

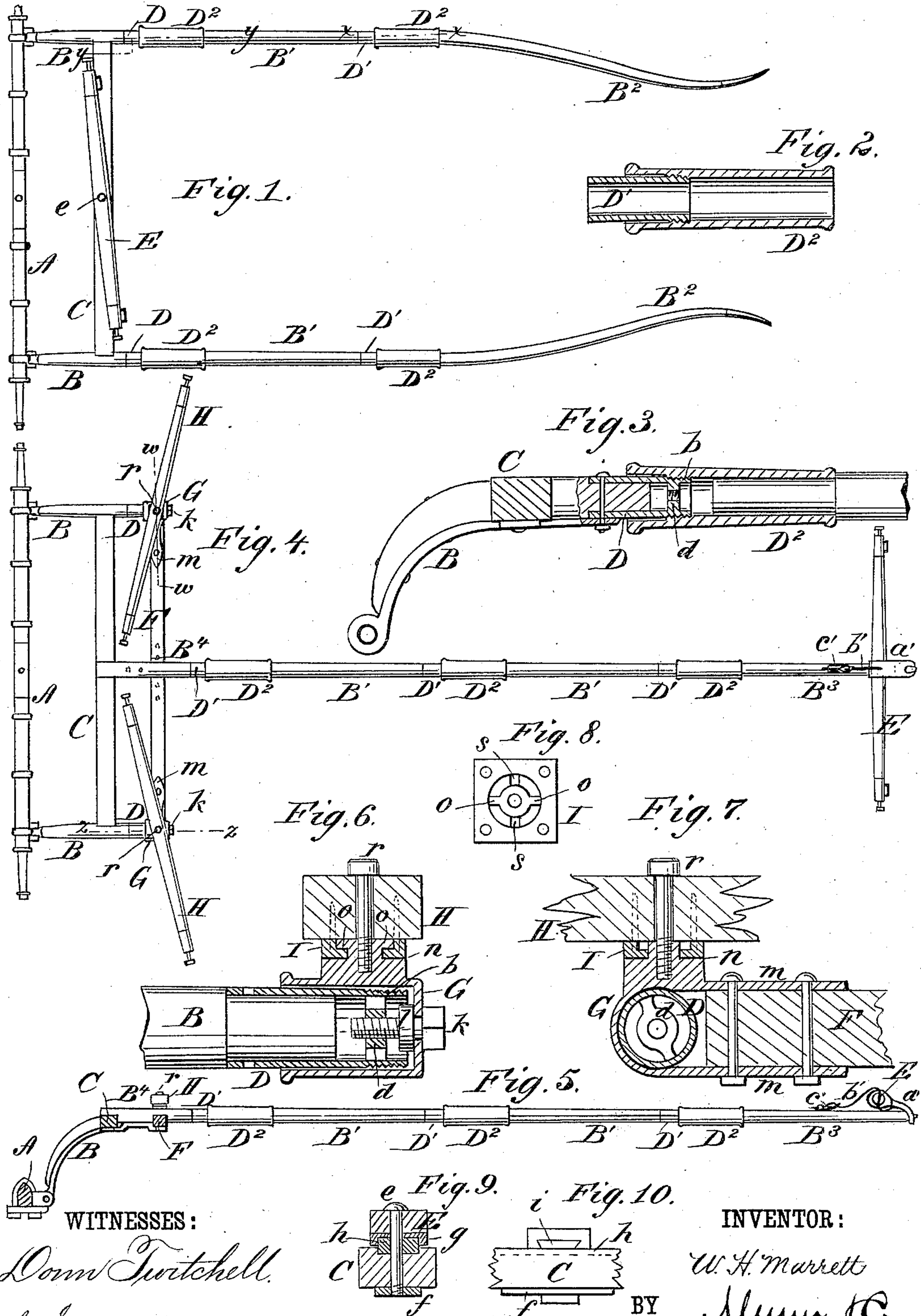
(Model.)

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POLE AND SHAFT FOR VEHICLES.

No. 284,033

Patented Aug. 28, 1883.



WITNESSES:

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WALTER H. MARRETT, OF BRUNSWICK, MAINE.

POLE AND SHAFT FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 284,033, dated August 28, 1883.

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To all whom it may concern:

Be it known that I, WALTER H. MARRETT, of Brunswick, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Poles and Shafts for Carriages and other Vehicles, of which the following is a full, clear, and exact description.

This invention has more particularly for its object the utilization, in the main, of the pole or shafts of a carriage for either when it is desired to use the same vehicle either for one or two horses; or, in other words, to produce a convertible pole and shafts for the same carriage, thus doing away with a separate pole and separate shafts therefor. To this and other ends, including greater compactness of the pole or shafts when not required for use, their greater strength when in use, increased facility of repair in case of breakage, and adaptability to stowing away said devices in the carriage when not in use, the invention more especially consists in a sectional construction of the convertible pole and shafts with socketed screw-couplings for uniting or disconnecting the sections and in a special construction of such and other couplings for changing the shafts into a pole, or vice versa, and for making the necessary connections, substantially as hereinafter described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a plan of my improved convertible pole and shafts when used as shafts for a single horse, and as connected with the forward axle of a carriage. Fig. 2 is a longitudinal section upon a larger scale of one of the forward couplings on the line *x x* in Fig. 1. Fig. 3 is a vertical longitudinal section, also upon a larger scale, upon the line *y y* in Fig. 1, mainly in illustration of one of the rear couplings. Fig. 4 represents a plan showing the shafts as converted into a pole and the devices connected therewith for driving a pair of horses, and Fig. 5 a partly sectional side view of the same. Fig. 6 is a vertical sectional view upon a larger scale on the line *z z* in Fig. 4; and Fig. 7 a vertical sectional view, also upon a larger scale, on the

line *w w* in Fig. 4. Fig. 8 is a plan upon a larger scale of a locking and bearing plate for either of the double whiffletrees when a pole is used also showing the locking portion of the surface of the coupling upon which said plate rests. Fig. 9 is a transverse section through the permanent cross-bar of the gear or structure with a single whiffletree thereon, as when using shafts; and Fig. 10, a rear longitudinal view of said bar with plates thereon for reception of the inner end of the pole.

A indicates the forward axle of a carriage, and B B side draft bars or pieces connected therewith, corresponding to the rear end portions of a pair of shafts, and joined together by a cross-bar, C, in front of the axle and parallel with it. These parts B B and C are all permanent attachments to the axle, and the forward ends of the parts B B, which extend beyond the cross-bar C, are permanently fitted with metal ferrules D, driven and otherwise secured on the advance ends of the parts B B. Said ferrules D have an external screw-thread, *b*, on their forward portions, and an internal centrally screw-threaded brace, *d*, within said protruding forward portions. The permanent cross-bar C has a vertical hole through its center for attachment by a bolt, *e*, and plate *f* of a single whiffletree, E, Figs. 1 and 9, when shafts are used instead of a pole, said whiffletree being provided, if desired, with an under annular plate, *g*, for rotation about a fixed bearing-plate, *h*, on the cross-bar C, as shown in Fig. 9. When a pole and double whiffletrees are used in place of the shafts and single whiffletree, then the bolt *e* is not needed, and the pole, as shown in Figs. 4 and 10, may simply have a jaw fit at its inner end over and under the cross-bar C, and engage, if desired, with dovetail side projections, *i*, on opposite sides of the bearing-plate *h*, and with the plate *f*, as shown in Fig. 10.

The convertible shafts and pole are mainly constructed of independent lengths or sections B', which have metal ferrules D', Figs. 1, 2, 4, and 5, fitted on their forward ends. These ferrules have external screw-threads on their advance end portions, and slightly-tapering elongated sleeves D², having internal screw-threads, are fitted on the rear ends of said sections B' and on the rear ends of the tip por-

tions B² of the shafts and tip or forward portion, B³, of the pole. In this way, or by these means, the shafts, as shown in Figs. 1 and 3, may readily be dismembered or be connected by the socketed screw-couplings DD'D², as desired.

When the shafts are dismembered and it is required to construct from them or main lengths or sectional portions of them a pole for the carriage, as shown in Figs. 4 and 5, then the dismembered sections B' B' and the screw-coupling sleeves D², are used in connection with the forward or tip portion, B³, and a rear portion, B⁴, and externally screw-threaded ferrules, D', to construct the pole. The part B⁴ is permanently secured to a detachable cross-bar, F, which in its turn is permanently provided on its ends with metallic sleeve-couplings G G, on which are mounted the two whiffletrees H H. These metallic sleeve-couplings G fit snugly over the ferrules D on the forward ends of the pieces B, (see Figs. 6 and 7,) and are connected therewith by a screw-bolt, k, arranged to fit a screw-thread in the brace d, and provided with an inner collar, l, which prevents the detachment of the bolt, excepting in common with the sleeve-coupling G, to which it belongs. When shafts are used in place of the pole, then the cross-bar F, with its attached couplings G and whiffletrees H, is removed. The couplings G are each provided with upper and lower straps or tongues m, for bolting or securing them to the cross-bar F, and are constructed on their tops with flat bearings n, having a central locking projection provided with raised side ears, o o, about and under which a locking and bearing plate, I, recessed at its center with radial apertures s s, for reception up through them of the locking-ears o o, and permanently secured to the under side of either whiffletree H, is free to turn when applying said whiffletrees, so that said trees will be retained in their place when in use by said locking devices. A bolt, r, passes down through either of the whiffletrees H and screws into the coupling G to keep said whiffletrees down on their bearings, and furnish additional security. When the pole is used, then the single whiffletree E may be used as the neck-yoke by detaching it from the cross-bar C and attaching it by a leather thong, a', to the forward end of the tip-piece B³, said thong being constructed to receive the neck-yoke through it, and being provided with an attached strap, b', which passes through it and through the convertible neck-yoke and whiffletree E, and is united by a buckle, c', to the tip-piece B³, back of the neck-yoke, as shown in Figs. 4 and 5 of the drawings.

The following remarks will explain more fully the advantages of my invention. A carriage-pole with its attachments as ordinarily constructed is a very long and cumbersome device, taking up a large amount of room when not in use, and requiring a long or lofty

room to stow it away in. The shafts, too, of a carriage, although of less length than the pole, take up much width, and, by reason of their peculiar shape, will not stand securely on either end, and if laid on the floor, either side up, occupy a raised position, which makes them greatly in the way. Again, if at any time a person starting out with a carriage desires to drive in one direction with two horses and back with a single horse, or vice versa, it has not been practicable as carriage poles and shafts have heretofore been constructed to use either the pole or the shafts and to secure the other anywhere about the carriage without chafing and defacing both them and the carriage, and, however well secured when not in use to the carriage, said pole or shafts, when carried as auxiliary appendages, present a very clumsy and awkward appearance.

With my invention, when the shafts are adjusted to form a pole, all of the parts thereof are in use excepting the two tip-end portions of the same, and these take up about as much room as a closed umbrella. Consequently, they may readily be stowed away in the carriage and out of sight. When using shafts instead of a pole, only the cross-bar having the double whiffletrees attached and the front-tip portion of the pole are not in use, and these can either be conveniently laid or hung up anywhere, or be snugly packed away in the carriage for subsequent use when desiring to convert the shafts into a pole again. Again, when the carriage is stowed away in a contracted space, it will often be found very convenient to detach a portion of the pole or shafts, whichever may be in use, and this may be quickly done by my improved sectional construction of the pole or shafts and means of coupling said sections. Furthermore, by my invention the changing of the draft devices from a pole to shafts, or vice versa, is effected much more easily and expeditiously than under the ordinary arrangement. Thus, where the shifting is done from the axle, the position is an awkward and unhandy one, and it is almost impossible to do the work without soiling the person or clothes by contact with the wheels or escape of the wheel-grease, and the displacement of the usual rubber or other elastic device to prevent rattle makes it very difficult to bring the shafts in place to engage with their connecting-bolt. Another disadvantage incidental to such ordinary method of shifting from shafts to pole, or vice versa, is that by frequently removing the coupling-bolt of the shafts its thread becomes so worn that it is liable to work out on the road, thereby causing a serious accident. All these disadvantages are avoided by my invention, as the portion of the gear between the wheels is used in common for both the pole and shafts, and when once adjusted is permanent, and the shifting from pole to shafts, or vice versa, is all done in front of the forward wheels and at a convenient height; also, can be easily done by

any person in a few minutes, and with no necessity for soiling either the clothes or hands; nor is there any necessity for using a removable nut, which is liable to drop and be lost.

5 Said shafts and pole, being made in sections, too, they can be readily adapted, by either removing or adding sections, of which there may be supplemental ones, for horses or ponies, or horses of different sizes. Such sections like-
10 wise being mainly straight, the breaking of a single section can be cheaply and quickly replaced by another without splicing the broken pole or shaft. The whole structure, too, possesses great neatness and strength, the metal
15 couplings connecting the sections, relieving the monotony, and stiffening the parts.

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

1. A sectionally-constructed convertible carriage pole and shafts provided with socketed screw-couplings at the ends of the sections, and with removable tip-pieces, substantially as specified.

2. The externally-screw-threaded ferrules, D
25 D, constructed with inner braces, *d*, in rear of their forward ends, in combination with the draft portions or pieces B B and the attached axle A, substantially as shown and described.

3. The couplings G G, on which the whiffle-
30 trees are mounted, in combination with the

supplemental cross-bar F, to which the carriage-pole is attached, the permanently-attached draft portions or pieces B B, and the ferrules D D, constructed with an inner brace, *d*, and the screw-bolt *k*, having an inner collar
35 or stop, *l*, for attachment of said ferrules and couplings, essentially as specified.

4. The convertible pole and shaft-sections B' B', in combination with the socketed screw-couplings D² D², the screw ferrules or couplings D, and the pole-section B⁴, with its at-
40 tached cross-bar F, and removable tip portion or section B³, substantially as described.

5. A whiffletree-coupling, G, having the straps *m m*, the bearings *n*, on an arm at right
45 angles thereto, and the central projections, *o o*, having raised side ears, in combination with the radially-apertured plate I, recessed at the center, the ferrule D, and the cross-bar F, whereby the whiffletree may be supported on
50 its pivot, as shown and described.

6. The convertible single whiffletree and neck-yoke E, in combination with the tip-piece B³, the thong *a'*, the strap *b'*, and fastening or buckle *c'*, substantially as described.

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Witnesses:

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