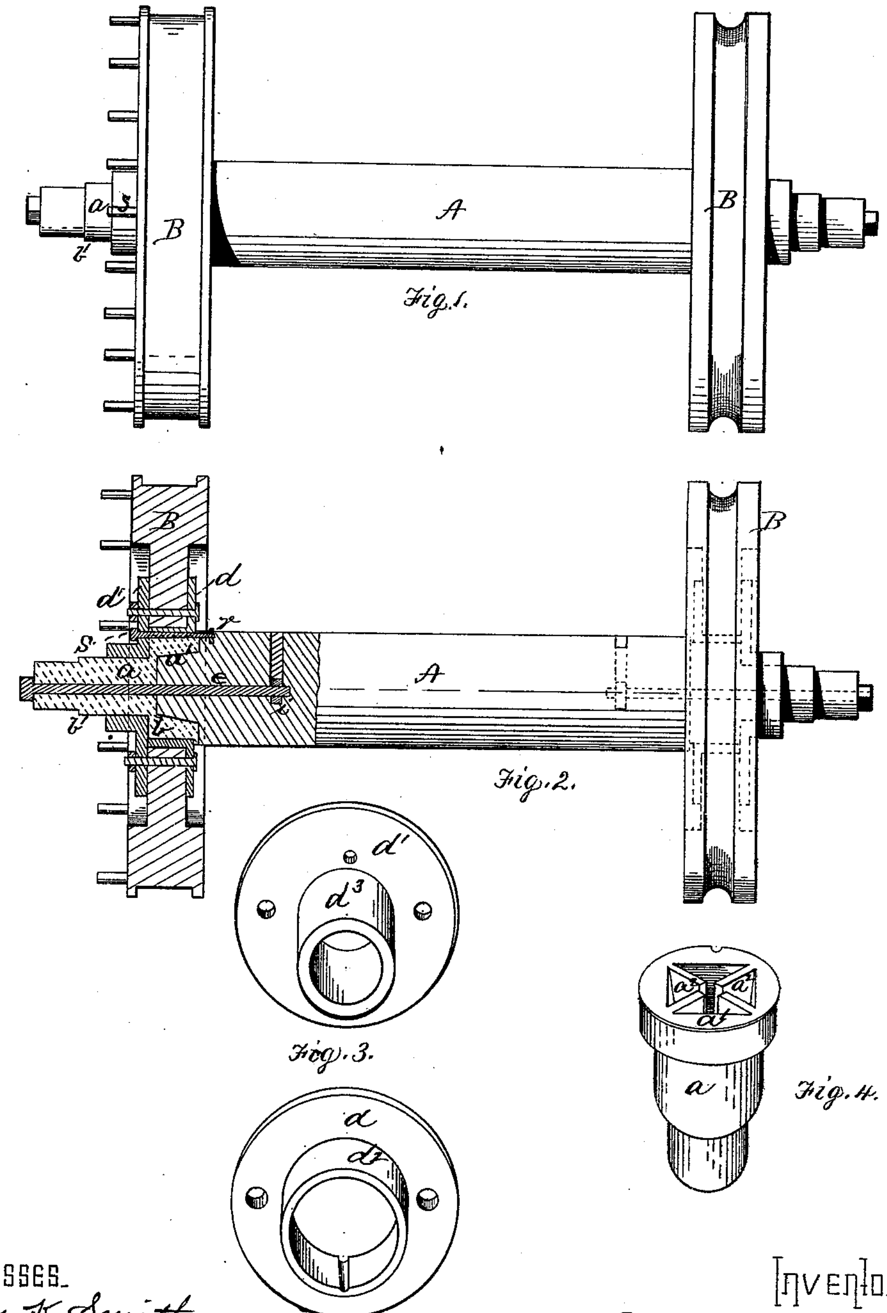
W. H. H. MORRIS.
BULL-WHEELS.

No. 195,720. Patented Oct. 2, 1877.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM H. H. MORRIS, OF FRANKLIN, PENNSYLVANIA, ASSIGNOR TO HIMSELF, DEWITT C. BRAWLEY, AND C. HOMER BRAWLEY.

IMPROVEMENT IN BULL-WHEELS.

Specification forming part of Letters Patent No. **195,720**, dated October 2, 1877; application filed July 2, 1877.

To all whom it may concern:

Be it known that I, WILLIAM H. H. MORRIS, of Franklin, in the county of Venango and State of Pennsylvania, have invented a new and useful Improvement in Separable and Portable Bull-Wheels; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is an elevation of a bull-wheel embodying my invention. Fig. 2 is a partial longitudinal section. Figs. 3 and 4 are detail views.

Like letters refer to like parts wherever they occur.

My invention relates to the construction of bull-wheels for oil-well and similar machinery; and consists in forming the shaft with detachable gudgeons and wheels, whereby a separable and portable bull-wheel is obtained.

Heretofore bull-wheels have usually been formed with continuous shaft and journals, and wheels rigidly secured thereto, the shaft being of heavy timber, and the wheels constructed by nailing heavy plank transversely in layers, trimming the same to shape, and completing the wheels by segmental flanges, the whole being heavily spiked to give the required strength.

Such a wheel is transported with great difficulty, and adjusted with much expense and labor owing to its weight and bulk, all of which is highly objectionable where the place of use is fifteen or twenty miles, or even farther, from the place of manufacture or the nearest railroad-station.

The object, therefore, of the present invention is to provide a bull-wheel which can be taken apart to facilitate transportation, or, in other words, a separable and portable wheel.

I will now proceed to describe my invention, so that others skilled in the art to which it appertains may apply the same.

In the drawing, A indicates a shaft formed from wood, and of suitable length for the reel, having its ends reduced and squared, or otherwise suitably shaped, as shown, to receive a corresponding gudgeon-socket. *a* represents a detachable gudgeon for the ends of the shaft A, preferably formed with the square socket a^1 and transverse wings a^2, which latter enter slots in the reduced end of shaft A, serving to brace the gudgeon.

The outer surface of the gudgeon is round, and may be of equal diameter through, formed with one or more shoulders, *b b'*, according to the construction of the hub-plates of the wheels, as will hereinafter appear.

These gudgeons are secured to the shaft by means of bolts *e*, which pass longitudinally through the gudgeons into the ends of shaft A, where they engage with a nut or bar, *i*, inserted in the shaft by means of mortises; or other suitable fastening for the gudgeon may be employed.

B B represent the wheels, which may be formed of plank secured transversely, and trimmed to shape in the ordinary manner. One will be adapted to receive the "tug," and the other the brake-strap, in the same manner as at present constructed.

Instead of being secured directly to shaft A, in the usual manner, I form the wheels with a central hole, which exceeds in diameter the diameter of the shaft or its gudgeon, and secure to the wheel, by bolts or otherwise, two annular disks or hub-clamps, d d^1, one of which is provided with a flange, d^2, which projects into the opening of the wheel, and the other with a similar flange, d^3, which projects beyond the wheel and bears upon the gudgeon.

If desired, the plate or disk d^1 may be of the same internal diameter as d, and devoid of flange d^3, in which case the gudgeon may be of equal diameter throughout, and the shoulders *b b'* dispensed with, the disk d^1 in such cases simply serving to sustain the bolts which clamp d to the wheel.

The internal diameter of flange disk or hub d corresponds to the diameter of the gudgeon, and the wheel, after it is slipped in place thereon, is secured by means of a tapered bolt, S, which rests in grooves formed in the gudgeon and flange d^2, and is tightened by a nut, *r*.

Instead of the tapered bolt and nut, a key or spline formed on the gudgeon, and a corresponding groove in the hub-flange, may be used, the whole being tightened by set-screws on the opposite side of the gudgeon or flanges.

The above constitute the devices preferably employed by me in constructing a separable and portable bull-wheel, the advantages of which are the ease with which the wheel can be taken apart, handled, and transported, its compactness when separated and packed for transportation, and its strength and efficiency when set up for use.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A bull-wheel having its wheels and gudgeons detachably connected to the shaft, whereby a separable and portable wheel is obtained, substantially as specified.

2. In a bull-wheel, the detachable wheel, provided with the detachable flanged disks, in combination with the gudgeon and tapered bolt for securing the wheel to the shaft, substantially as specified.

In testimony whereof I, the said WILLIAM H. H. MORRIS, of Franklin, Venango county, and State of Pennsylvania, have hereunto set my hand.

W. H. H. MORRIS.

Witnesses:
F. W. RITTER, Jr.,
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