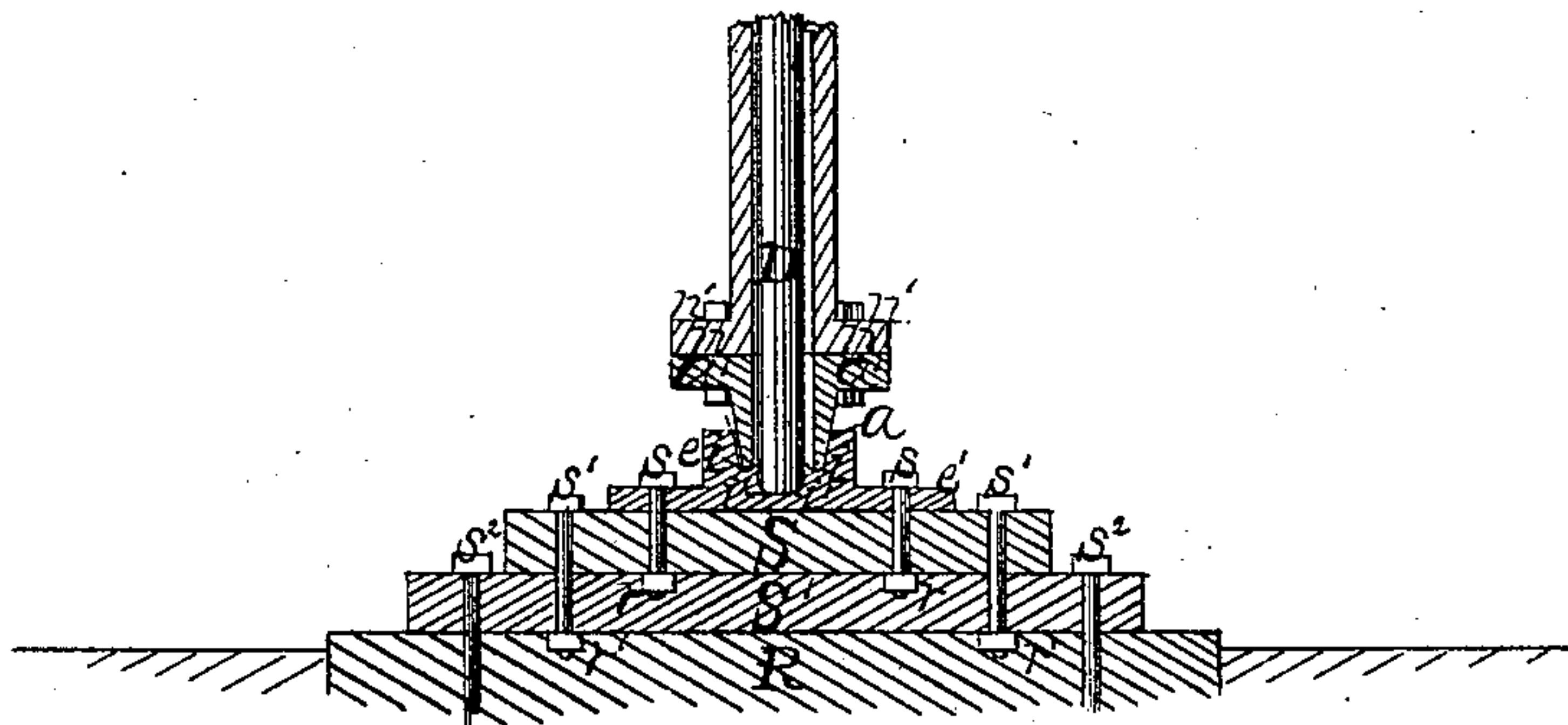
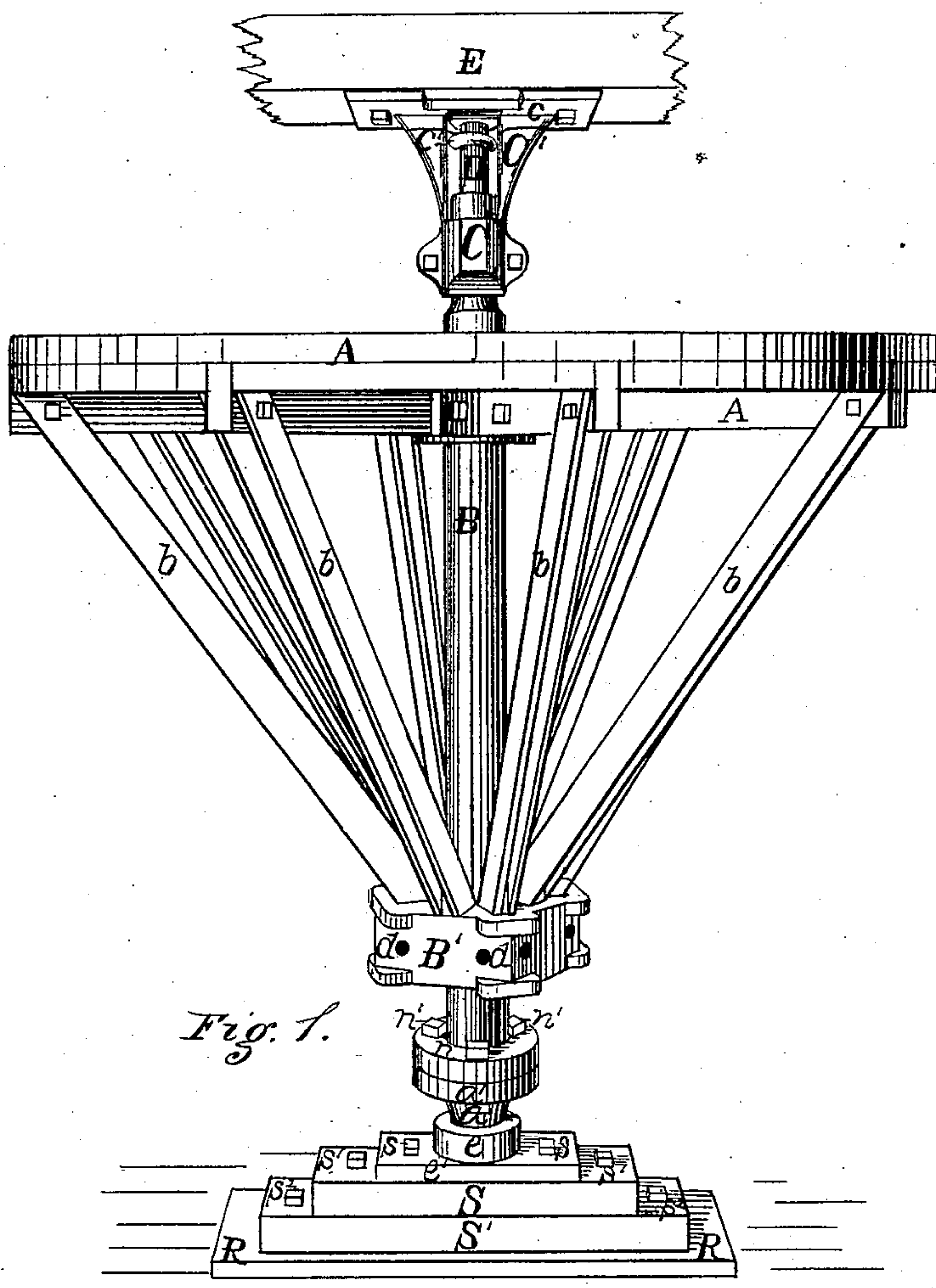


(No Model.)

W. DEERING.
Horse-Power.

No. 227,155.

Patented May 4, 1880.



Witnesses.
Florence M. Price
Stella M. Waterbury.

Fig. 2.
Inventor William Deering
By Attorney George H. Christy

UNITED STATES PATENT OFFICE.

WILLIAM DEERING, OF LOUISVILLE, KENTUCKY.

HORSE-POWER.

SPECIFICATION forming part of Letters Patent No. 227,155, dated May 4, 1880.

Application filed April 2, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DEERING, of Louisville, county of Jefferson, State of Kentucky, have invented or discovered a new and useful Improvement in Horse-Powers; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a perspective view of the master-wheel of a horse-power with a portion of its mountings, illustrative of my invention; and Fig. 2 is a vertical sectional view, to an enlarged scale, of the lower end of the wheel-shaft with its bearing and supports.

My invention relates to an improvement in the bearings of the master-wheel of horse-powers, and more especially to that class in which the hollow vertical shaft of the master-wheel is supported in a step-bearing at its foot and revolves around a fixed central post.

In such construction of horse-powers the lower gudgeon end or journal and also its step or bearing are liable to be worn away and injured or destroyed, especially when neglected and not properly oiled, as frequently occurs when in the hands of ignorant plantation laborers, by whom such machinery is largely used.

As such master-wheel shafts have heretofore been made, such wearing away of its lower end or journal practically necessitated the construction of a new master-wheel, as no provision was made for removing the gudgeon end or journal from the body of the shaft, and the shaft itself being a rough casting, it seldom happens that the wood or other work that has been fitted to one such shaft can be used with another; also, as the lower step has heretofore been supported and secured, it is difficult to remove the same from place without taking down the entire master-wheel and the central supporting-post.

My invention is intended to overcome these and other like objections and difficulties by providing a gudgeon or journal for the lower end of the shaft, separate therefrom and secured thereto in such way that it may readily be removed and replaced with a sound one without removing or disturbing the master-

wheel and post; and also, to the same end, I so mount and secure the step that it may readily be removed and replaced when desired.

In the drawings, A represents the framework of a master-wheel, which is carried by a vertical hollow shaft, B. An enlarged box, B', on the shaft gives a rest or support for the radial braces *b*, and also affords sockets *d* or equivalent means for inserting and securing the usual sweeps. So far as this general framework of the master-wheel and means for driving the same are concerned, any desired construction may be employed.

Within and extending through the length of hollow shaft B is a round supporting-post, D; which serves not only to keep the master-wheel in an upright position and prevent sagging, but also as a support for the floor-beam E.

A box-bearing, C, incloses the upper end of shaft B, which box is supported by a segmental hanger, C', depending from the cap or plate *c*, which in turn is bolted or spiked to the under side of beam E. The upper end of post D rests against this cap or plate *c*, and it is bound to the hanger by a clip, *c'*, passing through it and drawn tight with nuts on the back side. The post D will thus be supported by the hanger when its lower support or foundation is removed, as hereinafter explained; also, the top of the post will be prevented from lateral displacement, while the box C will give a convenient and strong outside bearing for the upper end of the shaft B.

At the lower end of shaft B, I make a flanged rim or head, *n*, and bolt to the under face of the same, as at *n'*, a gudgeon end or journal, *a*, which is provided with a flanged rim, *a'*, similar to rim *n*, through both of which the bolts *n'* pass. This journal or gudgeon *a* is thus separate, and readily removable from the main shaft B, and may easily be taken off and replaced; also, it may be made of steel or other metal better adapted to resist wear than the metal of the main shaft, and thus the best journal or bearing be secured with a minimum of expense for materials.

A step, *e*, supported upon a base-plate, *e'*, receives the journal *a*, as well as the lower end of post D, the seat *i'* of the post being, by preference, somewhat below the journal-bearing *i*. This journal-bearing not only supports the

weight of the master-wheel, but also, with the post D, keeps the foot of the shaft in position; and by providing a separate depressed seat for the post its foot is securely held as against lateral displacement.

The base-plate *e'* is secured to the foundation or bed R by one, two, or more intermediate blocks, S S', bolted together, as at *s s' s'*, which bolts have their nuts *r r'*, &c., set in the lower blocks. By removing these bolts or equivalent fastening devices, which may be used, one or more of the blocks S S' may be driven from under the plate *e'*, when it will drop, and may be removed without disturbing either the bed R or the master-wheel.

If for any cause it is desired to remove or renew the step *e* or journal *a*, or both, the master-wheel proper is bolstered or propped up, so as to hold it in position during such operation. The bolts *s s'*, &c., or so many of them as may be necessary, are removed and one or more of the blocks S S' driven out, as above described, the master-wheel being supported by its props, and the central post being held up by hanger C' and clip *c'*. Then, by unscrewing the bolts *n'*, the journal *a* may be removed, another substituted, the several parts replaced, and the whole put in running order with very little delay and comparatively no expense.

The utility and convenience of this arrangement will be readily appreciated, as horse-powers of this class are largely used upon cotton and other plantations, where the delay involved in replacing a master-wheel or the castings for one, which must usually be obtained from a distance, if occurring during the busy season, is a very serious matter.

By my improvement such delays and the

incident loss are practically avoided, so that its advantages and utility in this respect alone are very important.

I claim herein as my invention—

1. In a horse-power having a master-wheel carried upon the end of its vertical driving-shaft, and in combination therewith, a detachable gudgeon or journal *a*, secured by bolts to the lower end of the shaft, and a step, *e*, adapted to receive such gudgeon or journal, and thereby support the master-wheel, substantially as set forth.

2. In a horse-power, the combination of vertical revolving shaft B, having on its lower end a flanged head, *n*, separate or removable journal *a*, having a similar flanged head *a'*, bolts *n'*, step *e*, and center post, D, substantially as and for the purposes described.

3. The combination of master-wheel A B, central post, D, hanger and clip C' *c'*, for binding the post, step *e*, and one or more removable blocks, S S', arranged between the step and the main foundation or bed, with means for securing the blocks and step in place, substantially as set forth.

4. The combination of shaft B, having at its lower end a removable journal or gudgeon, *a*, central post, D, hanger C', box C, and clip *c'*, step *e*, having therein a bearing, *i*, adapted to receive the journal, and a separate depressed seat, *i'*, for the end of the post, substantially as set forth.

In testimony whereof I have hereunto set my hand.

WILLIAM DEERING.

Witnesses:

FLORENCE M. PRICE,
STELLA M. WATERBURY.