

(No Model.)

J. IMLER.
VEHICLE POLE AND COUPLING.

No. 570,020.

Patented Oct. 27, 1896.

Fig. 1.

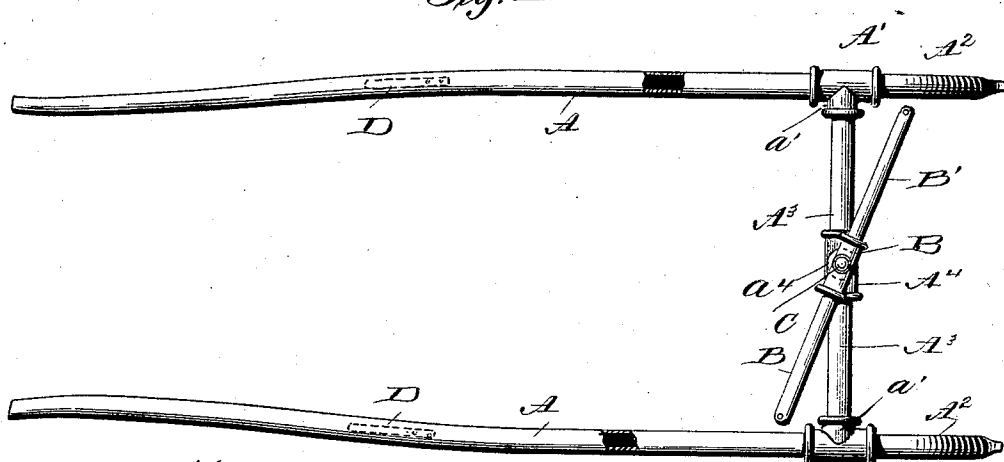


Fig. 2.



Fig. 5.

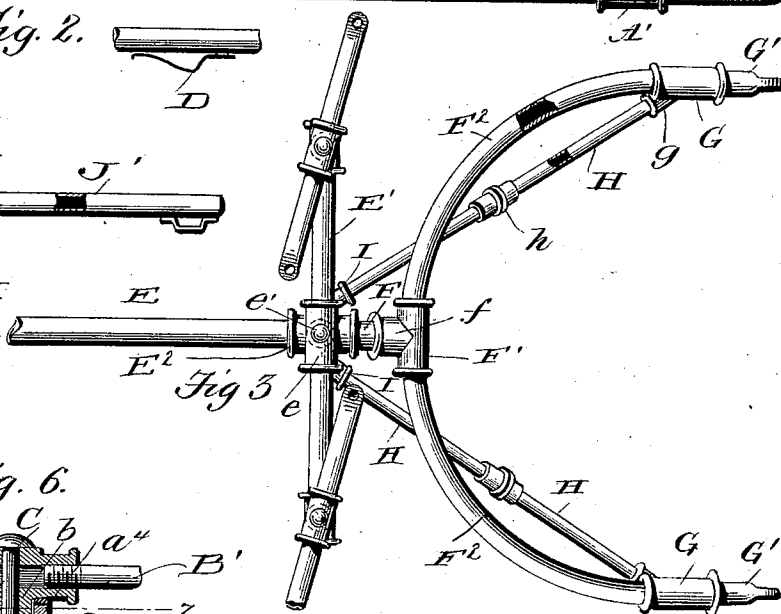
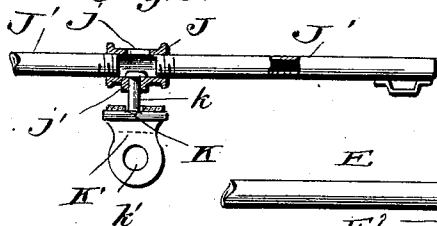


Fig. 6.

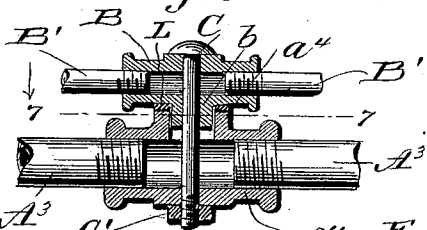


Fig. 7.

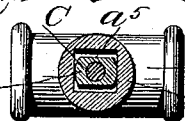
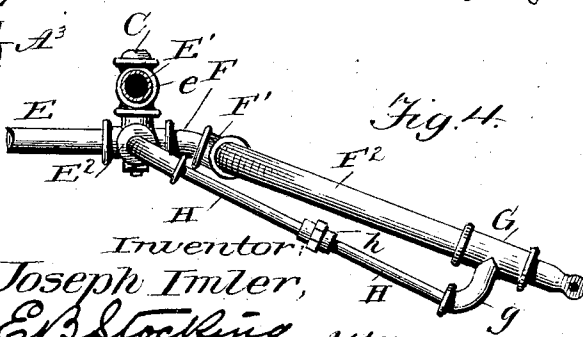


Fig. 4.



Witnesses:
L. C. Hills
E. H. Bond

Inventor: Joseph Imler,
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UNITED STATES PATENT OFFICE.

JOSEPH IMLER, OF KENDALLVILLE, INDIANA.

VEHICLE POLE AND COUPLING.

SPECIFICATION forming part of Letters Patent No. 570,020, dated October 27, 1896.

Application filed November 26, 1895. Serial No. 570,164. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH IMLER, a citizen of the United States, residing at Kendallville, in the county of Noble, State of Indiana, have
5 invented certain new and useful Improvements in Vehicle Poles and Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and
10 useful improvements in poles and couplings of that class constructed of tubular material; and it has for its object, among others, to provide an improved, simple, light, and cheaply-constructed and durable pole and
15 coupling, the parts of which may be readily assembled and which are so constructed as to combine strength and lightness. I provide novel means for the connection of the singletree or doubletree, permitting only a limited
20 movement thereof. I also provide novel means for bracing the pole and for swiveling the neck-yoke.

Other objects and advantages of the invention will hereinafter appear, and the novel
25 features thereof will be particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part
30 of this specification, and in which—

Figure 1 is a top plan of my invention. Fig. 2 is a detail in side elevation. Fig. 3 is a top plan of a pole and its attachments embodying my invention. Fig. 4 is a side elevation of Fig. 3 with the whiffletree in section.
35 Fig. 5 is a detail partly in elevation and partly in section, showing the manner of swiveling the neck-yoke. Fig. 6 is an enlarged detail, partly in elevation and partly in longitudinal
40 vertical section, showing the manner of attaching the singletree or doubletree. Fig. 7 is a horizontal section on the line 7 7 of Fig. 6, looking in the direction of the arrows.

Like letters of reference indicate like parts
45 throughout the several views.

In carrying out my invention I construct the shafts A of gas-pipe or tubular metal, the rear ends of which are screwed into the T's A', in the opposite ends of which are supported
50 the rear tubular parts A², which have the required curvature and are adapted for attachment in the usual manner, while in the adja-

cent necks or nipples a' of the T's are held the tubular parts A³, which are threaded into the coupling A⁴, which, together with said parts
55 A³ A³, constitutes the cross or connecting bar of the thills. This coupling A⁴ has an upwardly-extending portion or neck a⁴, as seen best in Fig. 6, and which, as seen in Fig. 7, has a rectangular opening a⁵, into which extends a rectangular boss or depending portion
60 b of the coupling B of the singletree, which is composed of the two tubular parts B', the ends of which are screw-threaded into said coupling, as seen best in Fig. 6. A bolt
65 C passes through a vertical opening in this coupling and in the boss b thereof through the coupling A⁴, and receives upon its lower end a nut C', by which the parts may be connected together. By this construction the
70 singletree may move freely within prescribed limits, but cannot move in either direction beyond a fixed point determined by the movement of the boss within the rectangular opening of the coupling. Upon the under side of
75 the shafts I attach spring-holdbacks D, consisting each of a single piece of spring metal secured at one end and the other free, as indicated in Fig. 2.

In Figs. 3 and 4 I have shown a pole embodying the same features above outlined in connection with the thills, the doubletree being constructed and mounted in a similar
80 manner to the singletree seen in Figs. 1 and 6 and the whiffletrees mounted upon the doubletree in substantially the same manner.

E is the pole; E', the doubletree; e, its coupling; e', its bolt, and E² the coupling into which the pole is screwed and which is the
85 equivalent of the coupling A⁴ in Fig. 1.

The singletrees are similar in construction and manner of mounting to the singletree seen in Fig. 1, and a detailed description thereof is not necessary.

From the rear end of the coupling E² extends a short pipe F, engaged in the nipple
95 f of the T F', in the opposite ends of which are secured the tubular curved pieces F². The rear ends of the curved pieces F² are each held in a coupling G, in the outer end of
100 which are the pieces G', designed for attachment in position in any suitable manner. The couplings G have upon their under sides the downwardly and forwardly curved nipples or

couplings *g*, in which are secured the tubular braces *H*, preferably in two parts, as shown, connected by a coupling *h*, whereby they may be readily separated when desired, the other ends of said braces being engaged in the downwardly and rearwardly curved nipples or couplings *I*, extending from the coupling *E*², as seen in Figs. 3 and 4, the said braces *H* diverging from their point of attachment with the couplings *I*, as seen best in Fig. 3, so as to give great strength to the pole.

In Fig. 5 I have shown a neck-yoke composed of the coupling *J* and the tubular pieces *J'*, screwed therein, as shown. This coupling has an opening *j* in its upper portion and on its lower face a boss *j'*, through which passes the vertical shank *k* of the *T* *K*, the horizontal portion of which *T* is engaged in the fold of the leather piece *K'*, having an opening *k'* to receive the pole in the usual manner. In applying this leather to the neck-yoke the vertical portion of the *T*, which is passed up through an opening in the leather, is inserted in the boss of the coupling *J* and riveted by a suitable tool placed through the opening *j* in the upper face of said coupling, as will be readily understood from Fig. 5, so that the neck-yoke is mounted to swivel on the said *T* and the headed portion of the shank is confined within the coupling.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

The whiffletree and doubletree connections may be shrunk on instead of being threaded, and, as seen in Fig. 6, a washer *L* may be employed between the connection—for instance, as between the neck *a*⁴ and the coupling *B*, around the depending portion *b* thereof—to prevent rattling.

What I claim as new is—

1. The combination with a coupling having a boss with a rectangular opening, of a coupling having a rectangular boss working in said opening, and a bolt passed through the two couplings to connect the parts together, substantially as specified.

2. The combination with a coupling having a boss with a rectangular opening, of a coupling having a depending rectangular boss arranged in said opening, a bolt passed vertically through the two to unite them, and

tubes held in opposite sides of said coupling, substantially as specified.

3. The combination with a coupling having tubular necks at its opposite ends and a boss and an opening in its upper face in line with said boss, the tubular portions detachably engaged in said necks of a stud passed through the boss and headed within the coupling and having a horizontal portion outside the coupling, and the pole attachment held on said horizontal portion, substantially as specified.

4. The combination with the pole and the coupling at the rear end thereof having curved and downwardly and rearwardly extending nipples, and the rearwardly-extending *T*-coupling of the curved tubular parts supported from said *T*-coupling, couplings on the rear ends thereof having curved downwardly and forwardly extending nipples, and the brace-rods connecting the said nipples with those on the coupling at the rear end of the pole, substantially as specified.

5. The combination with the pole and the coupling at the rear end thereof having curved and downwardly and rearwardly extending nipples, and the rearwardly-extending *T*-coupling of the curved tubular parts supported from said *T*-coupling, couplings on the rear ends thereof having curved downwardly and forwardly extending nipples, and the brace-rods connecting the said nipples with those on the coupling at the rear end of the pole, said brace-rods being formed of tubular sections, substantially as specified.

6. The combination with a coupling having tubular screw-threaded necks at opposite ends and a boss extending at right angles to said necks and provided with a rectangular opening, of a coupling having a rectangular boss working in said opening, a bolt passed through the two couplings to connect the parts together, and a washer around the rectangular boss and between the coupling and the upper face of the neck in which said boss works, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH IMLER.

Witnesses:

THOMAS L. GRAVES,
JAMES GRAVES.