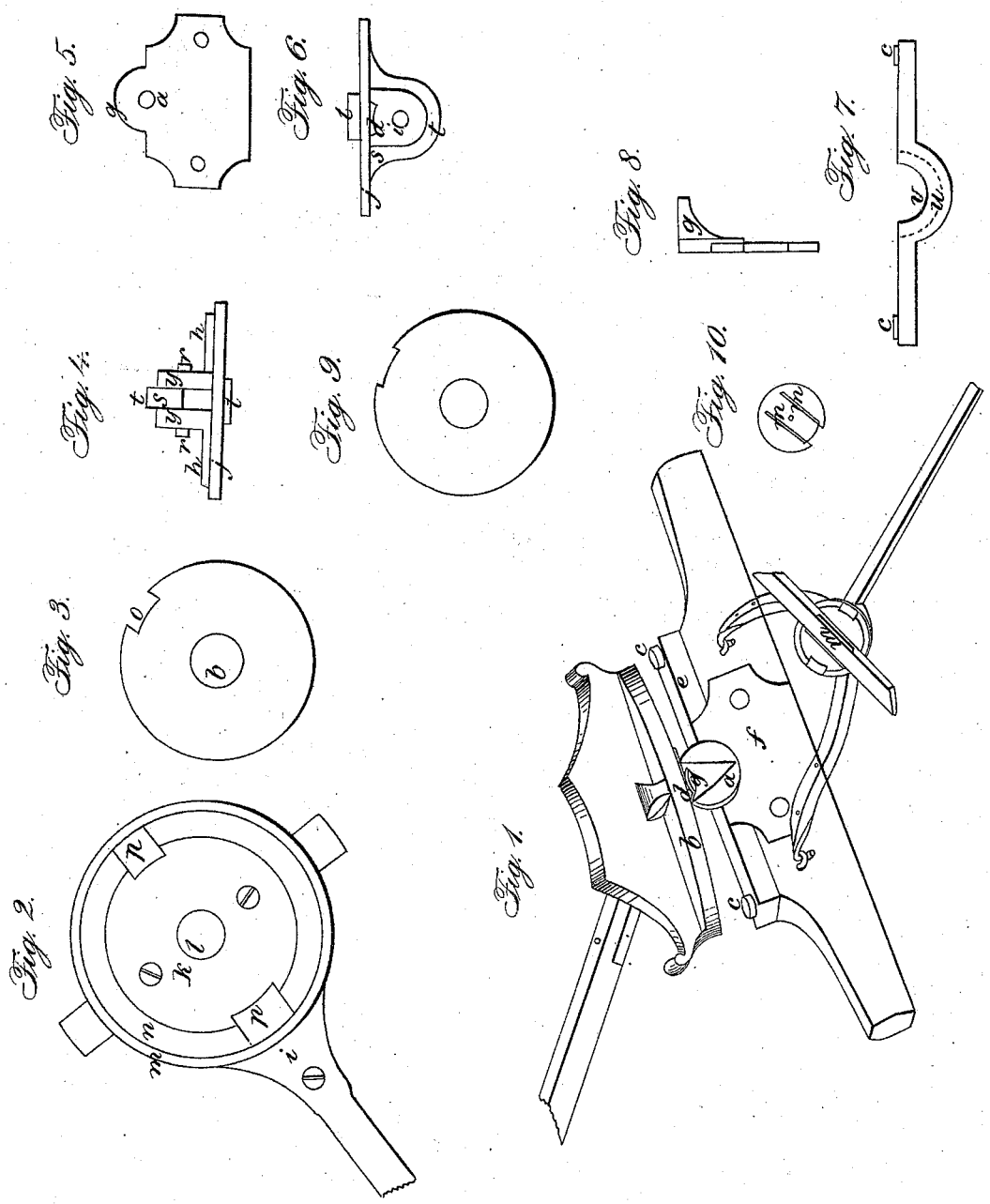
A. H. HART.

Fifth-Wheel.

No. 3,274. Patented Sept. 23, 1843.



UNITED STATES PATENT OFFICE.

ALEXANDER H. HART, OF CHAGRIN FALLS, OHIO.

METHOD OF COUPLING THE FORWARD AXLETREE OF FOUR-WHEEL CARRIAGES WITH THE REACH AND HEAD-BLOCK OR ROCKER.

Specification of Letters Patent No. 3,274, dated September 23, 1843.

To all whom it may concern:

Be it known that I, ALEXANDER H. HART, of Chagrin Falls, Cuyahoga county, Ohio, have invented a new and useful Improvement in the Method of Coupling the Forward Axletree of a Four-Wheel Carriage with the Reach and Head-Block or Rocker.

The nature of my invention consists in an improved method of uniting the lower or rotating plate of a compound coupling joint with the axletree, by means of a hinge joint, so constructed as to give strength and durability to the whole, as well as to allow the axletree both a horizontal and a limited vertical motion. My invention being an improvement upon the method of uniting these, patented to Alfred Osgood.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct my carriages in any of the ordinary forms, and then provide two circular plates of iron or other suitable material, called the upper and lower plates. The upper plate seen at Figure 2 and at *b* Fig. 1, is attached to the lower side of the reach and head block, or rocker and made of sufficient size and strength, to support the weight, and bear the entire draft of the carriage. An arm (Fig. 2, *i*) from this plate reaches back a short distance, and is made fast to the reach. The lower plate is about two thirds the size of the upper plate, and may be seen at Fig. 3 and at *j* Figs. 4 and 6. It is made to suit a cup-like cavity in the lower side of the upper plate, in which it moves. The cavity seen at *k*, Fig. 2. A gudgeon rises from the center of the lower plate through a hole made in the center of the upper plate for the purpose. The gudgeon represented at *l*, Figs. 3, 4, and 6. The hole to admit the gudgeon seen at *l*, Fig. 2. This gudgeon together with the pressure of the edge of the lower plate against that of the cavity in the upper plate supports the draft of the vehicle. The edge of the upper plate projects downward so as to form a rim (*m*, Fig. 2) leaving between it and the cavity for the lower plate a plane or space (*n*, Fig. 2). Then from the rim, two hooks (*p*, *p*, Fig. 2) extend so far over the edge of the cavity, as to hold the lower plate in its place. The forward hook is directly in front of the back one. The rim is designed as a kind of sway to play upon bearings to be hereafter described. In the edge of the lower plate is a notch (*o* Fig. 3) corresponding to one of the two hooks so that by slipping the edge of the plate under one hook the plate will drop down past the other; then by turning the plate one quarter round it is brought to a position, where it is held securely and the axletree is brought to its proper place. There is on the under side of the lower plate, a kind of semicircular projection or knuckle (*t* Fig. 4 and *t* Fig. 6) the middle of it projecting farthest and forming a kind of tongue (*s* Fig. 4 and *s* Fig. 6) which tongue extends its wings nearly to the edge of the plate for the purpose of strengthening the same. The rest of the knuckle constitutes two bearings, one on each side of the tongue which work in a box in the bed plate, as described below. These bearings seen at *y*, *y*, Fig. 4. And on the side of each of these bearings is a gudgeon (*r*, *r*, Fig. 4, and *r*, Fig. 6). On the bottom of the plate and parallel with the gudgeons are two concaves (*h*, *h*, Fig. 4 and *d*, Fig. 5) which turn on the shoulders of the side plate. On end view *q* one is shown at *d* Fig. 6, and *d* Fig. 1. A bed-plate (Fig. 7 and *e* Fig. 1) is fastened to the upper side of the axletree, having a box and groove fitted for the knuckle. This box is in the form of a semicircle, and is represented at *v* Fig. 7. And the groove for the tongue by the dotted line, *u* Fig. 7. On each end of the bed plate is a bearing *c*, *c*, Fig. 1 and *c*, *c* Fig. 7, on which the rim of the upper plate plays as described above, and thus regulates the rock of the carriage. The knuckle being set in the box, and being of the width of the bed-plate the gudgeons project forward and backward from the sides. There are fastenings, one on the fore, and the other on the after side of the axletree, two side plates, (Fig. 5 and *f* Fig. 1, and the edge at Fig. 8), having each a hole (*w* Fig. 5) in which one of the gudgeons last named turns; and a process or shoulder, (*g* Fig. 5) *g* Fig. 8 and *g* Fig. 1, for the concave of the lower plate to turn on, and also to hold the lower plate in its position. A washer (Fig. 9) shaped like the face of the lower plate, may be placed between the two plates to lessen the friction and to tighten the joint if necessary.

I am aware that a patent has been granted to Alfred Osgood for combining the lower

rotating plate with the axle-tree by means of a hinge joint, so as to allow the axletree both a horizontal and a vertical motion, and I do not therefore claim this as my invention, but

What I do claim as my invention is—

The method in which I construct the joint which unites these two; that is to say, I claim the semicircular knuckle, with its projection, *t*, and gudgeons, *r*, *r*, and the concaves *h h*, on the lower plate in combination with the bed and the side plates that receive the gudgeons, *r*, and projections, *g*, for the concaves *h h* to rest on, all as herein described.

ALEXANDER H. HART.

Witnesses:
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