

No. 632,701.

Patented Sept. 12, 1899.

J. CULTON.  
CAR COUPLING.

(Application filed June 12, 1899.)

(No Model.)

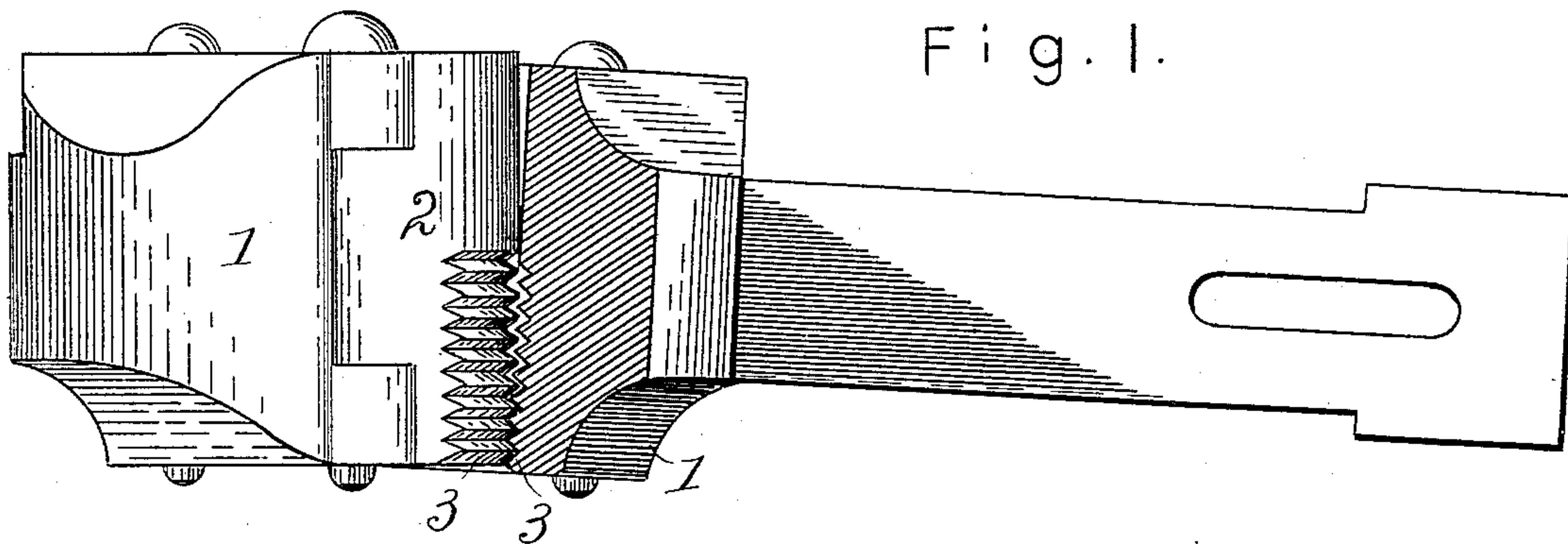


Fig. 2.

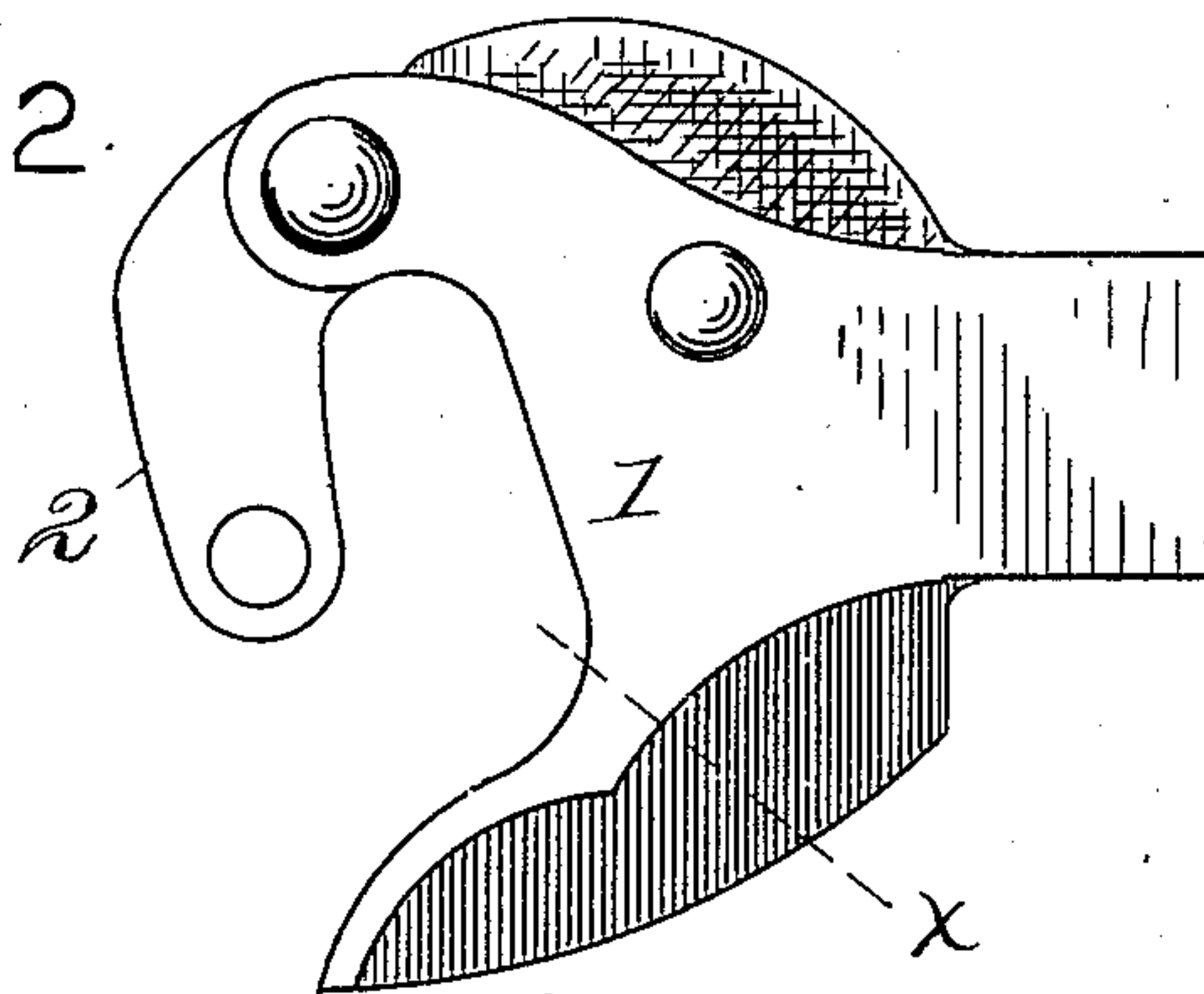
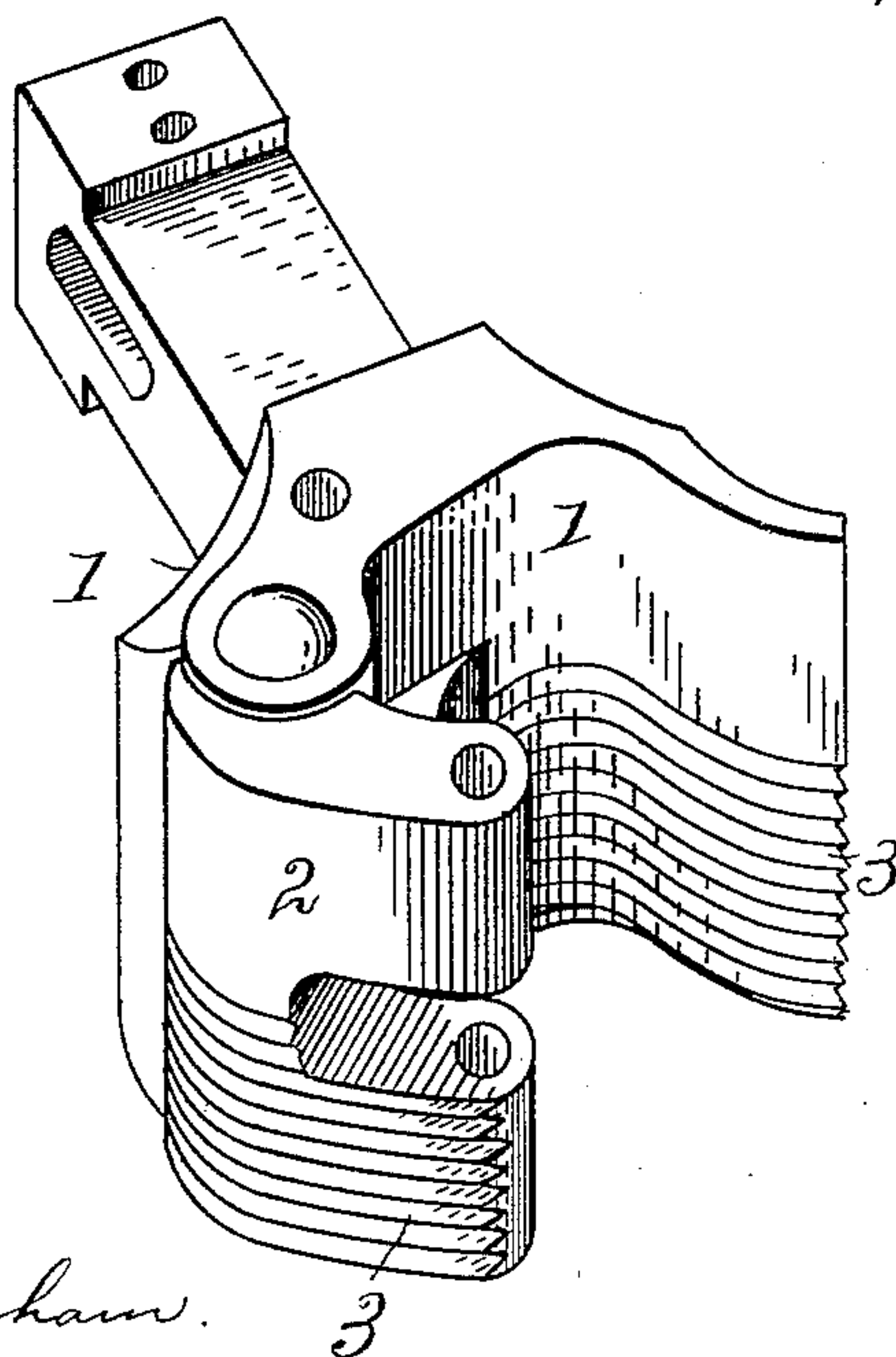


Fig. 3.



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# UNITED STATES PATENT OFFICE.

JAMES CULTON, OF BLOOMINGTON, ILLINOIS.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 632,701, dated September 12, 1899.

Application filed June 12, 1899. Serial No. 720,266. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES CULTON, of the city of Bloomington, county of McLean, and State of Illinois, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification.

This invention relates to couplers in which the walls or contact-surfaces of the coupling members are vertical, as in the Janney type, for instance, it is designed to provide means for preventing a detached or broken coupling-head from falling out of engagement with its fellow head, it is exemplified in the structure hereinafter described, and it is defined in the appended claims.

In the drawings forming part of this specification, Figure 1 is a side elevation of a pair of interlocked coupling-heads, one of which is supported from the other, a part of one head being broken away to show the means employed to enable one head to carry the opposite head and bar. Fig. 2 is a plan of a coupler-head, showing at  $x$  the section-line for Fig. 1. Fig. 3 is a perspective representation of a coupler-head with the knuckle thereof partly open.

Coupler-heads having vertical contact or coupling surfaces are shown at 1, and at 2 are shown knuckles which are swung on vertical pivots in the heads and move horizontally in coupling and uncoupling. The heads and the knuckles are or may be of the Janney or some kindred type, the essential characteristic being the vertical coupling-surfaces, by which free vertical motion is permitted between the two heads that constitute a coupling. Their novel feature consists of a set of depressions, as 3, extending into the vertical contact-surfaces, whereby a roughened condition is produced, which when a draw-bar is broken or pulled out or a coupling-head is otherwise detached from its car will tend to cramp the falling head in the head that is intact and carry the broken head clear of the track. The indentations or depressions may be of any form adapted to permit true vertical motion of one head in another and to develop a cramp-lock whenever the downward movement of either of the interlocked heads departs materially from a translatory motion, and they may be placed at various positions in the vertical contact-walls.

It is advisable or at least preferable to give the depressions the form of horizontal grooves and to place them in the lower half of the front surfaces of each head and the knuckle thereof, somewhat as shown in the drawings. This construction permits the knuckles to move horizontally against the heads in coupling or uncoupling without any tendency to develop extra friction even if by any chance the depressed or roughened surfaces should come into contact to the exclusion of the smooth general surfaces, and the large portion of smooth upper surface lessens the possibility of the roughened surfaces being brought forcibly together while the coupling is in working condition. The inner surfaces of the knuckles are preferably left smooth, partly because the indentations in the outer or forward surfaces of the head and knuckle are sufficient to form the cramp-lock needed to hold a detached head and bar and partly because the greater amount of wear to which the pulling-surfaces of the knuckles are subjected makes continuous smooth surfaces more desirable at these places.

The couplings are used in the ordinary way so long as they are intact and in connection with the cars; but in case of breakage or detachment of a draw-bar the bar, being free to fall and possibly carrying added weight torn from the car, will descend faster than the head, bringing the roughened surfaces into interlocking contact, as shown in Fig. 1, and effectually preventing farther descent of the detached bar and head so long as the extended end of the bar is permitted to hang unsupported and employ its weight to maintain the cramp-lock.

The improvement adds nothing to the cost of the coupling, it does not interfere with free vertical movement in the members of the coupling, and it guards against the damage frequently arising from coupler-heads falling onto the track while trains are running and obstructing passage of the cars.

What I claim is—

1. A car-coupler, the coupling-surfaces of which are vertical, are generally smooth to permit free motion and are indented in places to form a cramp-lock when one of the coupling members assumes an oblique position.

2. A car-coupler, the coupling-surfaces of

which are vertical, are generally smooth to permit free vertical motion and are grooved horizontally in places, substantially as set forth.

5 3. A car-coupler, the front coupling-surfaces of which are vertical, are smooth in part to permit free vertical motion and are grooved horizontally in places, substantially as set forth.

10 4. A car-coupling having vertical and gen-

erally smooth coupling-surfaces, such coupling-surfaces being grooved horizontally in their lower parts, substantially as set forth.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

JAMES CULTON.

Witnesses:

E. S. McDONALD,  
ROSA VOELCKER.