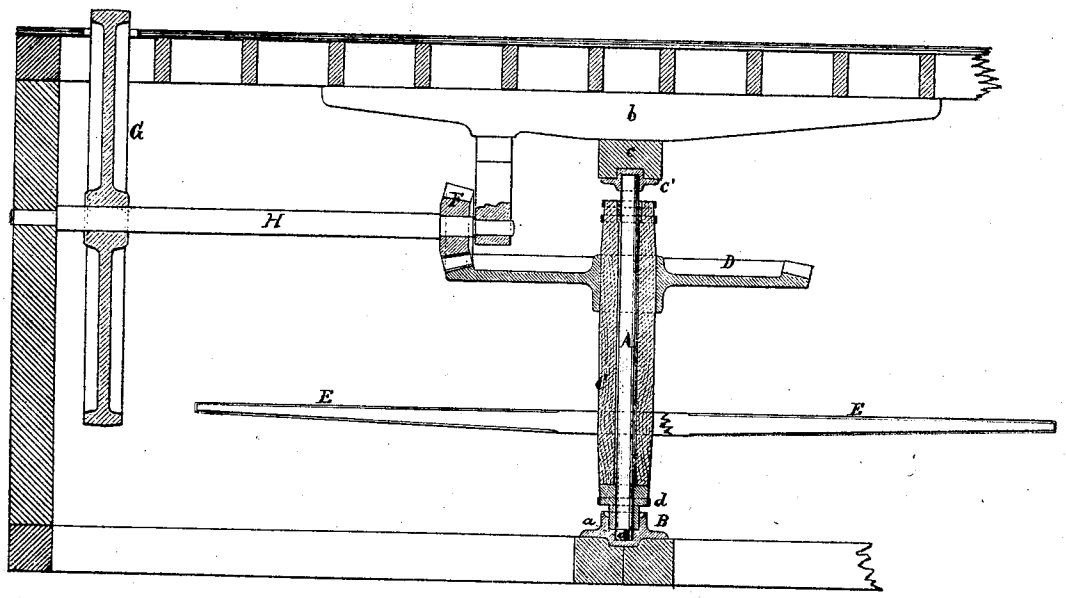
2 Sheets--Sheet 1.

L. R. FAUGHT.

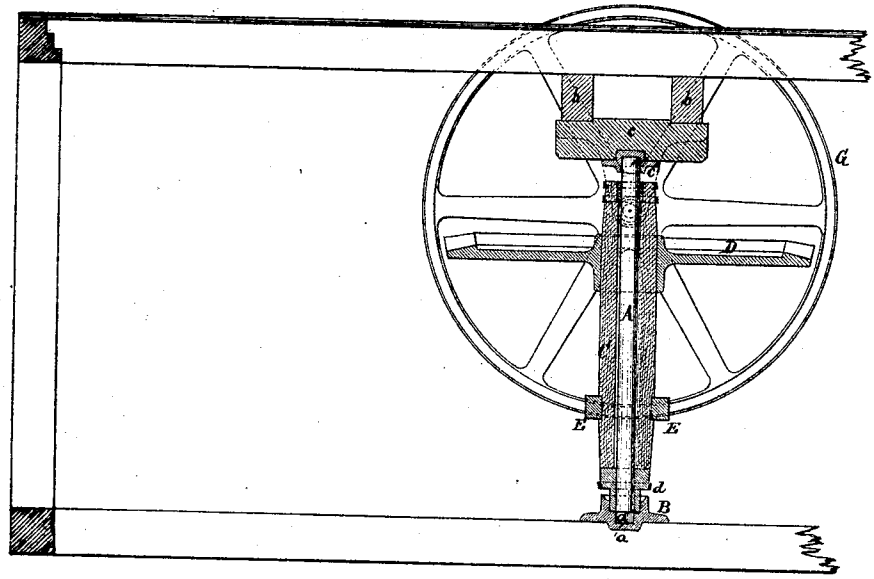
Improvement in Horse Powers.

No. 123,774. Patented Feb. 20, 1872.

— FIG. 1. —



— FIG. 2. —



Witnesses:

Wm. Helms

Geo. H. Kirk

Inventor:

Luther R. Faught

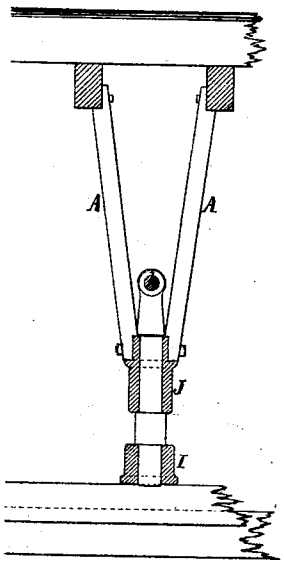
2 Sheets--Sheet 2.

L. R. FAUGHT.

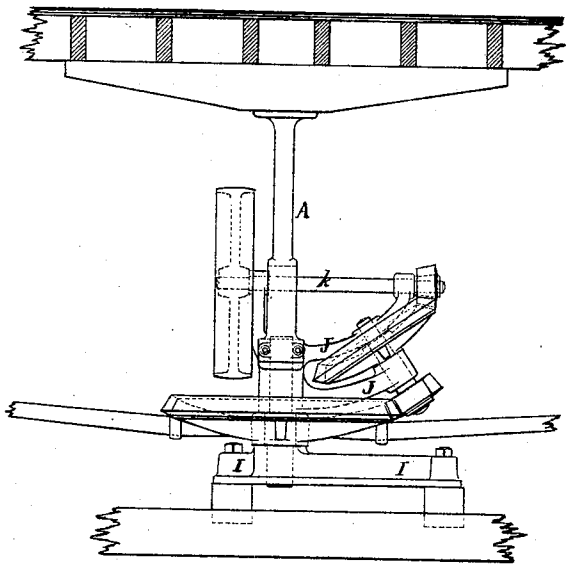
Improvement in Horse Powers.

No. 123,774. Patented Feb. 20, 1872.

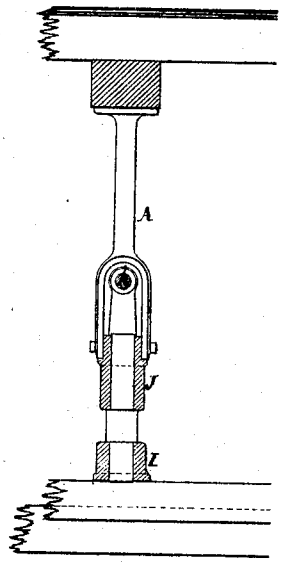
—FIG. 5.—



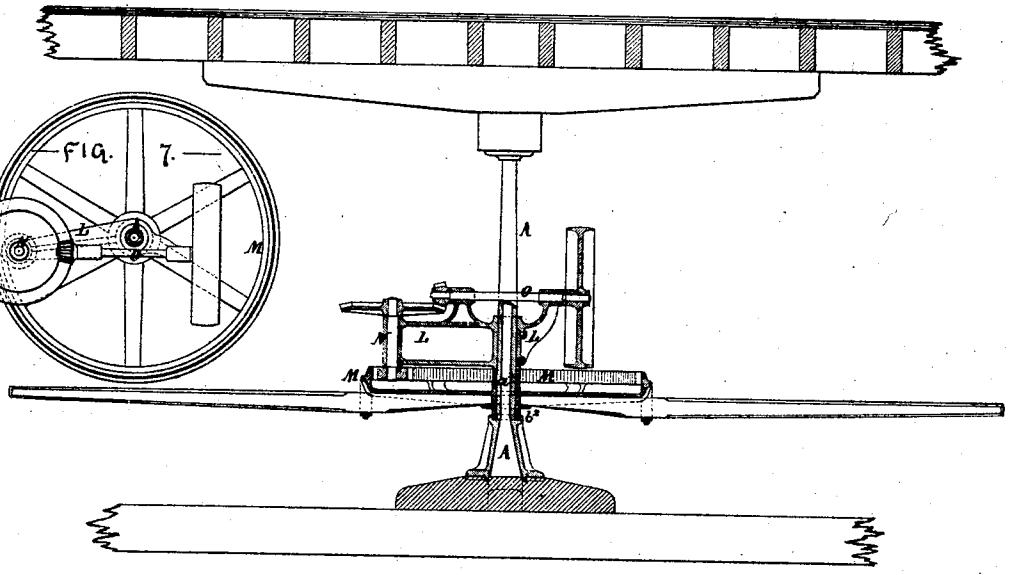
—FIG 3.—



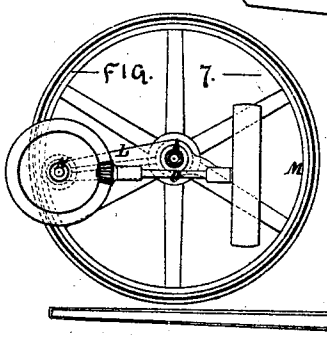
—FIG. 4.—



—FIG. 6.—



—FIG. 7.—



Witnesses:

Wm. Helme

Geo. H. Kirk

Inventor:

Luther R. Faught

UNITED STATES PATENT OFFICE.

LUTHER R. FAUGHT, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HORSE-POWERS.

Specification forming part of Letters Patent No. 123,774, dated February 20, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, LUTHER R. FAUGHT, of the city of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Horse-Powers, of which the following is a specification:

My invention relates to the so-called "lever-powers," or that class of horse-powers in which the motive power is obtained from one or several horses, attached to the ends of levers extending horizontally from a wheel or shaft having a vertical axis, around which the animals walk in a circular track. Horse-powers of the various constructions comprised in this class are extensively used for driving cotton-gins, and such other machinery as is most conveniently located on the second floor of a building, and when the ground floor of the same building contains the circular course for the horses to walk in, the great distance between the supports of the second floor has involved unusually heavy and massive girders to give sufficient strength to the great span for carrying the machinery and the varying loads of material, and also to guard against injury to the gearing from vibration.

Heretofore the efforts of constructors have been directed to the provision of various means of adjusting the gearing in horse-powers so as to prevent breakage of wheels, or their undue friction under the vibrations and constantly-changing loads of the floor; one of the features of my recent patent, dated November 21, 1871, forms a very perfect self-adjusting device of this kind.

Now, in contradistinction to these various precautionary devices, the object of my present invention is to provide a stationary vertical center-support, about which the first driving-wheel of the horse-power revolves, and which, by adding most effectually to the rigidity of the second floor, will permit greatly diminished strength and cost of the same. This central support, moreover, by removing the cause of the evil, takes the place of, or rather discards, all precautionary measures heretofore devised for adjusting the gearing, and for preventing injury to the machinery from vibrations of the floor. On the other hand, this fixed central support may serve to add solidity and strength to the frame of the horse-power, and thus to improve the conditions for smooth and easy running of the moving parts of the machine.

On reference to the annexed drawing making part of this specification, Figure 1 is a sectional elevation of a "lever-power" and building structure embodying my improvement. Fig. 2 is a transverse section of the parts shown in Fig. 1. Fig. 3 is a side elevation illustrative of the adaptation of my improvement to a horse-power of another known construction. Fig. 4 is a view of the central support taken transversely to Fig. 3. Fig. 5 shows a modified construction of the central support as adapted to the kind of machine represented in Fig. 3. Fig. 6 illustrates the application of my present improvement to a horse-power containing certain other improvements for which patents were granted to me October 3 and November 21, 1871. Fig. 7 is a plan of the central support and horse-power shown in Fig. 6.

In Figs. 1 and 2, representing a horse-power of a very simple and much used construction, A is the improved central support, which may be a solid post or a tubular column; its lower squared end *a* rests in and is kept from turning by a conformingly-shaped socket in a step-plate, B, and the weight of the upper floor is supported on A by the use of suitable cross-beams *b b* and capping pieces *c c'*. The hollow upright shaft C, carrying the main driving-wheel D and levers E E, takes its top bearing upon or around the support A, and at the bottom it is provided with an annular step bearing, *d*, taking its bearing in the plate B. The power is transmitted from wheel D and its pinion F to a large pulley, G, on a horizontal shaft, H, but the speed may be increased and the arrangement of this part of the machine modified to any required extent without impairing my invention, by which a rigid central support is provided that takes the load off the second floor, forms a strong bearing for the hollow driving-shaft, and secures the supports for the gearing in so rigid a manner as to effectually prevent breakage or undue friction of the gearing from vibration.

The several modifications of my improvement, shown in Figs. 3 to 7, will now also be easily understood, the same object being attained in all cases illustrated. These may vary in the construction of detail; or the improve-

ment may be adapted to other "lever-powers" of this class, without impairing my invention. The frame I and J of the machine represented in Figs. 3, 4, and 5 is of such construction as to enable it to carry the lower end of the improved support A, which, when cast in metal, may be forked, as shown in Figs. 3 and 4, to give room for the horizontal shaft K; or it may consist of two parallel or inclined braces, as clearly shown in Fig. 5.

The construction of the central support in its adaptation to the horse-power represented in Figs. 6 and 7 is clearly evident from these views, in which the frame L of the machine is shown as rigidly secured to post A, of which a turned cylindrical part, a^1, and annular step b^2 form the bearings for the hub of main driving-wheel M. The vertical shaft N is so placed, relative to the column A, as to permit the horizontal shaft O to pass to one side of A, which thus retains its plain cylindrical shape, and is not deprived of the stability and lightness of its structure.

I claim as my invention—

In a "lever-power" the stationary central support A, when applied relatively to the axis of the main driver, either with or without the intervention of a distinct hollow shaft, in the manner and for the purpose set forth.

LUTHER R. FAUGHT.

Witnesses:
WM. HELME,
GEO. H. KIRK.