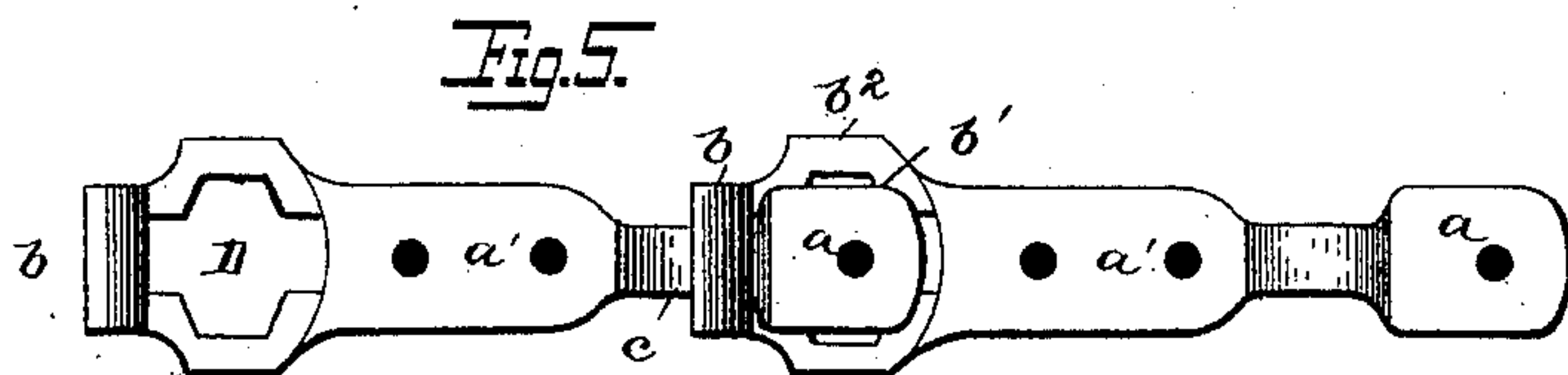
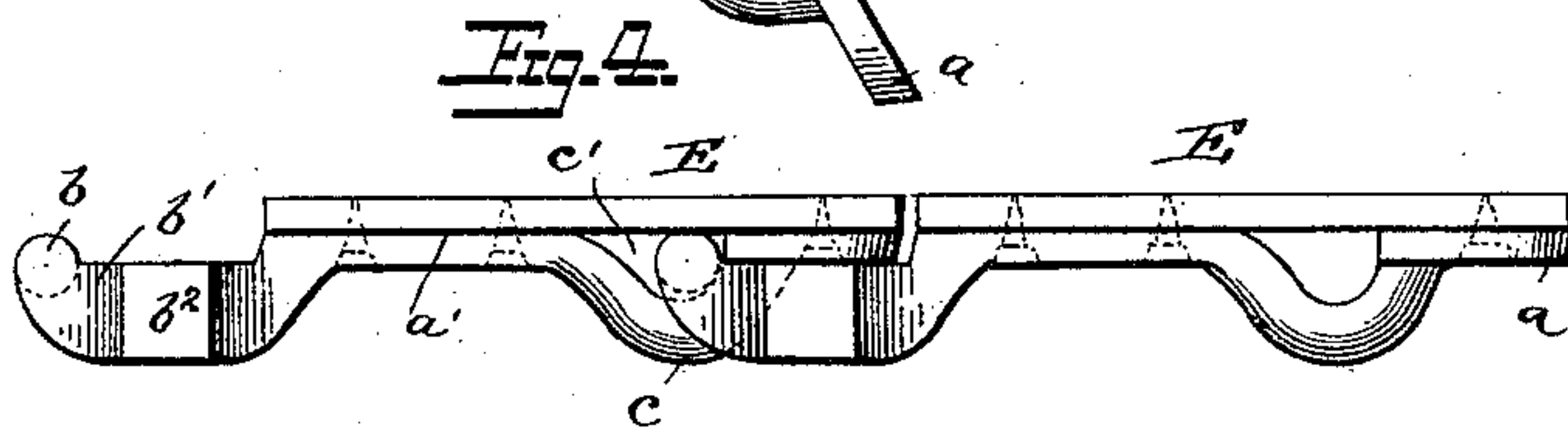
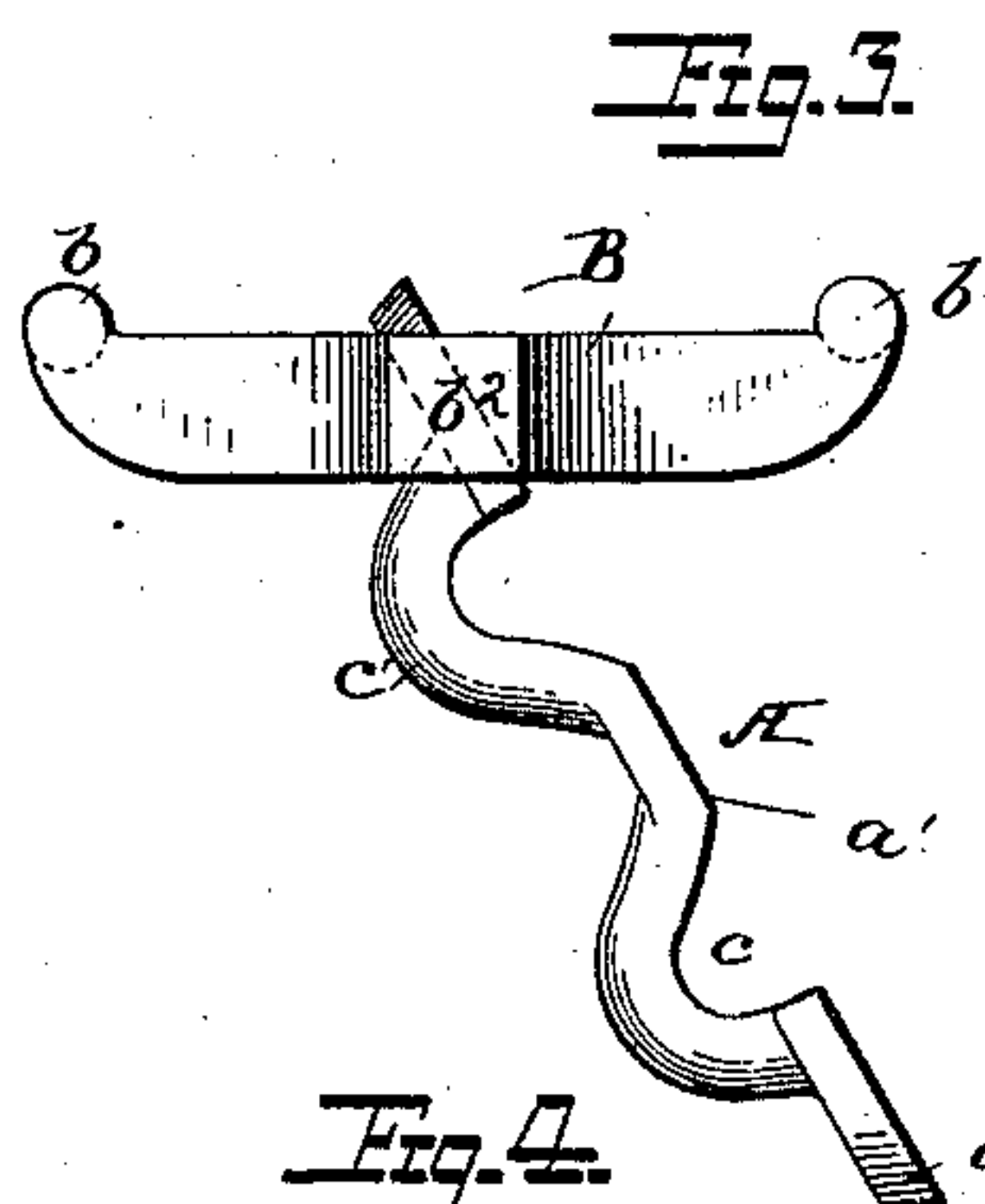
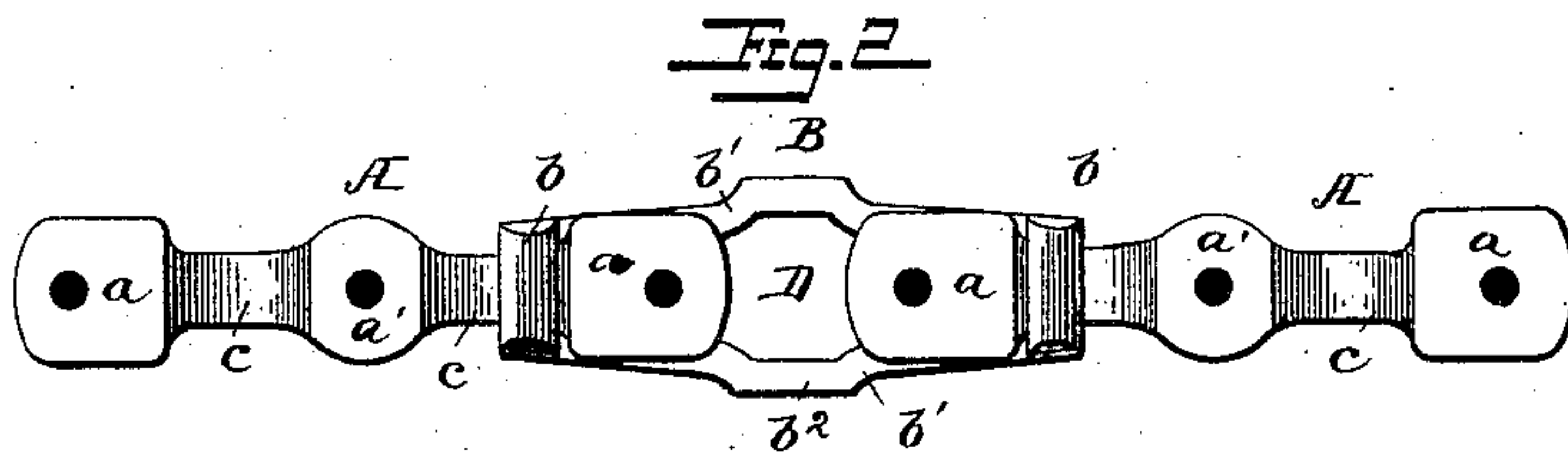
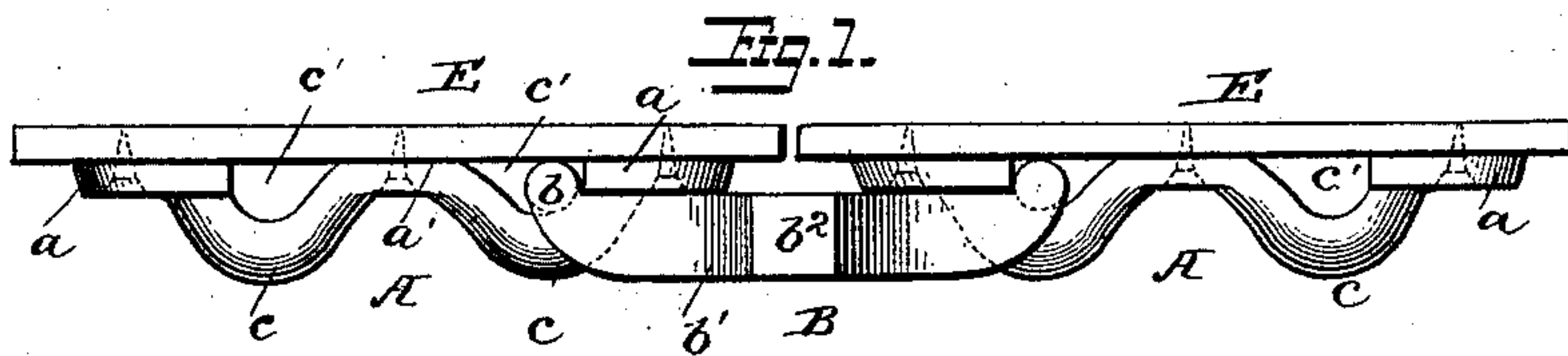


(No Model.)

J. F. McCREARY.
DETACHABLE CHAIN.

No. 387,690.

Patented Aug. 14, 1888.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES F. McCREARY, OF NEW BRIGHTON, PENNSYLVANIA.

DETACHABLE CHAIN.

SPECIFICATION forming part of Letters Patent No. 387,690, dated August 14, 1888.

Application filed April 20, 1888. Serial No. 271,271. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. McCREARY, a citizen of the United States, residing at New Brighton, Beaver county, Pennsylvania, have
5 invented certain new and useful Improvements in Detachable Chains, of which the following is a specification.

This invention relates to chains adapted to be used to support and connect slats or cross-
10 bars, and is particularly adapted for use in connection with animal tread-powers, such as shown in my Patent No. 373,467, dated November 22, 1887, it being employed in place of the links therein shown.

15 In the drawings, Figure 1 is a side view of several links when in working position. Fig. 2 is a top plan view of the same, the cross-slats being removed. Fig. 3 is a side view of two links in the position occupied when being un-
20 coupled. Fig. 4 is a side view of two links of somewhat different construction. Fig. 5 is a plan view of Fig. 4.

The chain shown in Figs. 1, 2, and 3 is made up of dissimilar links, represented in the draw-
25 ings by the letters A and B, respectively. The link A, to which the slat E is attached, and which may be termed a "bar-link," has its ends flattened on one face and preferably expanded to form seats *a a*, upon which rest the
30 slat. By preference an intermediate bearing-face, *a'*, is formed. Between the bearing-faces the bar of which the link is formed drops or bends downward, as at *c*, forming open spaces *c'* between the bearing-faces and be-
35 tween the portion *c* of the link and the slat which it supports.

The link B is formed of two end bars, *b b*, and two side bars, *b' b'*, inclosing a central opening, D. The side bars bow outward cen-
40 trally at *b²*, in order to give sufficient space between the bars at this point to permit the flattened ends *a* of the bar A to pass between them, so that the links may be coupled.

When two links are coupled together, the
45 end bar, *b*, of the link B, which is by preference rounded to allow free articulation, lies upon the depressed portion *c* of the link A in the open space *c'* below the cross-slat E, which serves to keep it in place. At the same time
50 the laterally-projecting portions of the expanded end *a* of the link A rest upon the up-

per face of the side bars, *b'*. These engage-
ments of the links with each other lock them
against downward sagging when in line to re-
ceive and sustain the animal, which is neces- 55
sary in tread-powers, and yet permit them to bend in the reverse direction when going around the turning-wheels which support the tread. This effect, I am aware, is not new,
being incident to the chain shown in my afore- 60
said patent, and I therefore lay no claim thereto broadly.

The widened portions of the opening D not only serve to permit the passage of the flat-
tened ends of the links, but are also adapted 65
to receive sprocket-teeth carried by a wheel either driving or to be driven by the tread.

In Figs. 4 and 5 I have shown a chain con-
taining my invention in which the links are
all alike, and each embodies the features of 70
both the links A and B shown in the other figures, each being provided with a central opening, D, and with side bars, *d' d'*, an end bar, *d*, a depressed portion, *c*, and a flattened end plate, *a*. The operation of the link is 75
similar to that shown in the other figures, and hence need not be further described.

Under some circumstances the flattened ends
a might not be wider than the distance between
the side bars, *b'*, where they connect with the 80
end bars, in which case the slats E would be depended upon to prevent disengagement of the links. In such case the expanded portions
b² of the side bars might be dispensed with.

The preferred form of my invention, which 85
is that illustrated in Figs. 1 to 3, is an improvement over all other forms of similar links of which I have knowledge—such, for instance, as that illustrated in my aforesaid patent—in
that it runs more steadily and with much less 90
noise, and, further, that the slats are more evenly worn as they pass around the turning-wheels, since by reason of the intermediate links, B, they rock upon said wheels and the points of contact or engagement change from 95
edge to edge of the slats as they pass the wheel, whereas in prior constructions the sole point of contact with the wheel was about midway between the edges of the slats, which resulted in rapidly wearing through them at these 100
points.

Without limiting myself to the precise con-

struction and arrangement of parts shown, I claim—

1. A detachable chain adapted to carry cross-slats, the links of which chain are coupled
5 by means of flattened ends *a*, passed through openings D formed in the adjacent links, the portions of the links adjacent to each flattened end *a* being depressed, as at *c*, in which depressed portions lie the said end bars, wherein
10 they are held by the cross-slats, substantially as described.

2. A detachable chain adapted to carry cross-slats, the links of which chain are coupled to each other by means of flattened ends passed
15 through openings D formed in the adjacent links, which openings are bounded by the side bars, *b'*, and the end bars, *b*, the flattened ends being expanded to a width greater than the distance between the side bars, *b'*, at points
20 adjacent to the end bars, upon which side bars the flattened ends *a* rest when the links are coupled, the links having depressed portions *c* adjacent to the ends *a*, in which depressed portions the end bars rest, and wherein they
25 are held by the cross-slats, substantially as described.

3. A detachable chain formed of bar-links having flattened ends adapted to have cross-slats secured thereto, the bars being depressed

between the ends to form open spaces below 30 the slats, and of centrally-open links having end bars, *b*, adapted to lie in the open spaces adjacent to the ends of the bar-links, substantially as described.

4. A detachable chain formed of bar-links 35 having flattened expanded ends *a*, adapted to have cross-slats secured thereto, and centrally-open links having end bars, *b*, and side bars, *b'*, situated at a distance apart less than the width of the expanded ends of the bar-links 40 at points adjacent to the end bars, but bowed outward centrally at *b''* to permit the passage of the expanded ends *a* between them, substantially as described.

5. A detachable chain formed of bar-links 45 having flattened end bearing-faces, *a*, and intermediate bearing-faces, *a'*, such bearing-faces being connected by depressed portions *c* of the links, and centrally-open links having the end bars, *b*, and the side bars centrally bowed out- 50 ward, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES F. McCREARY.

Witnesses:

TURNER STROBRIDGE,
J. W. SWOGER.