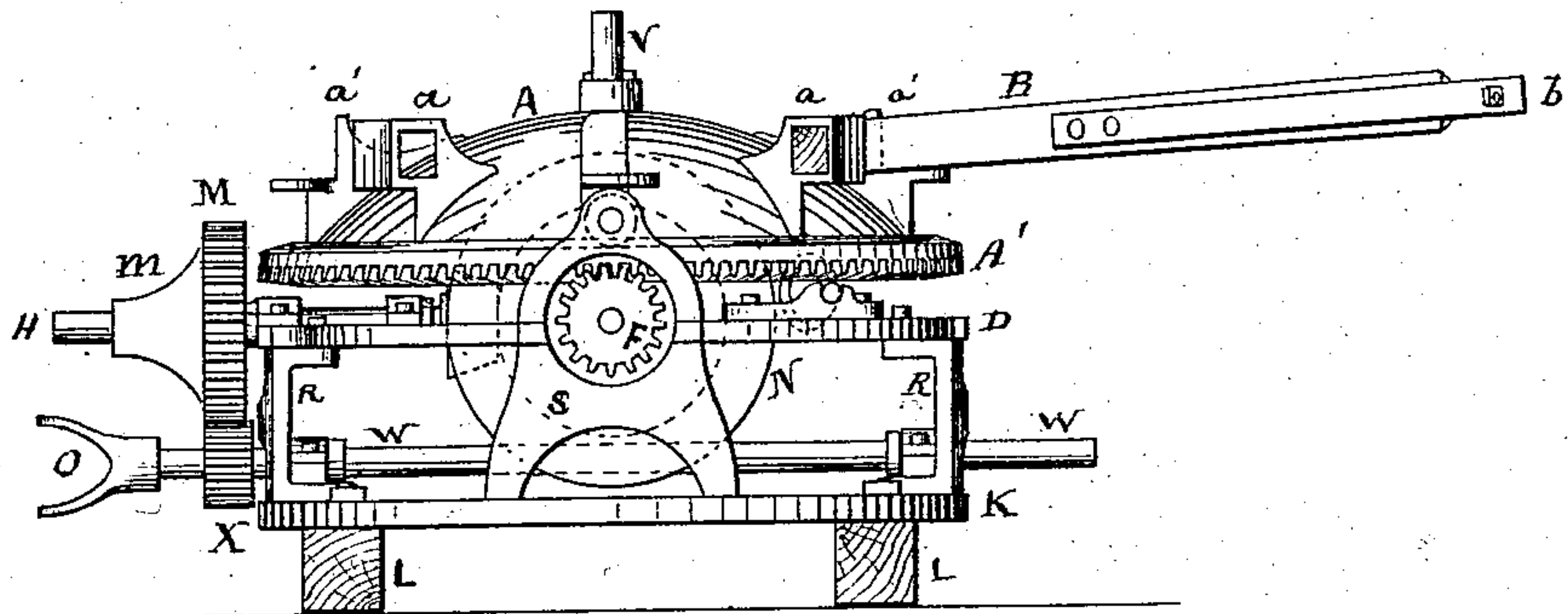


FIG. IV.

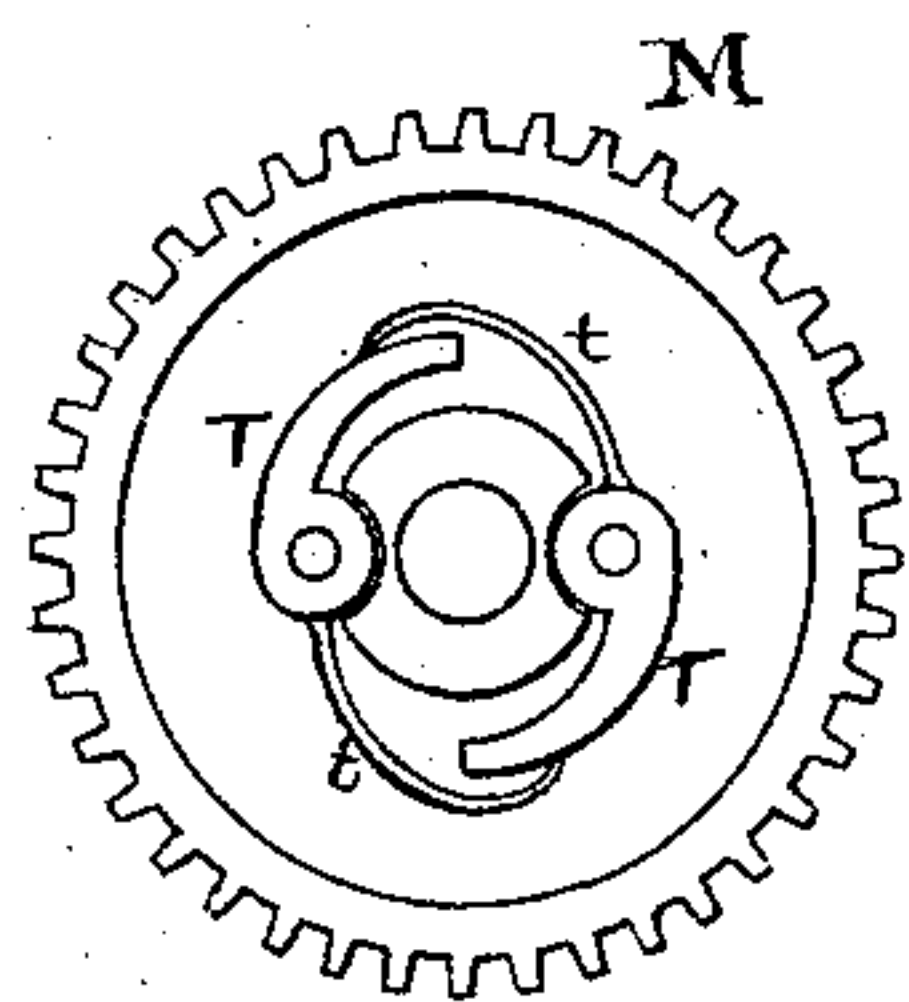
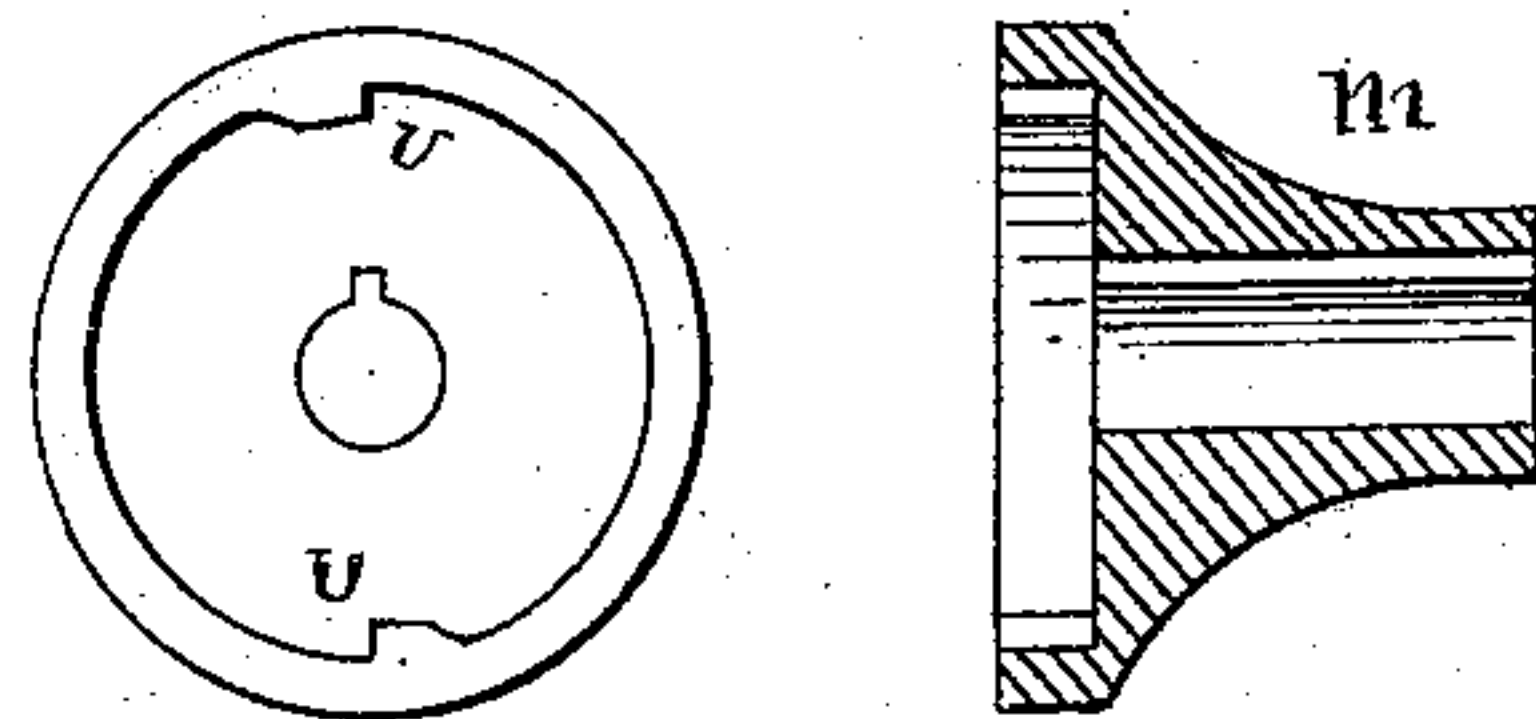


FIG. V.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

OBIL HIMMELBERGER, OF BERKS COUNTY, PENNSYLVANIA.

## IMPROVEMENT IN HORSE-POWERS.

Specification forming part of Letters Patent No. **152,993**, dated July 14, 1874; application filed June 12, 1874.

*To all whom it may concern:*

Be it known that I, OBIL HIMMELBERGER, residing near Bernville, in the county of Berks and State of Pennsylvania, have invented a new and useful Improvement in Horse-Powers, of which the following is a specification:

This improvement relates to a class of horse-powers, for thrashing grain and other purposes, having the lever-arms attached to a horizontal driving or master wheel, geared in pinions on opposite sides, with each a central wheel on the end of its shaft, having a beveled pinion between, as seen in several patents. The improvement consists in the convex and dome-like central covering of the wheel A, to shelter the gearing, &c., on the bed-plate, as well as to give greater security to the attendant, usually stationed upon it; and the manner of its construction, in combination with the peculiar arrangement of the bed-plate and reversible gear and pinion, to adapt it for transmitting the power from either side, as circumstances often require such a change of motion, which is the object in the combination and construction, as well as to produce a short purchase and gain greater power, and preventing loss in the manner of attaching the arms, sockets, and fulcrum on the lower outer portion and their position on the wheel.

In the accompanying drawing, Figure 1, Sheet 1, represents a top view of the closed cap or driving-wheel, with socket and fulcrum lugs and the connection of the lever-arms in place. Fig. 2 shows the plan of the bed-plate and gearing, as seen from a central vertical point, and the projecting lower portions, and only the furcated base P P of the central arch. Fig. 3, Sheet 2, is a side elevation of the machine. Fig. 4 shows the chamber of the inner face of the cogged wheel M, to show the two pawls T and springs t; Fig. 5, the conical hub m, shown in section, as also its chambered face, with the notch or catch U for the pawls, when connected with the wheel M, for adaptation to reversing the motion of the said cog-wheel.

A brief mention of the several parts, and reference to the letters marked thereon, will suffice.

A shows the convex central wheel. The outer circumference has a slightly-beveled

flange inside the cogs, by which flange it rests on the anti-friction pulleys in their bearings G, having a beveled face, to give them a bearing toward the common center of the wheel or central pivot-shaft V, which latter is mounted on an arch over the central pair of wheels N. The lower two parted ends or feet P P of said arch are only seen in Fig. 2. a shows the socket; a', the fulcrum-lug; B, the levers, and b couplings, to which the horses are attached; Q, the frame; and L, the wooden sills, on which the machine rests. The base-plate K is connected by standards R S at four points with the bed-plate D, Fig. 3. F F, beveled pinions; E, the shaft; d, the boxes; N, the central beveled cog-wheels, with a bevel-pinion, I, between them on a horizontal shaft, H, which, on its outer end, supports the cogged wheel M, provided with a chambered hub, m, and pawls T. (Shown by Figs. 4 and 5.)

Fig. 2 shows the arrangement of the gear and construction of the bed-plate D, and the half-boxes on one side to receive the shaft H, with its pinion L and cog-wheel M.

When desirable to transfer from the side shown, by simply removing the upper parts of the boxes i the parts are readily changed and secured, and thus reverse the motion imparted to the tumbling-rod or knuckle-shaft W, by the detachable pinion X and knuckle O being also detached from one end and keyed to the other, to operate in concert with wheel M, which gives it motion; and said motion is imparted directly (by the intervention of a strap-pulley to the tumbling-rod and strap) to the machine to be driven.

The bearings of the shaft W are designed to be made adjustable, so that the diameter of the cog-wheel M may be enlarged to increase the speed, if desirable, or by changing one for another of different size.

The operation is self-evident on inspection, and readily understood.

I am aware that horizontal master-wheels, cogged beneath or on their inner face, as also propelled by lever-arms, variously attached, are used, as well as duplicate pinions and center wheels, with pinions between them, arranged on vertical shafts, or otherwise differing substantially in their combination.

I am not aware that a closed convex cover-

ing-center, A, in a master-wheel, with its sockets, fulcrum-lugs, cogged circumference, and flange beneath cast in a single piece, was ever constructed substantially in the manner shown and described.

The peculiar construction of the bed-plate I also deem novel and useful in its arrangement for transferring the pinion and its appliances on the shaft H from one side of the machine to the other, together with the change of the pinion and knuckle for reversing the motion, so very desirable, often involving the necessity of turning the machine, trunk, and trench, under circumstances of locality, when such a change would not be practicable.

As a whole, I claim several advantages not had in previous combinations in use; therefore,

What I claim as my invention is—

1. The horizontal driving-wheel A, having a convex, dome-like central elevation, forming a protecting shelter, provided with the sockets *a* and fulcrum-lugs *a'*, sustained by its flange on rollers G, and central pivot-shaft V, in combination with the arch P P and bed-plate D, substantially in the manner and for the purpose described.

2. The bed-plate D, constructed as shown, having duplicate bearings for the transferable shaft H, pinion I, and cogged wheel M, with its conic head *m*, pawls T, and rack-teeth U, in combination with the pinion X and knuckle O, substantially in the manner and for the purpose set forth.

OBIL HIMMELBERGER.

Witnesses:

CALVIN KLEE,  
SIMON RIEGEL.