(No Model.)

F. G. CROWLEY.

VEHICLE POLE.

No. 275,470. Patented Apr. 10, 1883.

Fig 1.

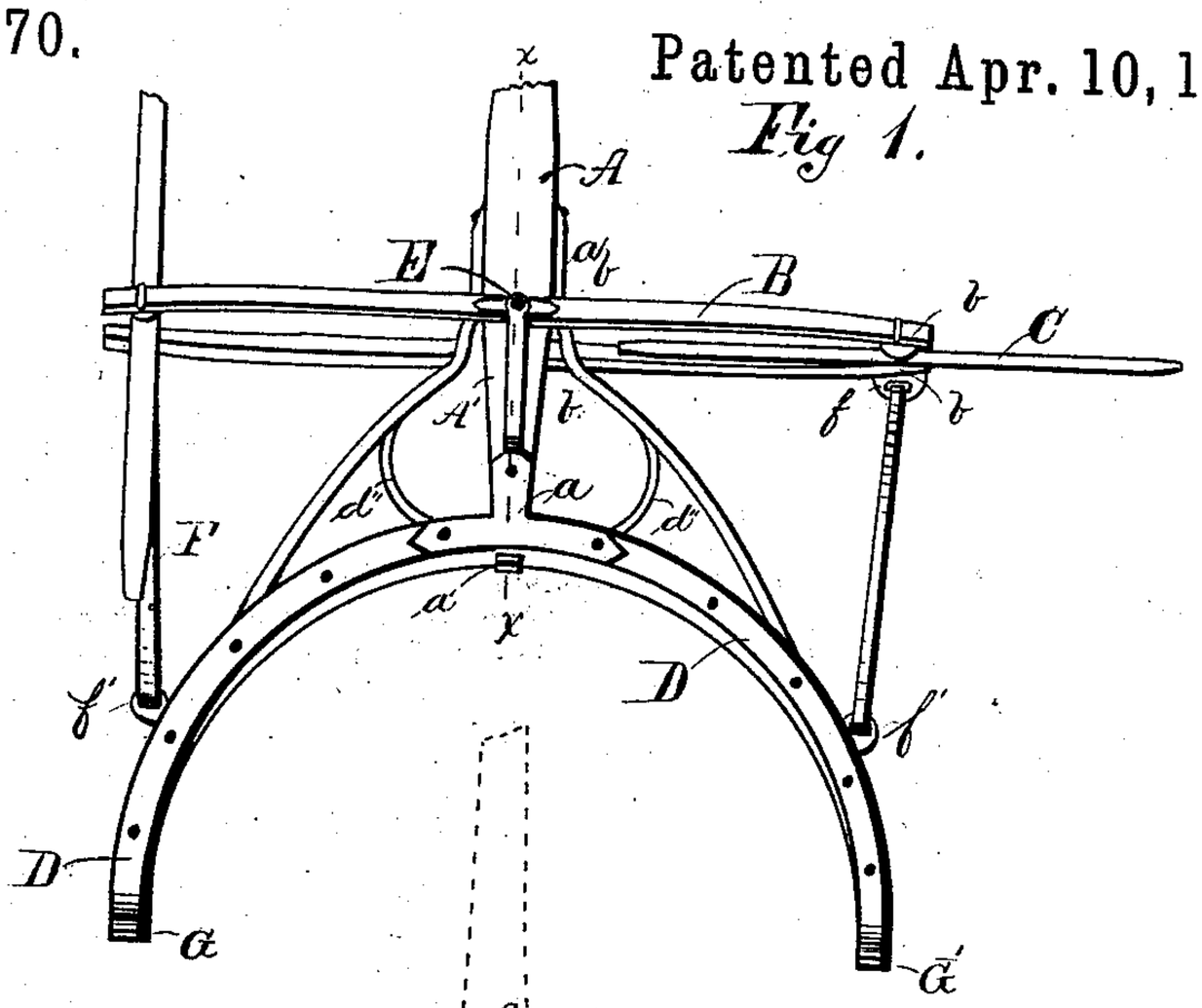

Fig 4.

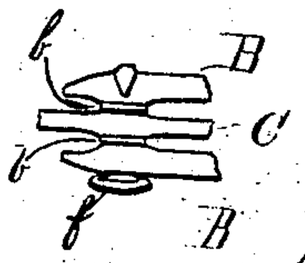

Fig 2.

Fig 3.

Witnesses.

W. Edwards

W. E. Wright

Inventor.

Fredrick G. Crowley

by C. O. Burtt.

his Attorney

UNITED STATES PATENT OFFICE.

FREDRICK G. CROWLEY, OF SEDALIA, MISSOURI.

VEHICLE-POLE.

SPECIFICATION forming part of Letters Patent No. 275,470, dated April 10, 1883.

Application filed February 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK G. CROWLEY, a citizen of the United States, residing at Sedalia, in the county of Pettis and State of Missouri, have invented certain new and useful Improvements in Vehicle Poles and Drafting-Connections; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in vehicle poles and drafting-connections; and it consists in the peculiar shaping of these parts and the manner of ironing and connecting them together, and the application of anti-rattlers to the drafting-connections.

The objects of my invention are, first, to so construct a vehicle-pole and secure it to the circle-bar by mortise and tenon and by my improved method of ironing that the strength of what has heretofore been the weak part of the pole—viz., its connection with the circle-bar—is greatly increased; second, by the slight bend in the pole to secure a more direct draft of the vehicle through the bolts and the circle-bar, and a consequent increase in the drafting-power; third, to produce a tongue or pole and connecting parts light in weight, graceful and airy in appearance, and noiseless in action.

The better to understand the nature of my invention, reference is made to the accompanying drawings, which form a part of this application.

Similar letters of reference indicate corresponding parts in the several views.

In the drawings, Figure 1 is a perspective view, exhibiting the top and rear of parts of my invention. Fig. 2 is a plan view of the under side of the same. Fig. 3 is a sectional side view of Fig. 1 on the line *x x*. Fig. 4 represents the end of the double-tree broken off and its connections, and Fig. 5 the washer or anti-rattler enlarged.

The letter A indicates the pole or tongue of a vehicle, having the end A′ bent, as in Fig. 3, and being mortised at *a′* to the circle-bar D. B is a double-tree, and C C are single-trees. An iron plate, *a*, on the upper side and an iron plate, *d*, on the under side of the pole and circle-bar are firmly bolted to those parts to sustain and strengthen this usually weak part of the connection. The plate *a* upon the bar D is extended a few inches upon the pole and then arched, as shown in Fig. 3, to reach over the double-tree, where it is provided with an eye for the bolt E.

Fig. 2 illustrates my method of ironing the under side of the pole and circle-bar. In this view the ironing is represented by solid lines, while the wooden extension of the pole and the washer *b* are indicated by dotted lines. The solid iron plate *d* extends from a suitable point on the pole to and continuously upon the circle-bar D and beyond the ends of the latter, where it is formed into eyes G G′ for attachment to the vehicle. The braces *d′ d′*, supported by the braces *d″ d″*, shaped as preferred, are added, being secured to the pole and bar D by bolt and nut, as shown in Fig. 2. The wooden part of the circle-bar D extends over its entire length from eye G to eye G′, said eyes being formed by turning the ends of the iron *d* upward and over against the ends of the bar D.

My method of shaping the pole by a single slight crook gives a more direct draft to the vehicle. The bent part of the pole A′ should be not less than six nor more than nine inches in length, and should bend at the angle shown in Fig. 3. It should also be nearly in the same plane as the plane of the circle-bar when attached thereto. This arrangement admits of very short braces *d′ d″*, which are therefore less liable to allow the tongue to vibrate at its point of connection with the circle-bar, and transfers the strain from the mortised part to the stronger portions of the said bar, and also gives proper height and sweep to the pole. This complete method of ironing these parts, and especially protecting the mortised portion, admits of a very light construction of pole and bar, while at the same time it greatly increases their strength. The anti-rattlers or washers *b b* I prefer to make of leather or rawhide and circular in shape, with a central opening for the bolt. These washers serve the double purpose of preserving the parts from wear and of preventing their rattling together while the vehicle is in motion.

I am aware that a double-tree made in two pieces is not new; but the manner in which I

shape and connect it to the pole and single-trees enables me to do away with strengthening-irons, which are required on other double-trees. I use T-head bolts to connect the single-trees to the double-tree, and attach loops *f f*, having bolt-holes, to the lower ends of the bolts for the stay-straps. I use six washers, *b b*, in these connections—one above and one below the pole and each of the single-trees, and between those parts and the double-tree. The bolts securing these parts together are threaded at their lower ends, and nuts thereon hold all together. The washers are loose and free to turn with the adjacent parts.

The loops *f' f'* may be formed from a part of the braces *d' d'*, or made separately and attached to the bar D by bolt and nut.

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

1. The combination of a vehicle-pole, A, having the single crook A', of specified dimensions, and provided with iron plates *a* and *d*, adapted to firmly secure the pole to the circle-bar, the braces *d' d''*, and the circle-bar D, having the said iron plate *d* extended continuously upon and beyond it, the ends of said plate *d* being turned up to form the eyes G G', all constructed and combined as herein set forth.

2. In vehicle drafting-connections, the combination of the pole A A', iron plates *a* and *d*, braces *d' d' d'' d''*, circle-bar D, double-tree B, and single-trees C C, loops *f f* and *f' f'*, and washers *b b*, all constructed and connected substantially in the manner and for the purposes herein set forth.

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

FREDRICK G. CROWLEY.

Witnesses:

T. W. CLONEY,

R. E. KING.