

L. R. FAUGHT.
Horse-Powers.

No. 152,222.

Patented June 23, 1874.

Fig. 1

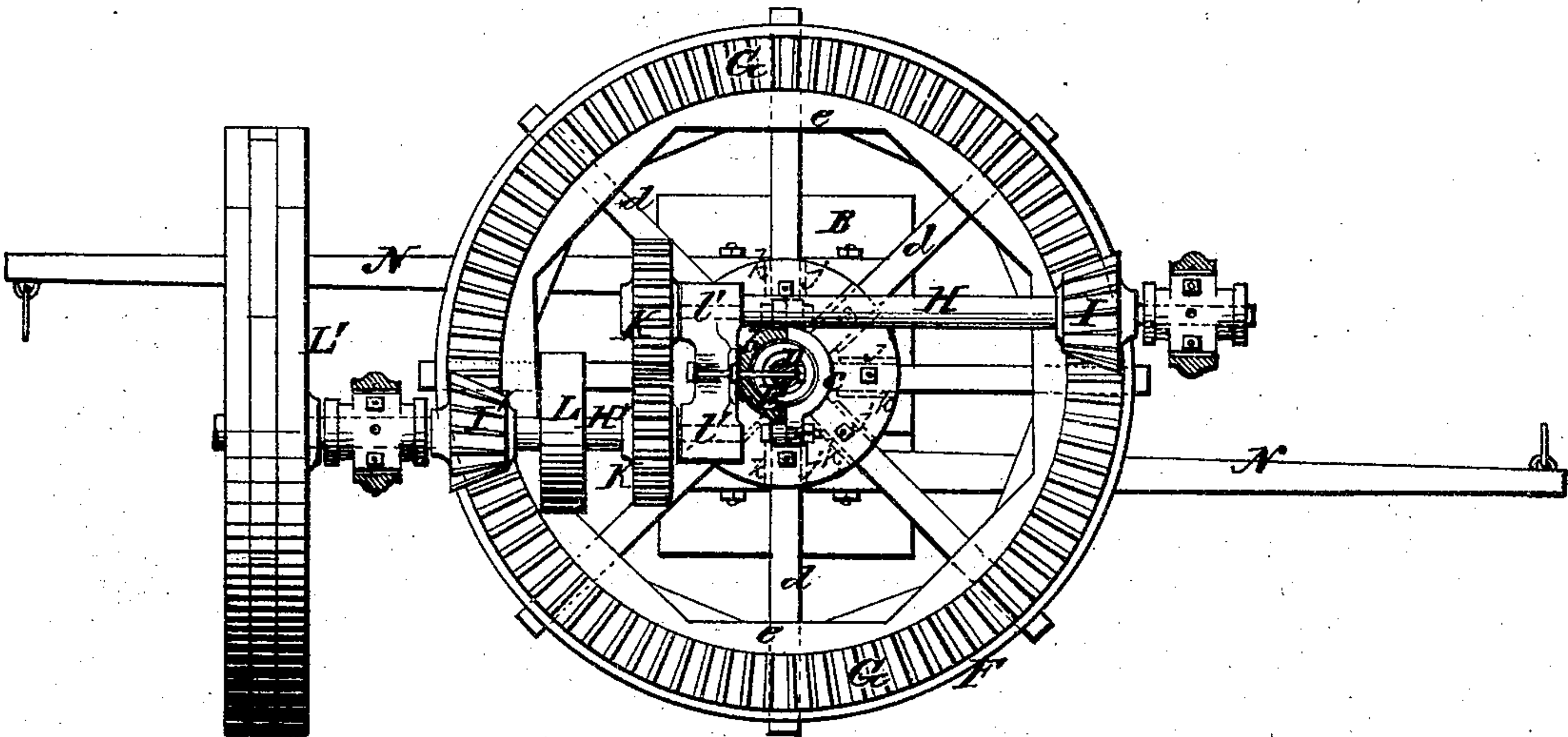


Fig. 2

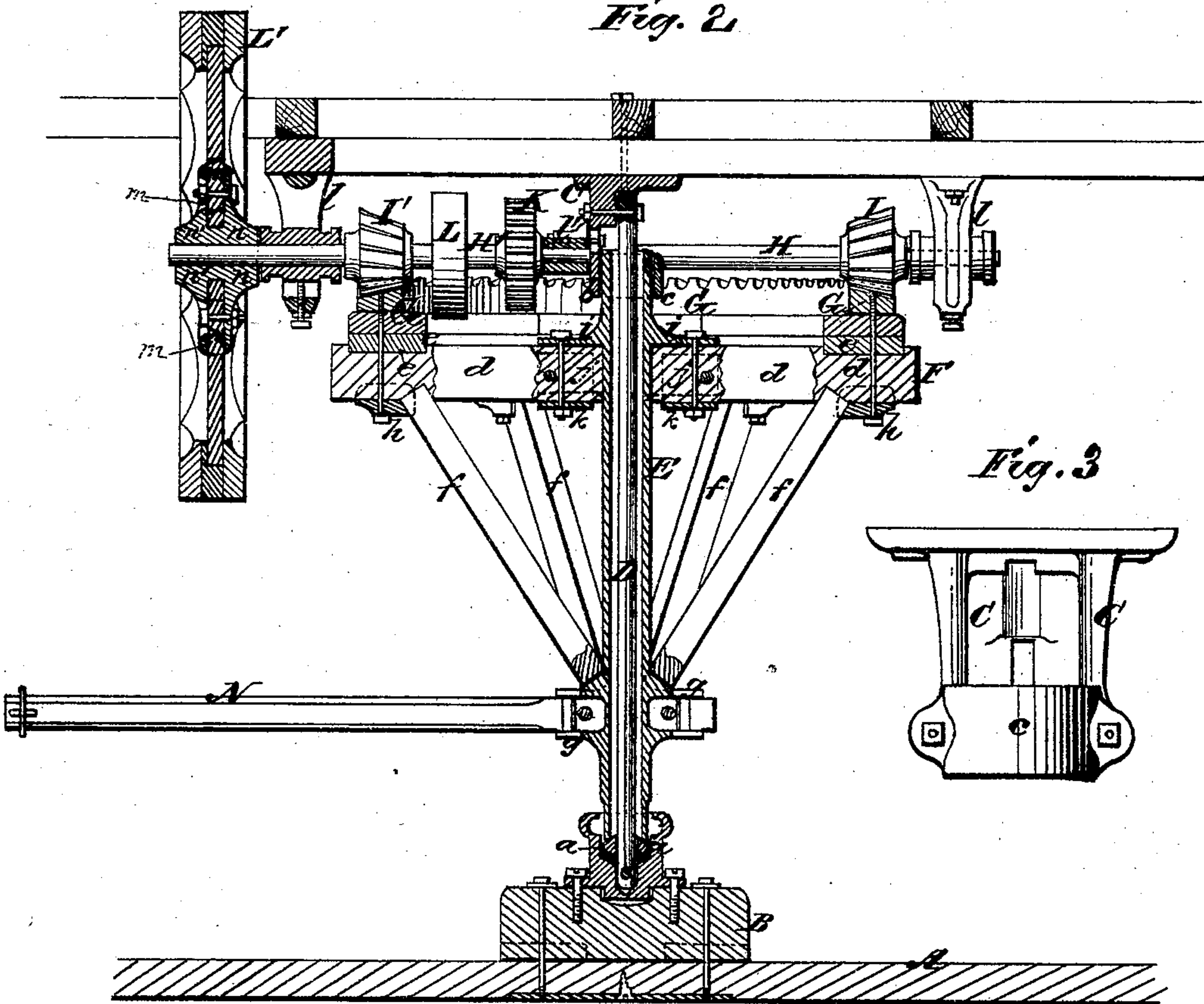
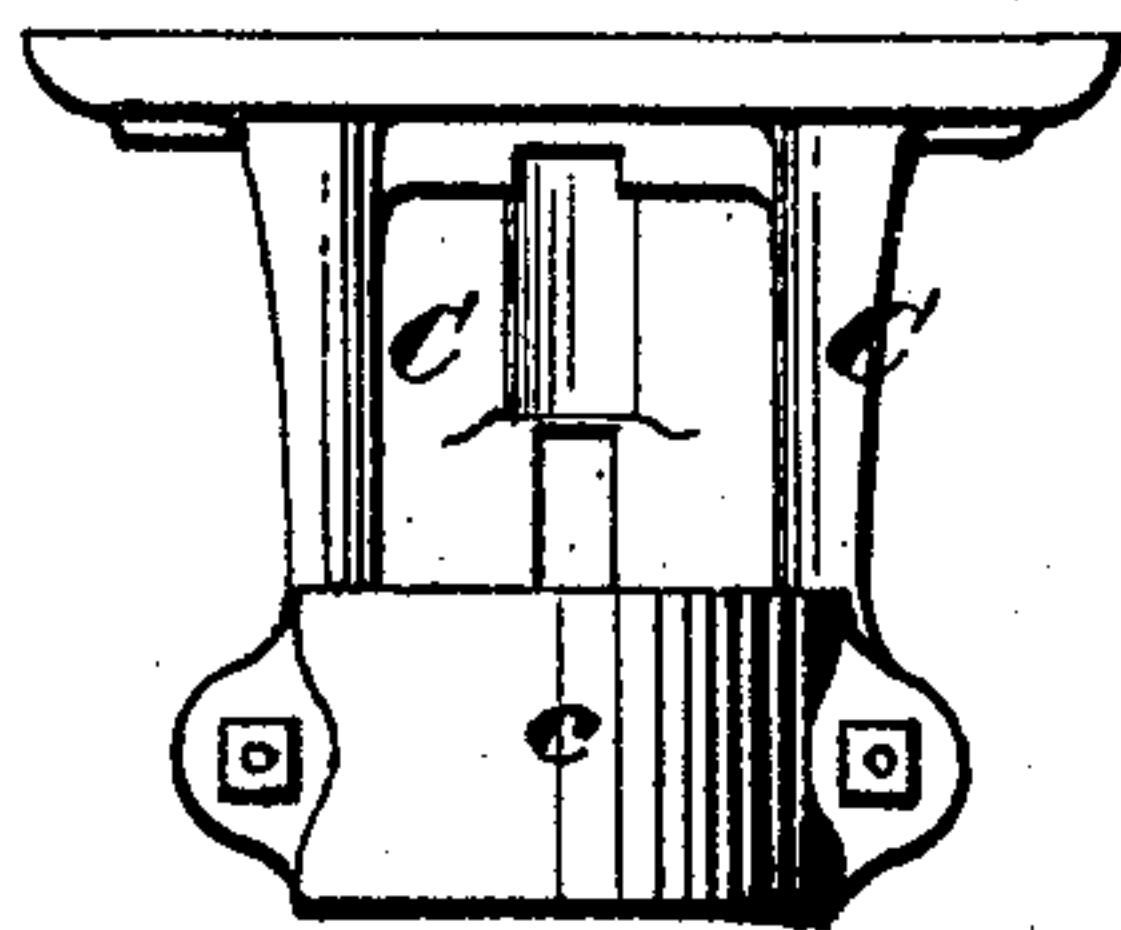


Fig. 3



Witnesses:
James Martin Jr.

Inventor:
Luther R. Faught
Mason Hamrick & Lawrence
attys

UNITED STATES PATENT OFFICE.

LUTHER R. FAUGHT, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HORSE-POWERS.

Specification forming part of Letters Patent No. **152,222**, dated June 23, 1874; application filed June 8, 1874.

To all whom it may concern:

Be it known that I, LUTHER R. FAUGHT, of Philadelphia, county of Philadelphia and State of Pennsylvania, have invented a new and Improved Horse-Power; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a horizontal section of my improved horse-power. Fig. 2 is a vertical central section of the same. Fig. 3 is a detached side view of the upper bearing and box for the tubular shaft and the post.

The nature of my invention consists, first, in two independent shafts, each carrying a bevel-wheel on one end and a spur-gear on the other, and one of them a power-transmitting wheel or pulley, in combination with a single revolving rack, whereby the strain upon the ring-rack and its supports is balanced on both sides of the center, and unequal wear prevented, and other objections overcome, without the necessity of using two belts, one of which is crossed, in combination with the rack and shafts, as in my former patent for accomplishing these results. Second, it consists in a two-part upper box, one part of which is fastened to the other by screws, and is removable laterally, in combination with a stationary center-post, an upper bearing or hanger, and a tubular shaft of the master-wheel, whereby the upper end of the center-post and tubular shaft can be readily got into position after the lower ends of the said post and shaft are set in the lower bearing or step. Third, a special construction of the sockets for the spokes or arms of the master-wheel which supports and carries the ring-rack, whereby the shrinkage of the arms can be compensated for without effecting the relation to one another of the rack and pinions.

To enable others skilled in the art to make and use my invention, I will proceed to describe it.

A is intended to represent a housing or framing, within which the horse-power is constructed, and this may be of any suitable character. B is the step-block; and C, the upper bearing or hanger; D, the stationary spindle or post set in the step, and fastened

by its lower end firmly. It is also fastened to the hanger C by its upper end, as shown. E is the tubular shaft or hub of the master-wheel. It is fitted loosely around the spindle or post, and has its lower end supported by a cone-bearing, *a*, of the step-block. Its upper end bears against the back half *b* of an upper box, and is confined loosely in position by the front half *c* of said box, which half is screwed in position after the stationary post and the tubular shaft of the master-wheel, constructed upon it, are adjusted to the position shown in the drawings. This is a very convenient manner of getting the post and master-wheel in position, and also for removing them when necessary. By unscrewing the half-box and moving it away laterally, the post and wheel can be taken out of their position. The master-wheel F has its arms *d*, rim *e*, and braces *f*, made of wood; and to support and unite these parts together, a foot-flange, *g*, with holding-lugs, is formed on the tubular shaft for the braces *f* to abut against, and metal head-blocks *h* are screwed to the arms for the upper ends of the braces to abut against. The inner ends of the arms pass under a circular flange, *i*, of the tubular shaft, and bear laterally against a vertical rib, *j*, of said flange, the rib, flange, and tubular shaft forming half-sockets for the inner ends of the arms, and to complete these sockets, angle-iron pieces *k* are bolted against the side and under the lower edge of the arms, as shown. The bolts pass through the vertical ribs of the flange of the tubular shaft, and up through the horizontal portions of the angle-iron pieces, and through the flange. By this construction, if the arms shrink, the bolts can be set up without changing the relation of the racks to the gear-wheels of the horse-power. G is the rack bolted fast to the rim of the master-wheel. H H' are two power-receiving shafts, "skew-back" pinions I I' on their outer ends, and gearing into the rack on opposite sides of the shaft. The shafts H H' are supported in bearings or hangers *l l* of the housing, and by a bracket-bearing, *l' l'*, on the back of the hanger C. K K are spur-wheels on the shafts H H', and gearing into one another. L is a small pulley between the pinions I I' and the spur-wheels K K, for transmitting the power of the rack

from the shafts $H H'$. This pulley is on one of the shafts, but it is driven by both shafts, as these shafts are geared together by the spur-wheels. It will be understood that the rack turns the shafts in opposite directions, and that these opposing forces are harmonized, or united into one, by gearing the two shafts together, as described. L' is a pulley on an outer extension of one of the shafts. This additional pulley is shown in order to show that the power may be taken within the circumference of the rack or outside of the same. This pulley L' has its arms confined in the sockets of its metal hub, the said sockets being formed by radial ribs $m m$, cast between the hub-disks $n n'$. These two disks are united together by a central eye and the radial ribs. The spokes or arms are secured in the sockets by bolts passed alternately through solid parts of one disk and vacant parts of the other disk. By this construction of the pulley the arms can be tightened up when shrinkage takes place, and at the same time one-half of the spokes will be moved inward and the other half outward, and thus the hub and rim sustained on both sides equally. $N N$ are the

levers by which the master-wheel is turned, they being fastened to the lower flange g of the tubular shaft by bolts or otherwise, as shown.

What I claim as new is—

1. The combination of the two independent shafts $H H'$, each carrying a spur bevel-wheel on one end and a spur-wheel on the other, and one of them a power-transmitting wheel, in combination with a single revolving rack, substantially as and for the purpose described.

2. The two-part upper box b , &c., one part of which is screwed in place and is removable laterally, in combination with a stationary center spindle or post, D , an upper bearing or hanger, C , and a tubular revolving shaft, E , of a master-wheel, substantially as and for the purpose described.

3. The combination of the angle-pieces k , the flange and ribs of the hub of the master-wheel, and the arms of said wheel, in the manner shown and described.

LUTHER R. FAUGHT.

Witnesses:

GEO. H. KIRK,

ALEXANDER JOHNSTON.