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No. 821,086.

PATENTED MAY 22, 1906.

R. CANNAN.
BELT COUPLING.
APPLICATION FILED JUNE 14, 1905.

Fig. 1.

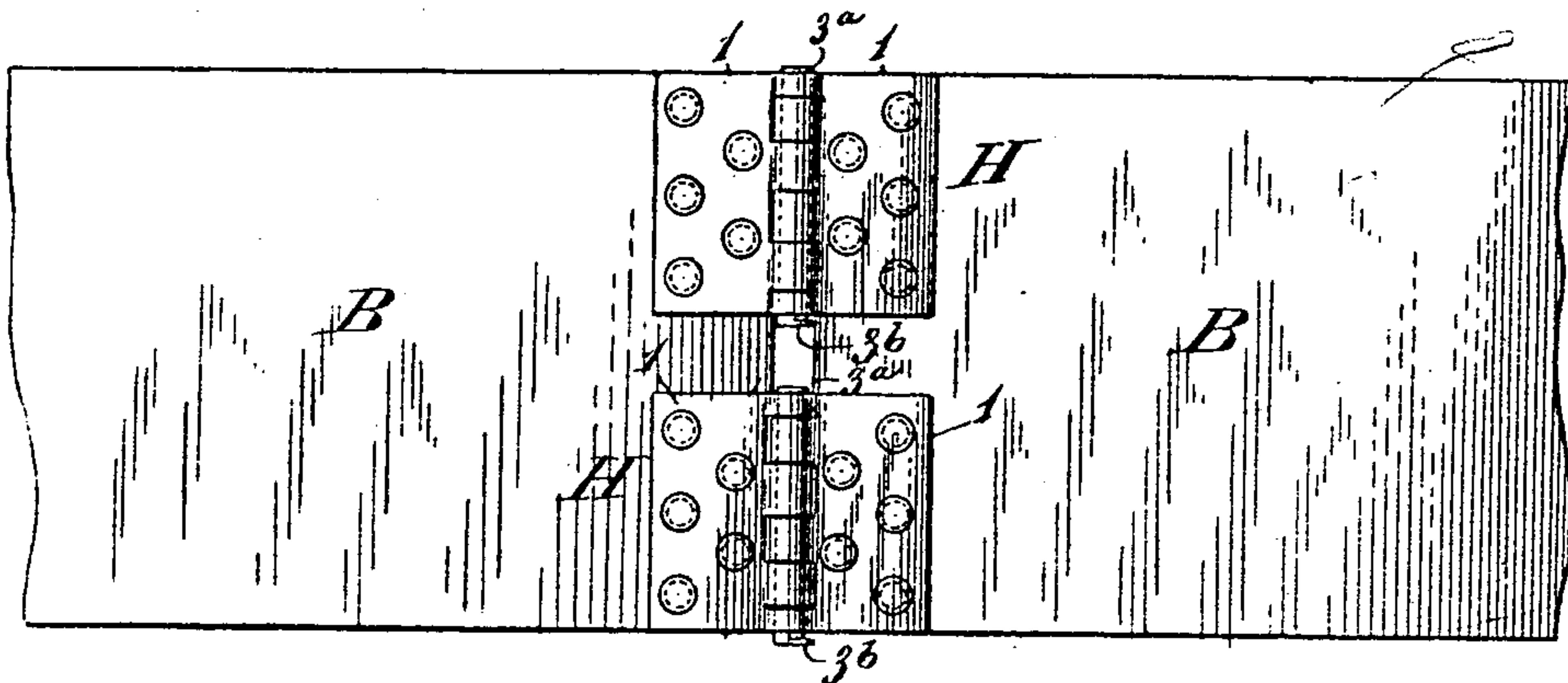


Fig. 2.

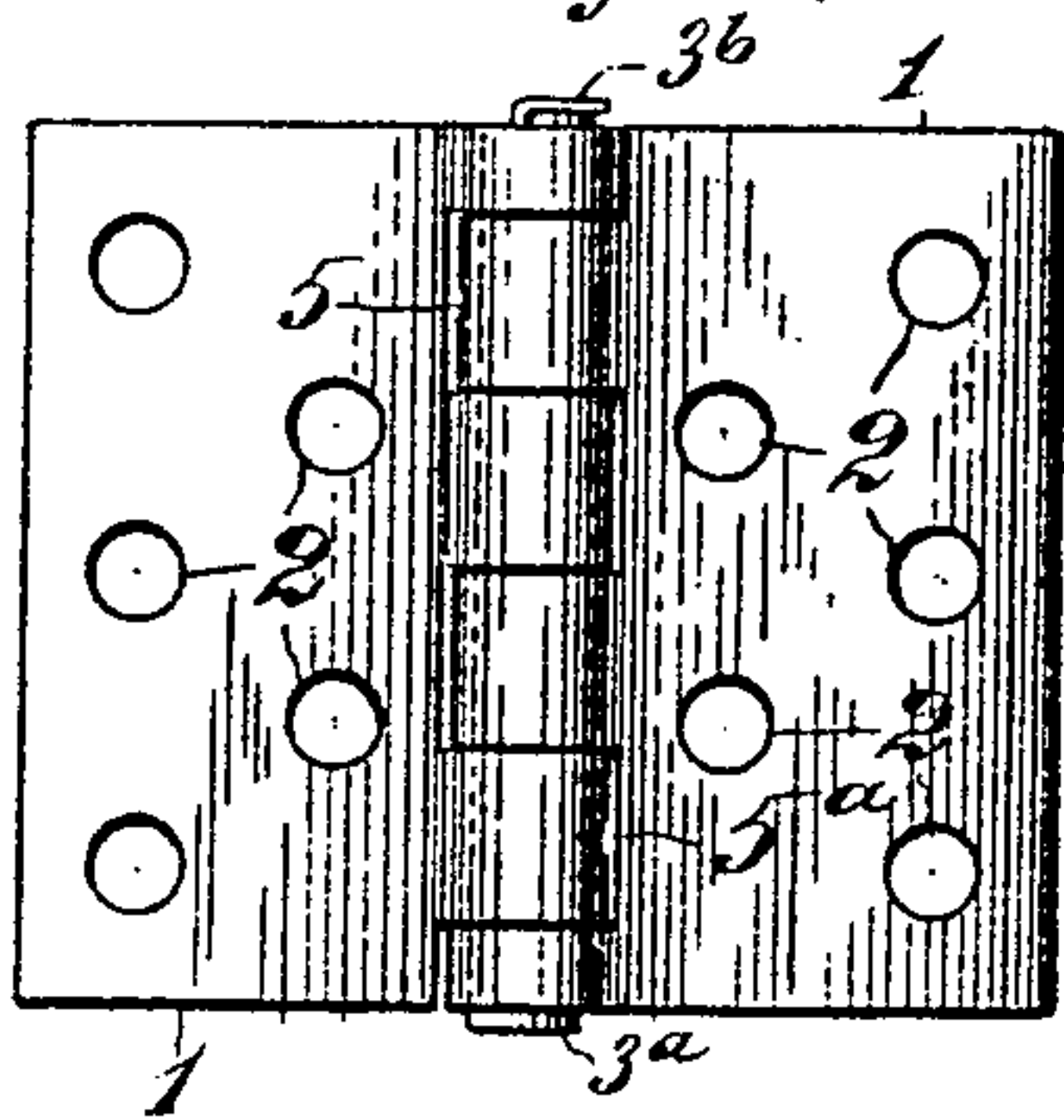


Fig. 4.

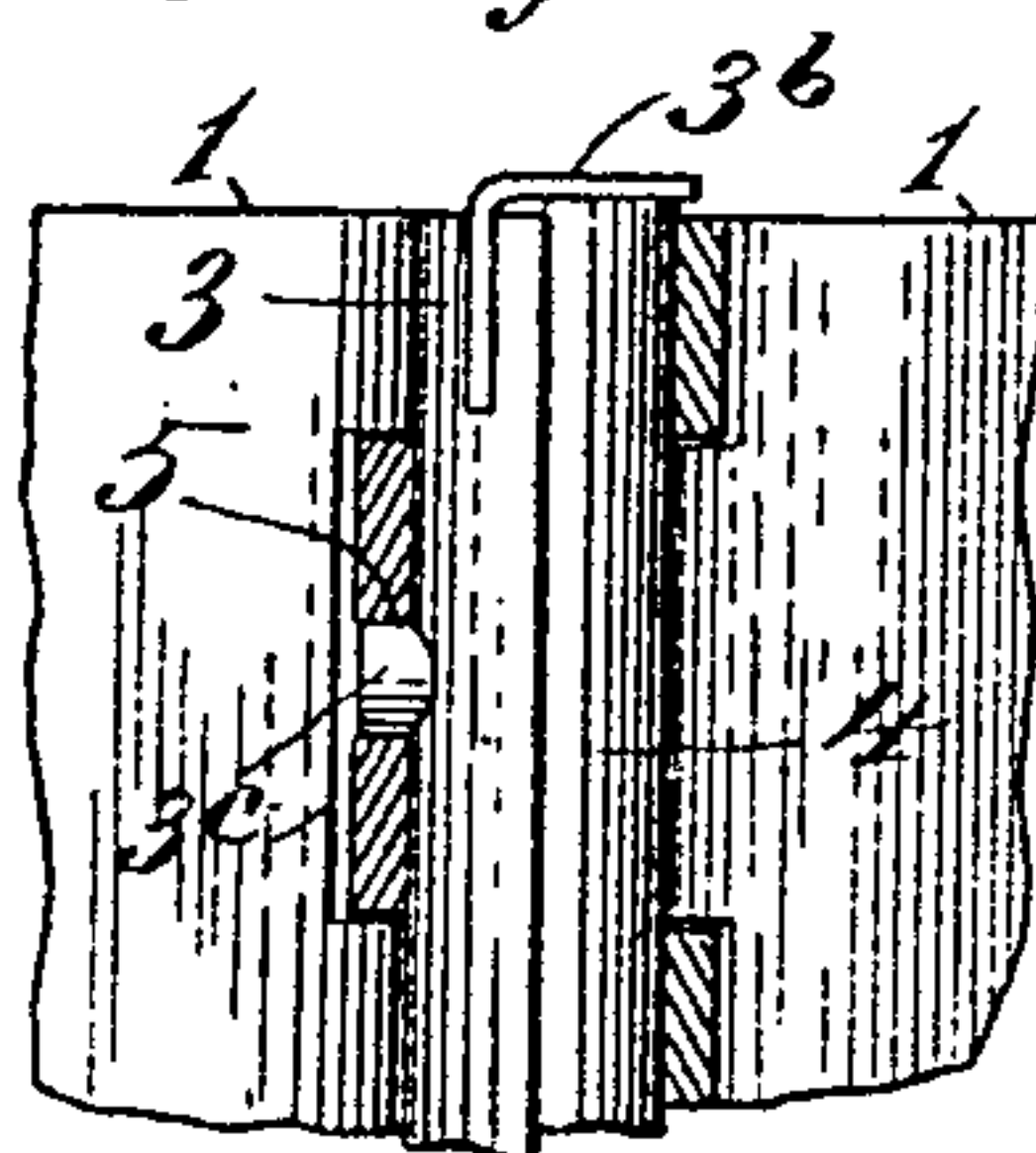


Fig. 5.

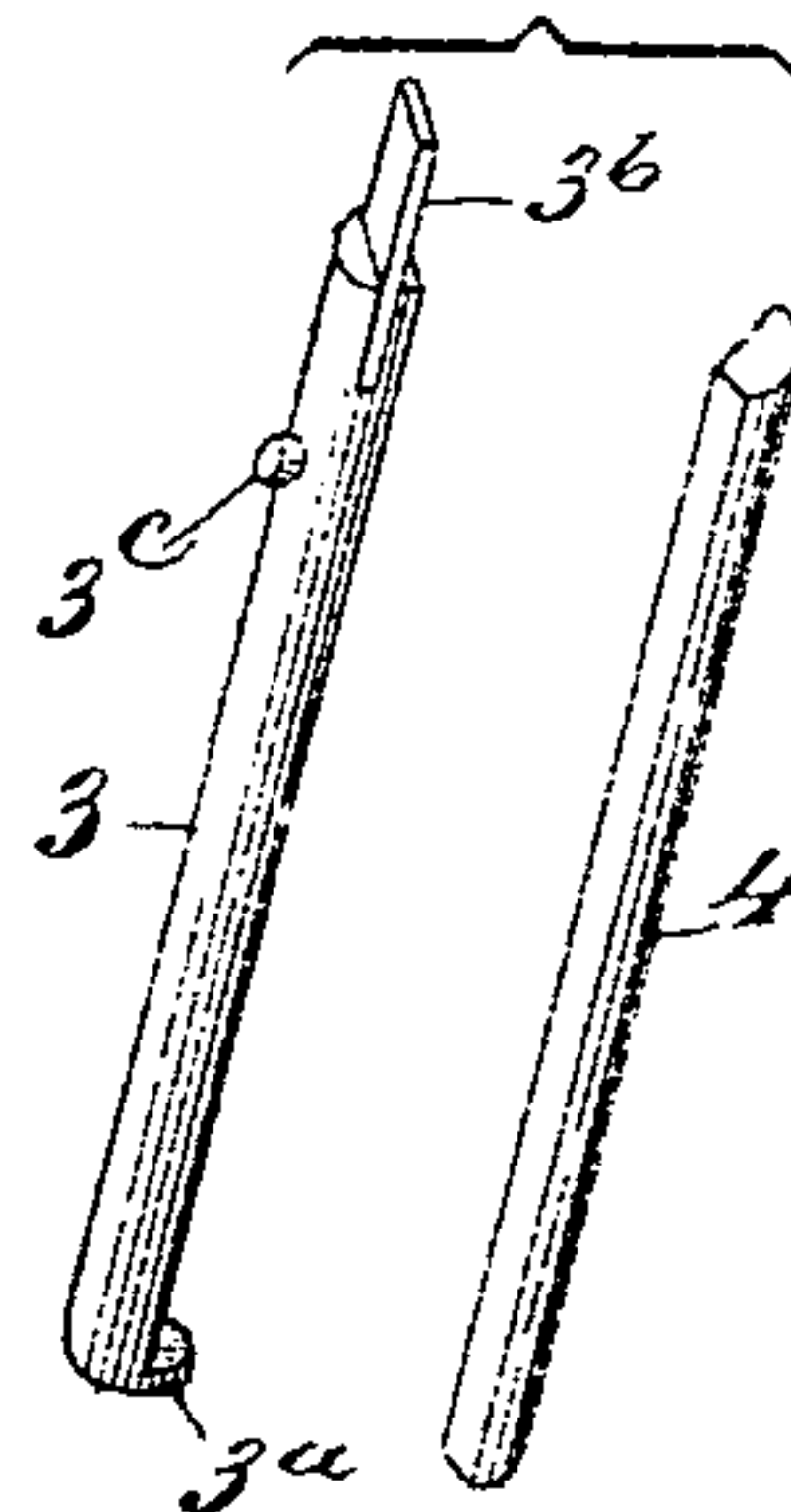


Fig. 3.

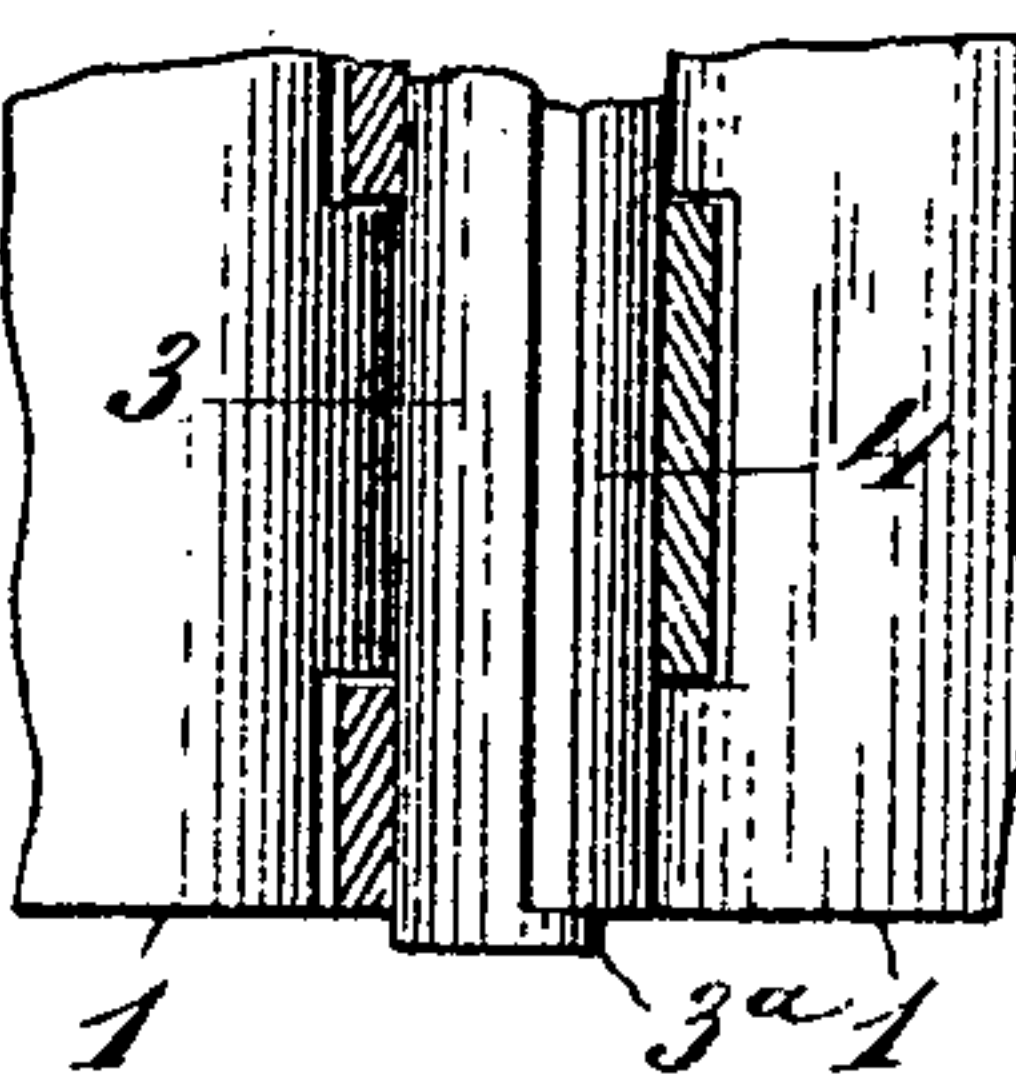
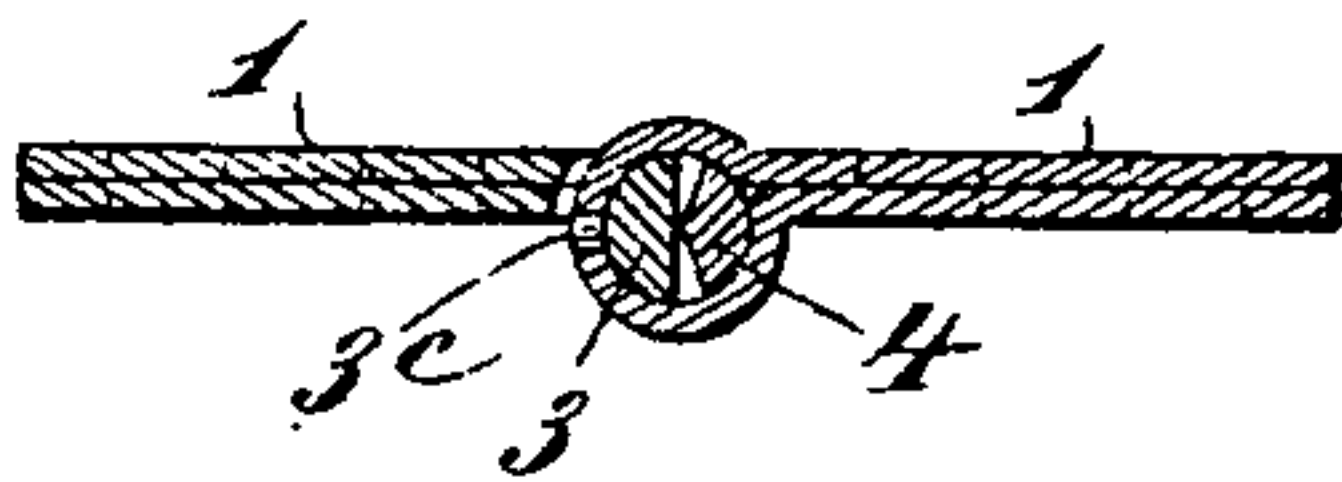
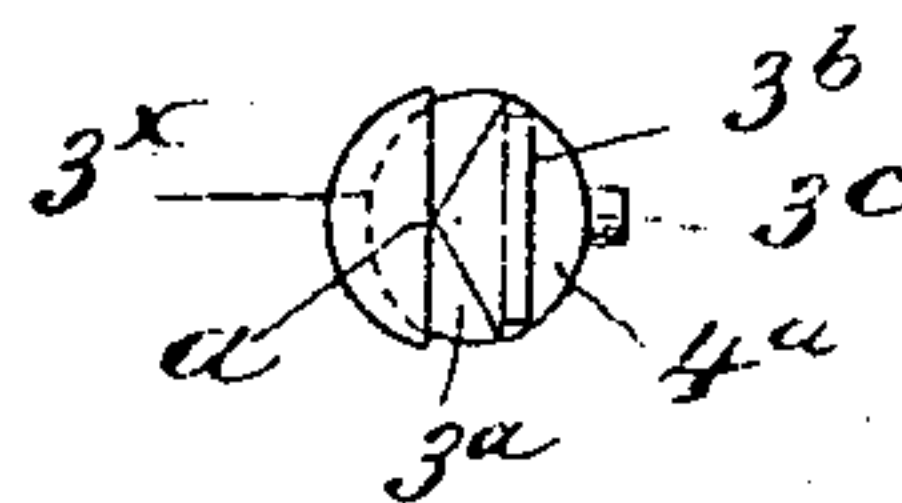


Fig. 6.



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UNITED STATES PATENT OFFICE.

ROBERT CANNAN, OF NEW YORK, N. Y.

BELT-COUPLING.

No. 821,086.

Specification of Letters Patent.

Patented May 22, 1906.

Application filed June 14, 1905. Serial No. 265,229.

To all whom it may concern:

Be it known that I, ROBERT CANNAN, a citizen of the United States, residing in the borough of Brooklyn, in the county of Kings, in the city and State of New York, have invented certain new and useful Improvements in Belt-Couplings, of which the following is a specification.

This invention relates to metal hinge-couplings for driving-belts, and particularly to that class of such couplings where a metal hinge-pin is employed; and the object of the present invention is to provide a hinge-coupling for a belt which will be simple and which possesses great durability under all conditions, the gist of the invention residing in the peculiar construction of the hinging-pin, which will be hereinafter described.

In the accompanying drawings, which illustrate an embodiment of the invention, Figure 1 is an illustration on a relatively small scale, showing the two ends of a belt coupled together by hinges embodying the present invention. Fig. 2 is a face view of one of the hinges on a larger scale than Fig. 1, and Fig. 3 is a cross-section of the same just below the center in Fig. 2. Fig. 4 is a sectional detail view, on a much larger scale, illustrating the pin-retaining devices. Fig. 5 is a perspective view showing the two members of the hinge-pin detached. Fig. 6 is an end view of the hinging-pin, illustrating a slight variation in the construction.

In Fig. 1, B B designate the two ends of a driving-belt, and H H the two hinges which couple them together.

Referring now to the views illustrating the construction in detail, 1 1 designate the two halves or sections of the hinge, preferably made, as clearly indicated in Fig. 3, of sheet metal folded, so as to make the broader portions or leaves of two plies or thicknesses. These leaves are provided with holes 2 to receive the securing-rivets. The knuckle-barrel of the hinge, which receives the hinging-pin, is cut, as usual, into sections which alternate on the two halves. These features are common in this class of hinges and are not claimed herein.

The hinging-pin is composed of two members or elements 3 and 4, which will now be described with especial reference to Figs. 3, 4, and 5. The member 3 is made, preferably, of hardened steel substantially half-round in cross-section and about as long as the hinge. At one end this member has a step 3^a pro-

jecting out from its flat face, and at the other end it is provided with a tongue 3^b, of tough, flexible, but not elastic metal, preferably untempered steel. The member 4 is of sector shape in cross-section and preferably of hard steel and is a little shorter by preference than the member 3. This member is plain at both ends. The cross-section of the hinging-pin is quite clearly shown in Fig. 3; but it will be better understood when it is explained that if we take two pieces of half-round steel, which when placed with their flat faces together will fit as a hinging-pin in the barrel of the hinge, then grind away one of said pieces until it has two flat radial faces which include between them an angle of about seventy degrees, and then insert them in the barrel of the hinge with the blunt edge of one (the member 4) bearing on the flat face of the other (the member 3) we will have the construction. In the flexure of the hinge in use the member 4 will rock on the member 3 without abrasion. In order to keep the pin in place in its bearings, the member 3 has on its rounded side a short stud 3^c, and when said member is inserted in the barrel of the hinge this pin is made to engage a hole 5 in the wall of the barrel, as seen in Figs. 3 and 4. The hole 5 is partly seen in Fig. 2. The member 4 is now inserted until its end encounters and rests on the step 3^a on the member 3, as seen at the bottom of Fig. 4. The tongue 3^b on the member 3 is now bent down over the end of the member 4, as seen at the top of Fig. 4, and the hinging-pin cannot come out. This is because the member 4 is confined at its ends between the step 3^a and bent strip 3^b and because the stud 3^c prevents the member 3 from coming out until the member 4 is withdrawn. The two members 3 and 4 rock with their respective sections of the hinge, and there will be almost no abrasion or grinding on the pin. In order that the hinging-pin may be inserted from either end of the knuckle-barrel of the hinge, there may be two holes for the stud 3^c, one in each leaf of the hinge, as indicated in Fig. 2, where the position of the idle hole is indicated by 5^a. Of course only one of the two holes will be employed, the choice depending on which way the pin is inserted.

The construction as described is preferred; but obviously some departure from it is admissible. For example, the flat-faced member of the hinging-pin need not be exactly round in cross-section, and the member

which is of sector form in cross-section may be provided with the step, the tongue, and the stud. This is illustrated in Fig. 6, wherein the step 3^a, the tongue 3^b, and the stud 3^c are represented as on a member 4^a, having a blunt V-shaped edge *a*, which bears on the flat face of a member 3^x, which is somewhat less than half-round in cross-section.

Having thus described my invention, I claim—

1. A belt-coupling, having a hinging-pin composed of two longitudinally-extending members, one of said members having a V edge which bears on the face of the other, and one member having means for retaining the pin in place in the barrel of the hinge.

2. A belt-coupling, having a hinging-pin composed of two longitudinally-extending members placed face to face, one of said members having a step at one end, a bendable metal tongue at the other, and a stud which engages a hole in the hinge, the said step and tongue embracing between them endwise the other member of the hinging-pin.

3. A belt-coupling, having a hole 5 in it substantially as shown, and having a hinging-pin composed of two members which ex-

tend longitudinally through the barrel of the hinge, one of said members having a stud to engage the hole 5 and prevent the pin from moving endwise in the barrel, and one of said members having means which embrace the other member endwise and prevent its endwise movement independently of the other member.

4. The combination with the two sections of a belt-coupling one of which is provided with a hole 5 opening into the bearing for the hinging-pin, of the said pin, comprising a member 3, having a flat face, a step 3^a at one end, a tongue 3^b at the other end, and a stud 3^c which engages the hole 5, and the member 4, embraced endwise between said step and tongue on the member 3, and having a V-shaped edge on its face which bears in the flat face of the other member.

In witness whereof I have hereunto signed my name, this 12th day of June, 1905, in the presence of two subscribing witnesses.

ROBERT CANNAN.

Witnesses:

H. G. HOSE,
WILLIAM J. FIRTH.