No. 689,150. Patented Dec. 17, 1901.

# H. F. WEEKS.

## VEHICLE GEAR.

(Application filed Oct. 12, 1901.)

(No Model.)

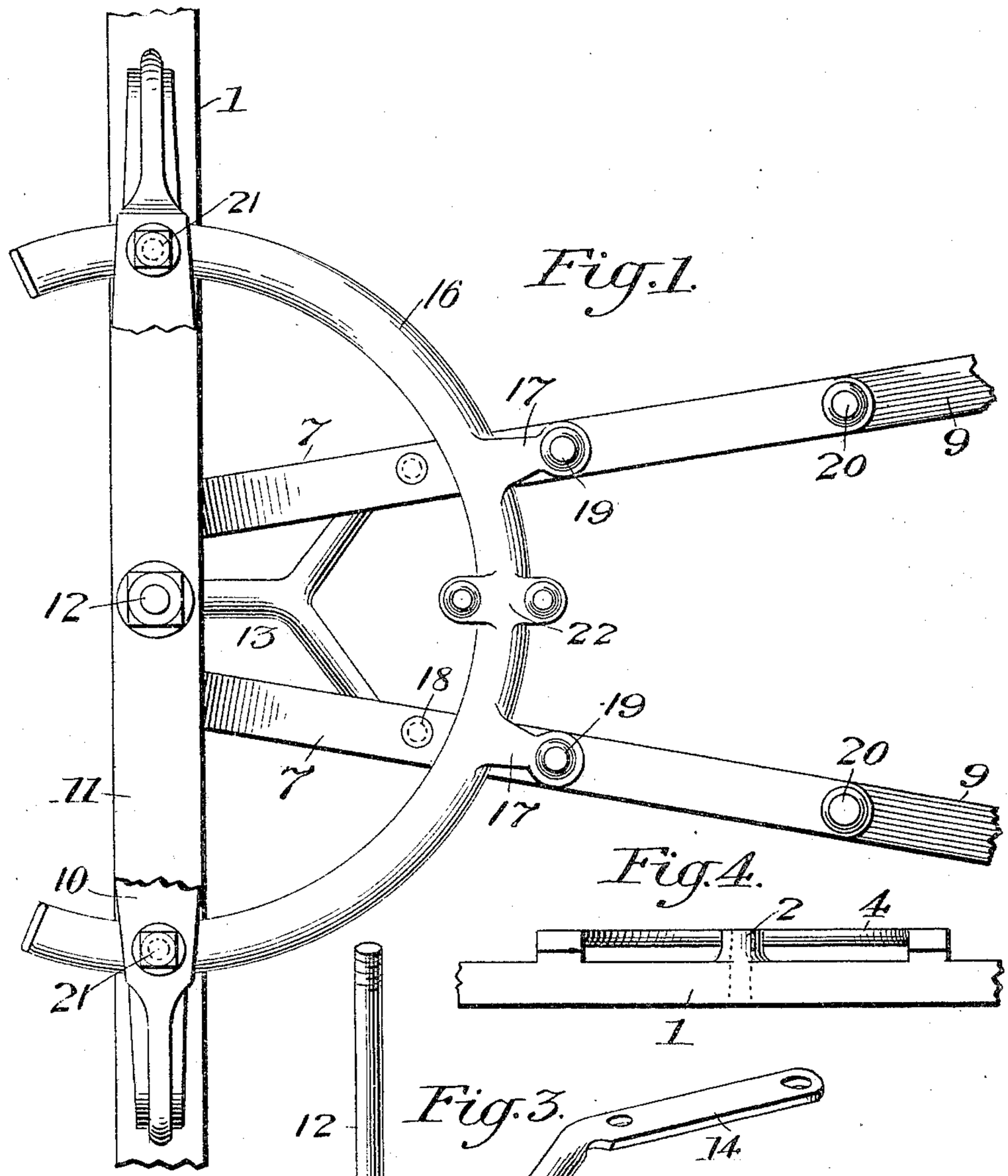


Fig. 1.




Fig. 4.

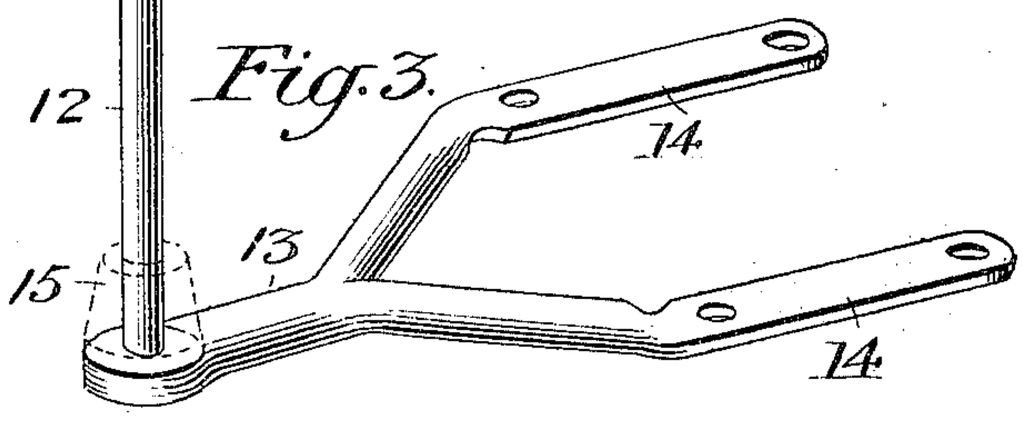


Fig. 3.

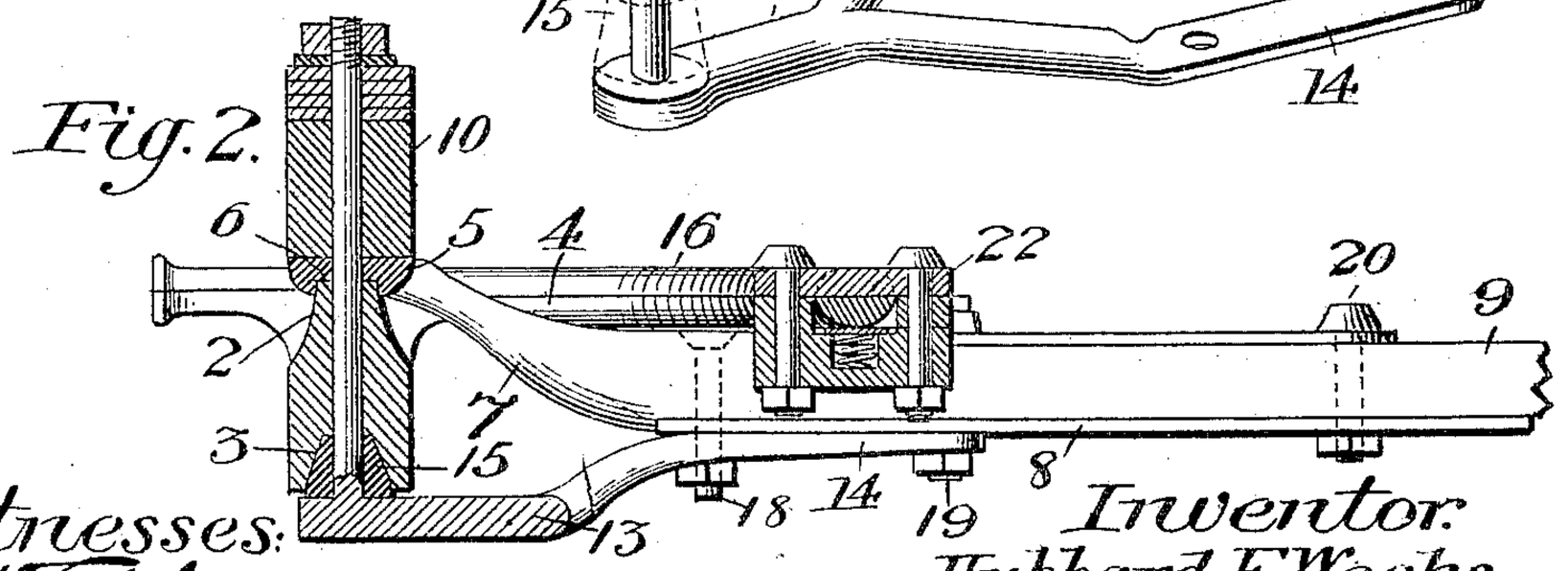


Fig. 2.

Witnesses:
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# UNITED STATES PATENT OFFICE.

HUBBARD F. WEEKS, OF FREEHOLD, NEW JERSEY.

## VEHICLE-GEAR.

SPECIFICATION forming part of Letters Patent No. 689,150, dated December 17, 1901.

Application filed October 12, 1901. Serial No. 78,438. (No model.)

*To all whom it may concern:*

Be it known that I, HUBBARD F. WEEKS, a citizen of the United States, residing at Freehold, in the county of Monmouth and State of New Jersey, have invented new and useful Improvements in Vehicle-Gears, of which the following is a specification.

The object of my invention is the production of a vehicle-gear which shall be simple in construction, comprised of few parts and those parts united by the fewest possible number of bolts, which shall be so arranged that the axle and lower member of the fifth-wheel only will move relative to the remaining portion of the gear, the king-bolt being stationary, which shall be provided with means for taking up wear, and which withal shall constitute a comparatively light, simple, and strong instrumentality for performing the desired functions.

With this end in view my invention consists in certain novelties of construction and combinations of parts hereinafter set forth and claimed.

The accompanying drawings illustrate an example of the physical embodiment of my improvements constructed according to the best mode I have so far devised for the practical application of the principle.

Figure 1 is a top plan view of the gear with the ends of the spring broken away. Fig. 2 is a section of Fig. 1 and in elevation. Fig. 3 is a perspective view of the integral king-bolt and forked brace, the washer being shown in dotted lines. Fig. 4 is a fragmentary view of the axle, lower member of the fifth-wheel, and the perforated boss, all formed integrally.

Referring to the several figures, the numeral 1 designates the axle; 2, a boss projecting above the upper surface of the axle and of a tapering shape, a perforation or hole being made therethrough and through the body of the axle beneath; 3, a conical recess in the under surface of the axle and concentric with the hole in the axle and boss, and 4 the lower semicircular member of the fifth-wheel, having a flat upper surface raised above the top horizontal plane of the axle and forged or otherwise formed integral with the said axle.

The numeral 5 designates a perforated head-block plate of the form shown; 6, a seat concentric with the perforation and adapted to serve as a bearing for the end of the boss upon the axle; 7, the perforated top reach-irons integral with the head-block plate; 8, the bottom reach-irons; 9, the reaches; 10, the head-block, having holes at its ends and a hole at its central portion, and 11 the lower leaves of a spring, which are perforated to receive the king-bolt end.

The numeral 12 designates the king-bolt proper threaded to receive a washer and nut; 13, a brace integral with the king-bolt; 14, the flat perforated rearwardly-extending forked arms of the brace, and 15 is a conical-shaped and perforated washer located upon the king-bolt and fitting within the conical or tapering shaped recess 3, formed within the lower surface of the axle.

The numeral 16 designates the upper member of the fifth-wheel, semicircular in shape and conforming in outline with the lower member, which is integral with the axle.

17 designates perforated attaching-lugs; 18, bolts which pass through the top reach-irons, the reaches, the lower reach-irons, and the ends of the forked brace; 19, bolts which pass through the lugs of the top member of the fifth-wheel, the top reach-irons, the reaches, the lower reach-irons, and the ends of the forked brace; 20, bolts which secure the reaches to the top and bottom reach-irons; 21, bolts which pass through the ends of the head-block, the ends of the upper member of the fifth-wheel, and the ends of the head-block plate, and 22 is an antirattler of a well-known type located at the rear portions of the two members of the fifth-wheel and holding their bearing-surfaces in frictional contact.

From the foregoing description it becomes apparent that I have produced a gear which is simple in construction, comprised of few parts, in which the king-bolt is stationary and relieved from severe strains by reason of the interlocking portions, which is provided with means for taking up the wear between the axle and the other bearing-surfaces, which is so arranged that few bolts are required to unite the several constituent elements, and which, moreover, fulfils all the conditions set forth as the end of my invention.

It is obvious that in practice numerous minor changes may be introduced in the construction and arrangements, such as making

the tapering washer integral, with the king-bolt, if so desired, and altering and modifying the shape of certain parts without constituting a substantial departure.

What I claim, and desire to secure by Letters Patent, is—

1. The combination in a vehicle-gear, of an axle having a boss upon its upper surface and said axle and boss centrally perforated; a perforated head-block plate and top reach-irons formed integral; a king-bolt and brace with forked ends formed integral, said king-bolt located within the perforations formed in the axle, boss, and head-block plate; lower reach-irons; and bolts; said bolt uniting the ends of the upper reach-irons, the lower reach-irons, and the forked ends of the brace.

2. The combination in a vehicle-gear, of an axle having a boss 2 upon its top surface and a semicircular lower member of the fifth-wheel formed integrally, the axle and boss being perforated; a perforated head-block plate and upper reach-irons integral therewith; an integral king-bolt and forked brace; and bolts uniting the ends of the forked brace and the ends of the reach-irons, the said king-bolt passing through the perforations in the axle, boss, and head-block plate.

3. A vehicle-axle having a tapering boss upon its upper surface and a lower semicircular fifth-wheel member 4 having its ends located upon opposite sides of the boss; said axle and boss being centrally perforated, and said axle, boss, and lower fifth-wheel member formed integral.

4. The combination in a vehicle-gear, of a perforated axle having a recess in its lower surface; an integral king-bolt and brace which are stationary relative to other portions of the gear; and a washer located upon the king-bolt and seated within the recess in the lower surface of the axle.

5. The combination in a vehicle-gear, of the perforated axle having a lower semicircular fifth-wheel member integral therewith; a perforated head-block plate; top reach-irons 7; an upper fifth-wheel member provided with integral perforated lugs 17; a combined king-bolt and forked brace; and bolts 19; said bolts uniting the upper member of the fifth-wheel, the top reach-irons, and the ends of the forked brace and the king-bolt located within the perforations of the axle and head-block plate.

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

HUBBARD F. WEEKS.

Witnesses:

B. DEY CONOVER,

EDWARD C. CASHION.