(No Model.)

# P. DIROLL.

## ANTIFRICTION ROLLER FOR WAGON REACHES.

No. 563,576. Patented July 7, 1896.

*Fig. 1*

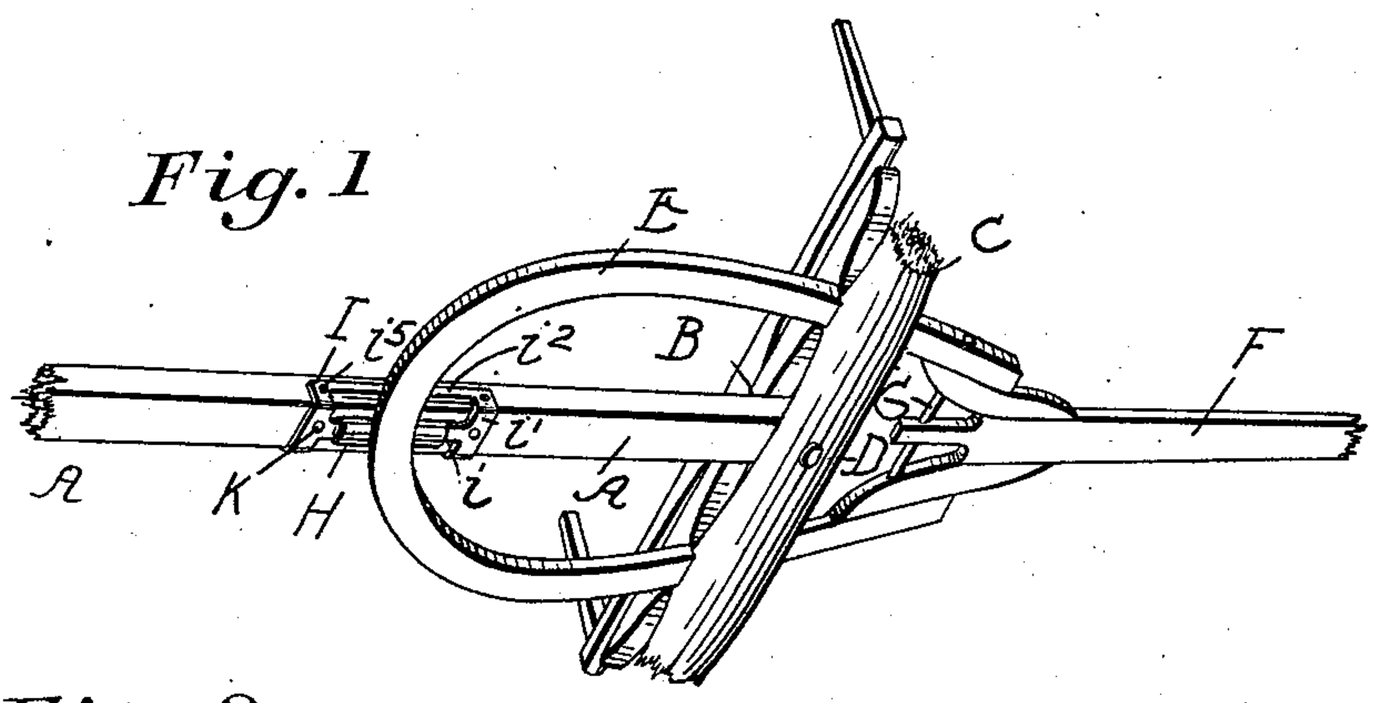



*Fig. 2*

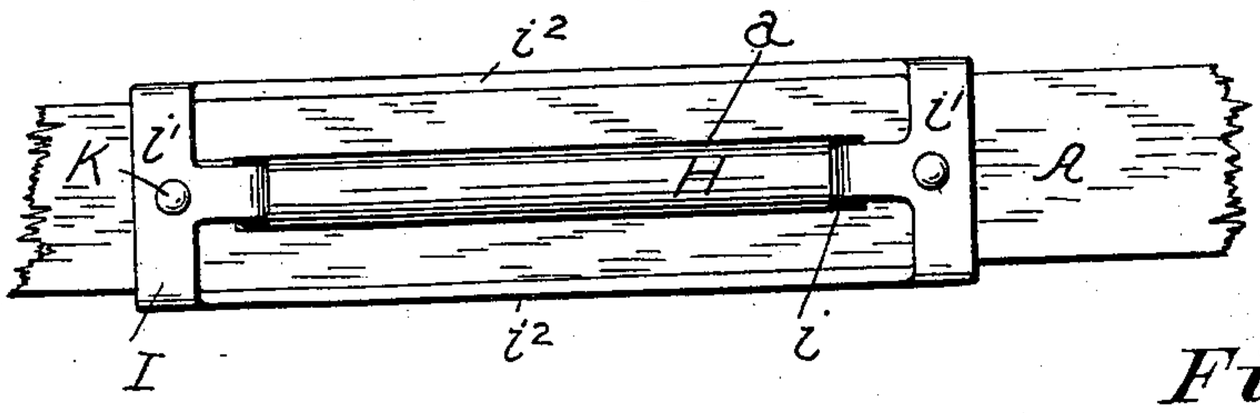



*Fig. 3*

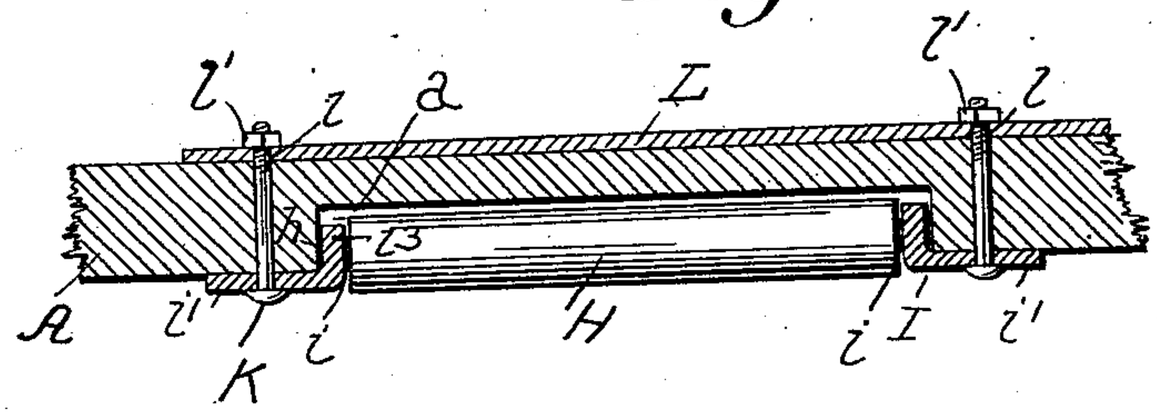
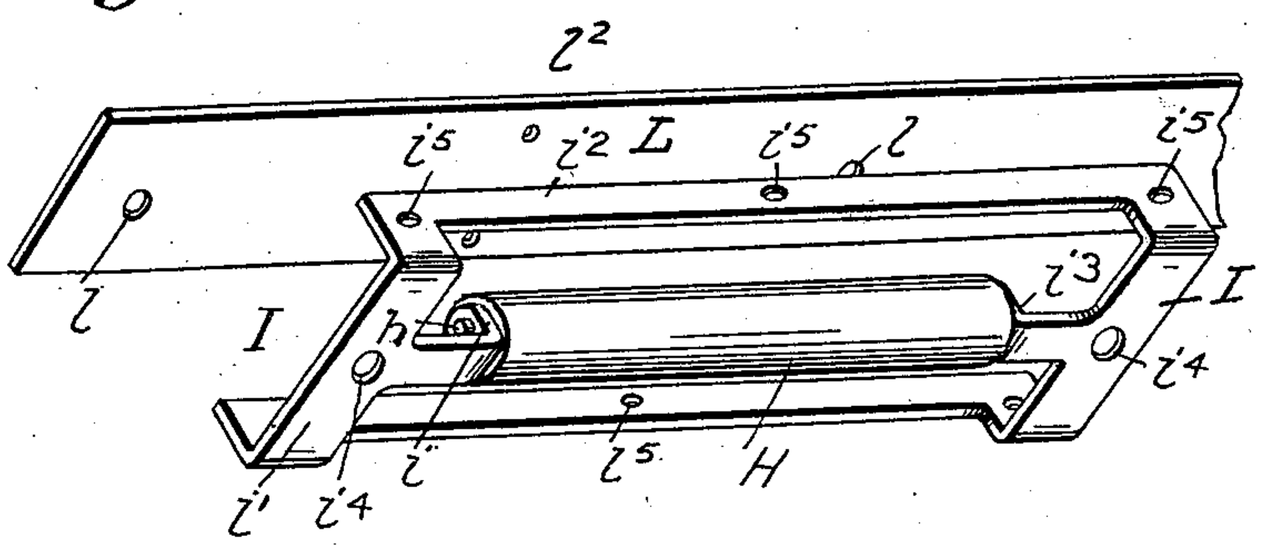



*Fig. 4*




*Witnesses:*

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# UNITED STATES PATENT OFFICE.

PETER DIROLL, OF MISHAWAKA, INDIANA.

## ANTIFRICTION-ROLLER FOR WAGON-REACHES.

SPECIFICATION forming part of Letters Patent No. 563,576, dated July 7, 1896.

Application filed January 4, 1896. Serial No. 574,282. (No model.)

*To all whom it may concern:*

Be it known that I, PETER DIROLL, a citizen of the United States, residing at Mishawaka, county of St. Joseph, State of Indiana, have invented certain new and useful Improvements in Antifriction-Rollers for Wagons, of which the following is a specification.

My invention relates to rub-rollers supported upon the under side and forward end of a wagon-reach and between the reach and the hounds to provide an antifriction-bearing for the latter, to reduce wear and friction between the opposing surfaces, and to allow the wagon to be more easily turned.

In devices of this kind it has been difficult to secure a roller to the reach by simple instrumentalities without cutting away the wood to receive the upper part of the roller, thereby allowing the hounds to fit up closely to the under side of the reach, but correspondingly weakening the latter and necessitating extra heavy, cumbersome, and otherwise objectionable connections to reinforce the weakened part.

My invention consists in a simple construction, combination, and arrangement of plates, bolts, and roller, which may be easily fitted to any ordinary wagon-reach, which will securely hold the roller in proper position upon the reach, and reinforce the reach at its weakest or reduced part, as will hereinafter appear.

In the accompanying drawings, which illustrate my invention, Figure 1 is a perspective view of the under side and forward end of the reach and the adjacent parts of the running-gear of a wagon; Fig. 2, an enlarged plan of the under side of part of the reach, the antifriction-roller, and my improved roller-supporting plate and reach-brace connected together; Fig. 3, a vertical longitudinal section through the reach, the friction-roller, the roller-supporting plate, cap-plate, and bolt connections thereof; and Fig. 4 is a perspective view of the friction-roller and its supporting-plate connected thereto, and of the cap-plate slightly separated therefrom.

The reach A is coupled to the bolster B and front axle C by a king-bolt D in the usual manner, and the hounds E are connected at their forward ends to the tongue F by bolt G and are bowed rearwardly beneath the reach A and between the bolster and forward axle, all in a well-known manner, as shown in Fig. 1 of the drawings.

The reach A has a longitudinal recess *a* cut out from the under side thereof to receive an antifriction-roller H, which when held within said recess will project somewhat below the under side of the reach. The antifriction-roller H has journals *h* at its ends, which are supported in bearings *i* in a roller-supporting plate I, which constitutes an essential novel element of my device.

The roller-supporting plate I is preferably made of steel plate cut out to form a rectangular frame having flat end pieces $i'$, which are fitted to the under side of the reach and turn up slightly at the opposite sides thereof, longitudinal side pieces $i^2$, which extend along to fit closely against the opposite sides of the said reach and connect the end pieces $i'$ of said roller-supporting plate, and is also cut out and bent to provide inwardly and upwardly extending arms $i^3$, the ends of which are bored to provide bearings *i* for the journals *h* of the said antifriction-roller.

The recess *a* of the reach is just sufficiently long and deep to receive the antifriction-roller H and its bearings *i* upon the plate I, and allow said roller to project sufficiently below the under side of the reach to take the bearing of the rub-iron upon the top of the hounds as usually arranged and proportioned, thus requiring no changes in this respect to adapt my improvement to the reach of an ordinary wagon.

The roller-holding plate I has holes $i^4$ in the middle axial line and at the ends thereof to receive bolts K, which pass up through the reach and also through similar holes *l* in the ends of a cap-plate L, secured thereto by nuts $l'$, as shown in Fig. 3, to firmly hold the roller-supporting plate I, the reach A, and the cap-plate L together, screw-holes $i^5$ in the roller-holding plate I and similar screw-holes $l^2$ in the cap-plate L giving additional security to the said connection, which when complete provides more than sufficient reinforcement to compensate for the reduced portion of the reach caused by the roller-recess *a*, the reach being braced on all sides by the roller-supporting plate and cap-plate.

A flat smooth iron plate is usually secured to the upper face of the hounds by bolts or

screws and bears against a smooth iron plate similarly secured to the under side of the reach, thus providing wearing-surfaces, but not materially reducing friction.

Heretofore the reach has been gouged out or recessed at the under side and at the point of contact therewith of the hound, and a roller has been supported in various ways, partly within said recess, by bolts passing through the said reach, which also tend to weaken the same.

The roller-supporting plate I above described is light, strong, and inexpensive and will admit of the compact arrangement and strong connection of the antifriction-roller with the reach without disarranging or unduly separating the bearing-surface of the hound from the under side of the reach or reducing the strength of the latter.

I claim as my invention and desire to secure by Letters Patent—

The combination with a wagon-reach, of an antifriction-roller-supporting plate I, comprising longitudinal pieces to fit the sides, transverse pieces connecting the same and passing under the reach, and middle end pieces having upwardly-bent ends to provide bearings all formed integral, an antifriction-roller supported thereon, a cap-plate L and end bolts connecting said cap-plate and roller-supporting plate, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in the presence of two subscribing witnesses.

PETER DIROLL.

Witnesses:

B. KRUEPER,

T. SENRICH.