J. C. DILLON.

CHAIN-COUPLING.

No. 192,639. Patented July 3, 1877.

Fig. 1.

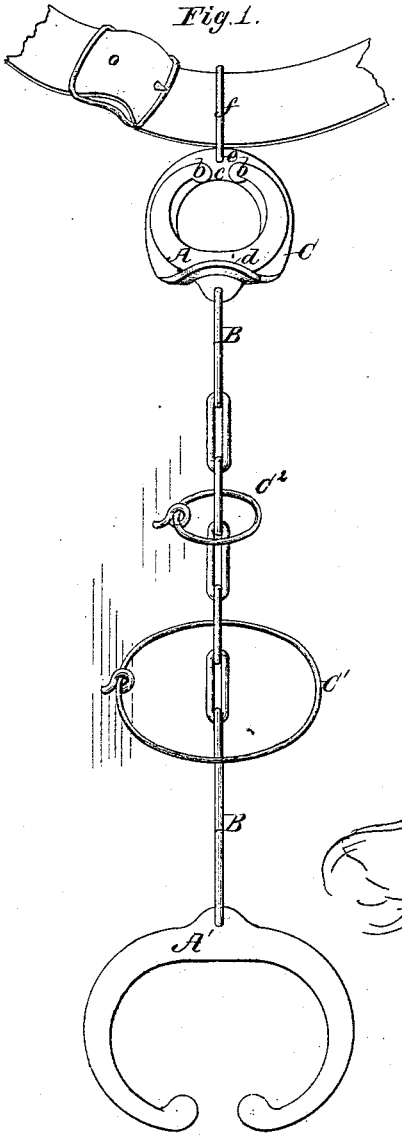


Fig. 2.

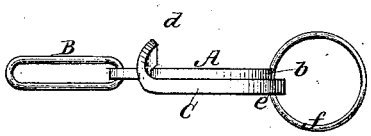


Fig. 3.

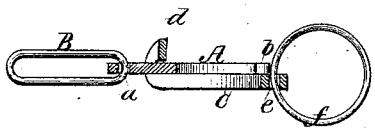


Fig. 4.

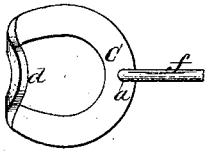


Fig. 5.

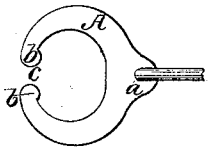
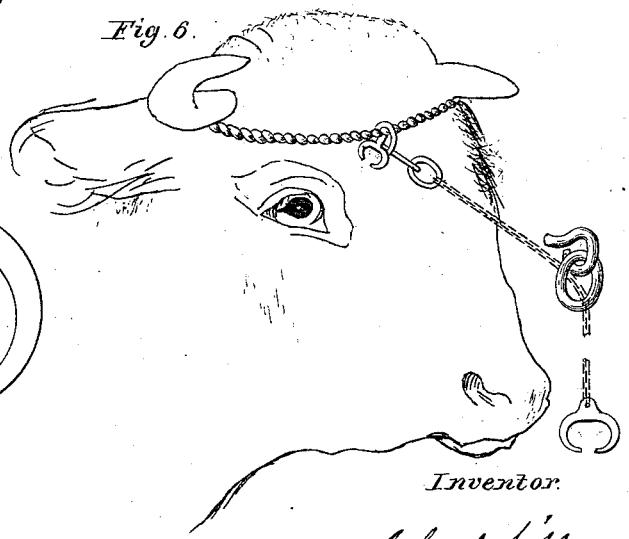


Fig. 6.



Witnesses.

Edmund Ellbrooker

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UNITED STATES PATENT OFFICE

JOHN C. DILLON, OF AMHERST, MASSACHUSETTS.

IMPROVEMENT IN CHAIN-COUPLINGS.

Specification forming part of Letters Patent No. **192,639**, dated July 3, 1877; application filed January 21, 1876.

To all whom it may concern:

Be it known that I, JOHN C. DILLON, of Amherst, of the county of Hampshire, of the State of Massachusetts, have invented a new and useful Improvement in Halter-Fastenings or Couplings for Chains, Traces, &c.; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front view of a halter-chain furnished with my improved coupling apparatus complete. Fig. 2 is an edge view, and Fig. 3 is a longitudinal section of the improved coupling shown at the upper end of Fig. 1. Fig. 4 is a top view of the bent-up coupling-ring and its connection-ring. Fig. 5 is a top view of my improved coupling bar or toggle. Fig. 6 is a view of my improved coupling in its simplest form, applied to the use for which it was invented—viz., for securing a bull.

The object sought and believed to be attained by my invention is to combine perfect security against accidental disconnection, and compactness of form and neatness of appearance, with the simplicity, strength, durability, and ease of application of the ordinary bar and ring coupling for halters, traces, and chains, generally.

My invention consists, first, in a coupling-bar, A, constructed with a small protuberance or shank at its middle, with a circular eye, *a*, for the reception of a pivotal link, B, such coupling-bar having two arms, *b b*, curved outward from the pivotal connecting-link B, somewhat in the form of a ring, with a piece cut from its periphery, all being as shown; secondly, in the combination of such a coupling-bar, A, and a link, B, long enough for the coupling-bar to swing through it when connected to it by the eye *a*, in manner as represented, such link being also connected with a ring, or with the link of a chain; thirdly, in a ring, C, C^1, or C^2, to receive and act with such improved coupling-bar in composing a coupling, such ring having an internal diameter less than the longer external diameter of the coupling-bar A or A′, as may be used. This ring, when constructed as shown in the upper coupling in Fig. 1 in the drawing, and in Figs. 2, 3, 4 in the drawing, is bent up at a right angle, as represented at *d*, on the chord of an arc of it, such ring opposite the part so bent up being provided with an eye, *e*, to receive ring *f*, or the link of a chain. The object of bending up a portion of the ring at or about a right angle to the rest, as shown at *d*, is to enable the improved coupling-bar, when in the ring, to lie flat against it, as shown in Figs. 1, 2, 3 of the drawing.

A common circular ring, as shown at C^1 and C^2 in Fig. 1, may be used with the improved coupling-bar, provided the said ring has an internal diameter less than the external diameter of the coupling-bar.

The connection of the coupling-bar with its ring is effected by inserting one arm of the improved coupling-bar into the ring, and, by a revolving motion, drawing the other arm after it.

The improved coupling-bar, with the arms curved outward, as described, is much preferable to a straight coupling-bar, or a coupling-bar with the points of the arms curved in toward the connecting-link, as used in trace and halter couplings, both such last named coupling-bars being very liable, while in use, to become accidentally disconnected from their rings, while this is practically impossible with my improved coupling-bar, as hereinbefore described.

The principle on which my improved coupling-bar is constructed and connected to its pivotal link is such that, when once introduced into the ring or stirrup, however much it may be shaken, the outer perimeter of the shank or eye side of the coupling-bar will be presented against the inner perimeter of the ring or stirrup until removed by manual interference, and the shape of the interior space between the arms of the improved coupling-bar is of no importance whatever in the construction of the coupling. In these respects, as well as in the shape of the eye, the improved coupling-bar differs materially from the yoke A described in United States Patent No. 147,861; and these and other differences of form, principle, and construction clearly indi-

cate the different properties of the two inventions, and the widely-different uses for which they are designed.

The long link B, by enabling the improved coupling-bar to be revolved through it, facilitates the introduction and removal of the coupling-bar into and from the ring, and enables the improved coupling-bar to be used with rings much more various in size than would be practicable if a short link were employed. In this particular the combination differs materially from that which exists where a straight bar or a bar curved toward the link is used. In either of the latter cases the use of a long link would be very objectionable, as it would increase the probability of accidental disengagement, and therefore, in practice, a short link is used in such cases; or, if a long link is used, such long link is bent together to prevent the straight or incurved coupling-bar from swinging into or through it. The smaller ring C^2 is introduced in the drawing to show with what different-sized rings the larger coupling-bar A′, in connection with the long link B, can be used.

The following incidental advantages are found to be attained by the use of my improved couplings applied to halters, and will be understood by reference to Figs. 1 and 6 of the drawings:

First, a much shorter halter-chain can be used than with the straight coupling-bar, and the side rings, through which the straight coupling-bar is usually passed to loop the chain, are dispensed with.

Second, as the chain swings loosely and turns freely in the manger-ring, the necessity of a swivel in the chain is obviated.

Third, the weight of the lower coupling-bar prevents any slack between the manger-ring and the horse or other animal secured, and greatly lessens the danger of entanglement or casting.

These last-named advantages are sometimes obtained by the use of a block of wood or a metal weight attached to the chain by the ordinary straight-bar coupling; but such combinations are cumbrous and unhandy, and the block or weight is very liable to be mislaid and lost.

I claim as my invention—

1. The coupling-bar A, with the pivotal eye *a*, and the arms *b b* curved outward from the connecting-link B, all substantially as described, and adapted for use with a link and ring, as set forth.

2. The coupling-ring C, bent upward on the chord of its arc, in manner as set forth, and adapted for use with the coupling-bar A, as specified.

3. The combination of the improved coupling-bar A, the link B, and a plain ring, C^1 and C^2, or a coupling-ring, C, bent upward on the chord of its arc, substantially as set forth.

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Witnesses:
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