

UNITED STATES PATENT OFFICE.

WILLIAM C. CARLTON, OF BOISE CITY, TERRITORY OF IDAHO.

IMPROVEMENT IN AXLE SETS AND GAGES.

Specification forming part of Letters Patent No. **182,556**, dated September 26, 1876; application filed January 22, 1876.

To all whom it may concern:

Be it known that I, WILLIAM C. CARLTON, of Boise City, in the county of Ada and Territory of Idaho, have invented a new and useful Improvement in Axle Sets and Gages, of which the following is a specification:

Figure 1 is a side view of my improved device, shown as applied to an axle. Fig. 2 is a top view of the same. Fig. 3 is a detail view of the single clamp.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved instrument for setting and laying off axles, and getting the gather and dish of wheels, which shall be simple in construction and convenient and accurate in use.

The invention consists in the combination of the three bars, the three clamps, the slotted arm, the sliding rule, and the clamping-screws with each other, as hereinafter fully described.

A is a wooden bar, of convenient size, and about five feet long. To the right-hand end of the bar A, or to an iron bar let into and secured to said end, is jointed the inner end of an iron bar, B, about twelve inches long. C C are two short bars, upon the outer ends of which are formed prongs D, projecting at right angles with said bars C. The inner ends of the bars C C are pivoted to each other and to the bar B by a clamping-screw, E, which passes through a longitudinal slot in the outer part of the bar B, so that by loosening the nut of the screw E the clamp C D may be moved out and in upon the bar B to adjust it. To the middle parts of the bars C are pivoted the outer ends of two arms, F, the inner ends of which are pivoted to each other and to the bar B by a clamping-screw G, which passes through the inner part of the slot in the bar B, so that by loosening the nut of the screw G the pronged ends of the bars C may be adjusted at any desired distance apart, and by screwing up the said nut the bars C will be fastened securely in place. When the screw G is loosened the bars C are forced apart by the spring S, one end of which is attached to one of said bars, and its other end rests against the other bar. To the inner part of the bar B, and in a reverse position, is attached a clamp, Fig. 3, exactly like the outer clamp, except that the

clamping-screw E is omitted and the inner ends of the bars C C are permanently pivoted to the bar B. To the left-hand end of the bar A is pivoted a third clamp exactly like the outer right-hand clamp. To the inner end of the bar B, and in line therewith, is rigidly attached a wooden bar, H, about three feet long, to the inner end of which is attached a slotted cross-plate, I, to receive a clamping-screw, J. The screw J screws into a screw-hole in the bar A, so that by tightening up the said screw J the bar H may be fastened in any position into which it may be adjusted. Upon the upper side of the bar A is formed a scale, K, the division lines of which run longitudinally with the said bar A. Upon the upper side of the bar H is formed a scale, L, the division-lines of which cross the said bar H at right angles. Upon the bar H is placed a sliding rule, M, provided with a clamping-screw, N, for securing it in place when adjusted. The sliding rule M is also provided with a scale, O, the division-lines of which are made at right angles with the length of the said rule.

In applying the instrument to use it is placed upon the axle, and the right-hand or double clamps are adjusted to the shoulder and end of the right-hand spindle, and the left-hand or single clamp is adjusted to the shoulder of the left-hand spindle, as shown in Fig. 1.

To obtain the dish of the wheel the instrument, adjusted as above described, is placed across the wheel close to the hub, with the inner prongs of the right-hand or double clamps against the tread of the tire. The sliding rule M is moved to the center of the hub, and is secured with the screw N, thus getting the half diameter of the wheel.

The bar H is secured, after its inner end has been pressed against the spoke opposite the sliding rule M, by tightening the screw N. The instrument, after having been set and an axle made to conform to it, will bring the wheel on a plumb-spoke.

To set the instrument for the gather of the right-hand spindle, loosen the screw J and draw the bar H toward you, when the said instrument is in the position shown in Fig. 1, until the bar H indicates upon the scale K

the desired gather. The screw J is then tightened, and the instrument is set for both the swing and the gather. To get the gather for the left-hand spindle, loosen the screw J and move the bar H the same distance from you and again tighten the said screw.

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

The combination of the three bars A B H, the three clamps C D F S, the slotted arm I, the sliding rule M, and the clamping-screws E G J N with each other, substantially as herein shown and described.

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Witnesses:

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