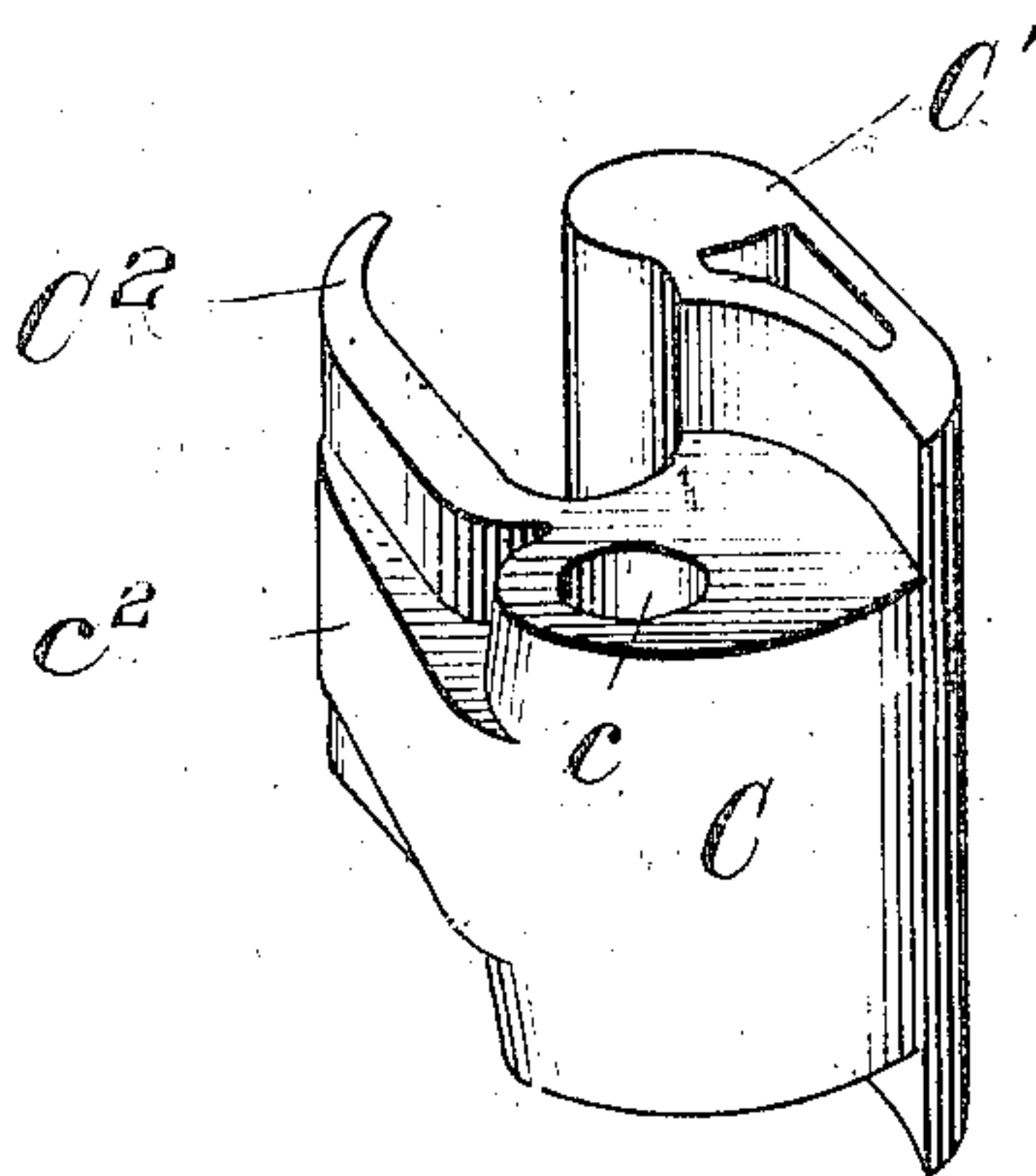
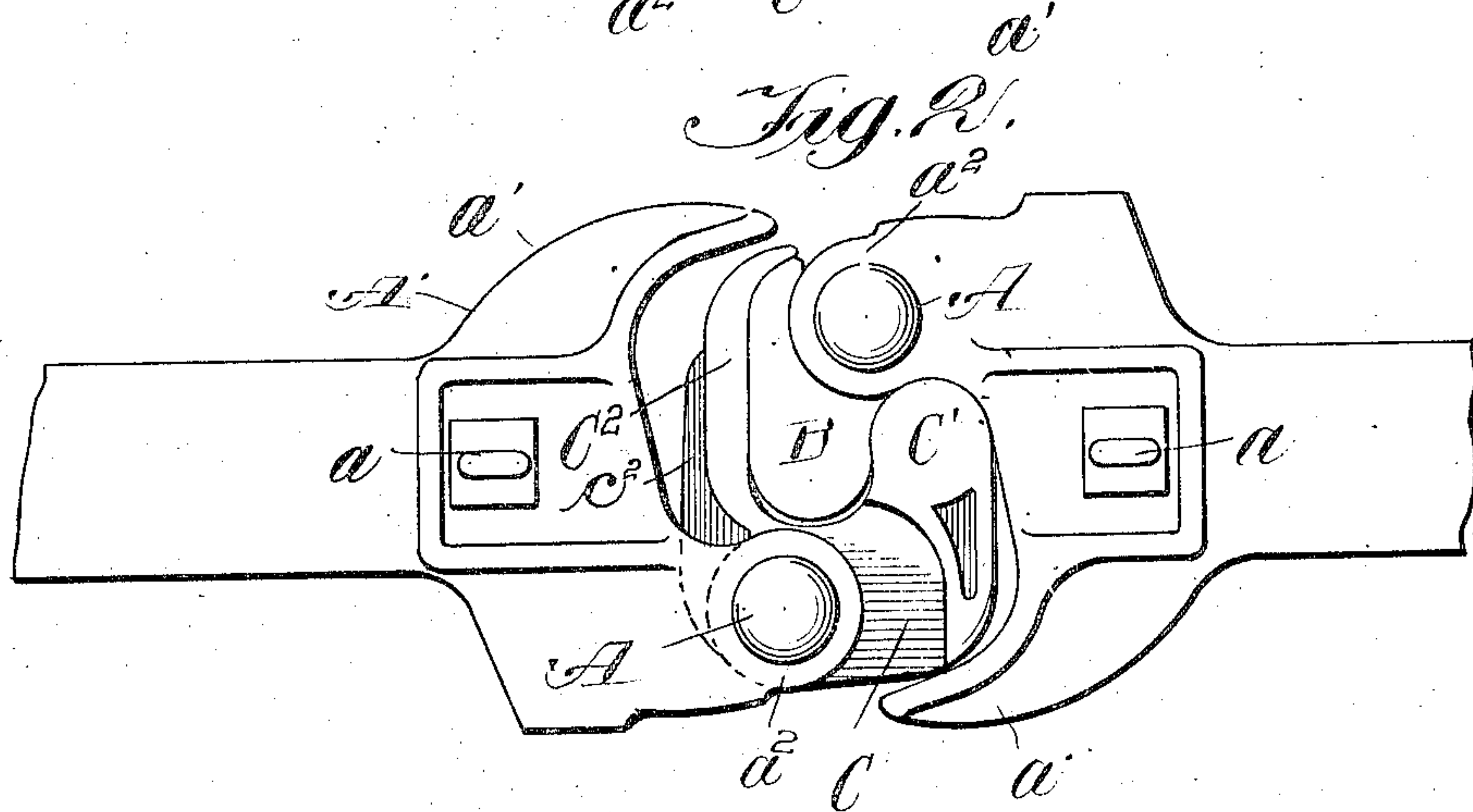
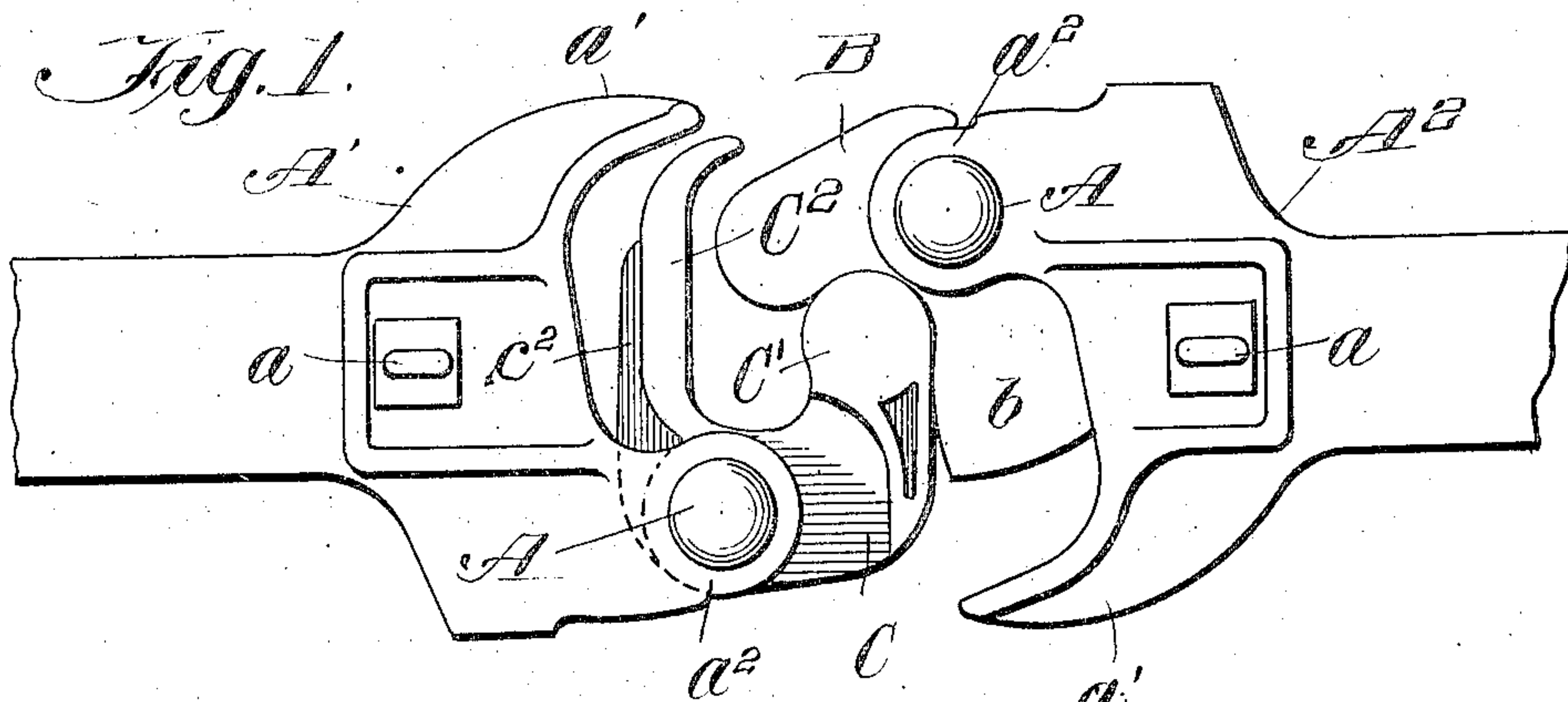


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G. H. GILMAN & J. H. BROWN.
EMERGENCY KNUCKLE FOR CAR COUPLINGS.

APPLICATION FILED MAR. 14, 1904.



Witnesses:

H. S. Gaither
C. C. Cunningham

Inventors:

George H. Gilman
James H. Brown
by *Lambert W. Peterson*
Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE H. GILMAN, OF ST. PAUL, MINNESOTA, AND JAMES H. BROWN,
OF SOUTH TACOMA, WASHINGTON.

EMERGENCY-KNUCKLE FOR CAR-COUPPLINGS.

No. 818,369.

Specification of Letters Patent.

Patented April 17, 1906.

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To all whom it may concern:

Be it known that we, GEORGE H. GILMAN, residing at St. Paul, county of Ramsey, State of Minnesota, and JAMES H. BROWN, residing at South Tacoma, county of Pierce, State of Washington, citizens of the United States, have invented a certain new and useful Improvement in Emergency-Knuckles for Car-Couplers; and we declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates in general to car-couplers, and more particularly to an emergency-knuckle adapted to replace a broken knuckle of any pattern of Master Car-Builders' coupler.

It frequently happens that a coupler-knuckle breaks, and as a large variety of Master Car-Builders' couplers are now in use, each of which requires a special form of knuckle, considerable inconvenience results, owing to the impossibility of having at hand duplicates of all the various patterns of knuckles. When a knuckle breaks, it is usual to connect the broken coupler with the coupler on the adjoining car by means of a link and pins, which necessitates the brakeman going between the car to make the coupling and also results in too much slack between the coupled cars.

The primary object of our invention is to provide an emergency coupler-knuckle so constructed that it may be pivotally connected to any of the various designs of Master Car-Builders' couplers and will automatically interlock with any pattern of knuckle.

A further object of our invention is to provide an emergency car-coupler knuckle for replacing a broken knuckle of any Master Car-Builders' pattern which will be simple in construction, inexpensive in manufacture, and efficient in use.

Our invention, generally described, consists in a car-coupler knuckle adapted to be received between the knuckle and guard-arm of a cooperating coupler and having the usual supporting-lug adapted to be pivoted between the ears of a Master Car Builders' coupler-head and provided with a guard member projecting from the supporting-lug

and adapted to extend around the vertical surface of the head of the cooperating knuckle.

Our invention will be more fully described hereinafter with reference to the accompanying drawings, in which the same is shown as embodied in a convenient and practical form, and in which—

Figure 1 indicates a plan view of a coupler-head provided with our improved knuckle and a cooperating coupler-head provided with any usual type of knuckle prior to coupling; Fig. 2, a view similar to Fig. 1 after the coupling has been made, and Fig. 3 a perspective view of the knuckle detached.

The same reference characters are used to designate the same parts in the several figures of the drawings.

A' and A² designate Master Car-Builders' car-coupler heads of any ordinary type which are provided with the usual ears a² for pivotally supporting the knuckles.

a indicates a locking-pin of any construction for engaging the tail of the knuckle to retain the same in interlocked engagement with a cooperating coupler.

a' designates the usual guard-arm of the coupler-head.

B designates a knuckle provided with a tailpiece b and pivotally supported between the ears a² of the coupler-head A². Pivoted between the ears a² of the coupler-head A' is shown our improved emergency-knuckle, which comprises a knuckle-head C', adapted to be received between the knuckle-head B and guard-arm a' of a cooperating coupler, a lug C, adapted to be pivotally supported between the ears a², and a guard member C². The guard member is so spaced with respect to the knuckle-head C' that a space is formed conforming to the knuckle-head B of the cooperating coupler. The guard member is curved outwardly at the edge thereof opposite to the lug C, so as to extend around the portion of the cooperating knuckle adjacent its supporting-lug, thereby securely retaining the emergency-knuckle in coupled engagement with the cooperating knuckle, as clearly shown in Fig. 2. c² indicates a reinforcing-web which performs the double function of strengthening the guard member and also affording a convenient means for handling the knuckle.

The manner of using and the operation of

our improvement are as follows: When a knuckle of a Master Car-Builders' car-coupler is broken, the pin A, which pivotally unites the same to the ears a^2 of the coupler-head, is removed and the broken knuckle detached. Our emergency-knuckle is then pivotally supported between the ears a^2 of the coupler-head by inserting the pivot-pin A through the holes in the ears a^2 and through the registering hole c in the lug C of the knuckle. The knuckle of the coupler on the adjoining car is then thrown open, and the cars are brought together in the usual manner when the coupling is to be effected. The coupling portion or head C' of the emergency-knuckle engages the tailpiece of the knuckle B and swings the latter about its pivot, so that the tailpiece is engaged by the lock-pin a and the knuckle retained in its closed position, as shown in Fig. 2. When the knuckle B is swung into its closed position, the head or coupling portion thereof is received within the space formed in the emergency-knuckle between the coupling portion C' thereof and the guard member C². The coupling effected through the interlocked engagement of one of our emergency-knuckles with a cooperating knuckle of any Master Car-Builders' type is as secure as though both knuckles were of any of the usual Master Car-Builders' type, and the cars cannot become uncoupled no matter how short the curve of the track may be, as the emergency-knuckle is securely retained between the guard-arm and knuckle of the cooperating coupler and the knuckle of such cooperating coupler is prevented from becoming disengaged from the emergency-knuckle owing to its engagement with the guard member C².

From the foregoing description it will be observed that we have invented an improved emergency-knuckle which may be used to replace a broken knuckle of any of the numerous Master Car-Builders' patterns and which will automatically interlock with a cooperating coupler and when interlocked will securely unite the adjoining cars without danger of

their becoming uncoupled. By our improvement the necessity of supplying a train with a stock of duplicate knuckles in sufficient variety to suit the different classes of couplers now in use is avoided.

While we have described more or less precisely the details of construction, we do not wish to be understood as limiting ourselves thereto, as we contemplate changes in form, the proportion of parts, and the substitution of equivalents as circumstances may suggest or render expedient without departing from the spirit of our invention.

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. An emergency-knuckle for car-couplers comprising a knuckle-head, a lug adapted to be pivoted between the ears of a coupler-head, a guard member spaced apart from the knuckle-head to receive the head of the knuckle of a cooperating coupler, said guard member having a forwardly-extending projection at the end thereof adapted to extend around the cooperating knuckle to retain the emergency-knuckle in coupling engagement with the cooperating knuckle.

2. An emergency car-coupler knuckle comprising means for pivotally connecting the same to a coupler-head, a guard member spaced apart from the knuckle-head to receive the knuckle-head of a cooperating coupler, said guard member having a forwardly-curved vertical flange adapted to extend around the surface of the cooperating knuckle-head adjacent to its supporting-lug.

In testimony whereof we sign this specification in the presence of two witnesses.

GEORGE H. GILMAN.

JAMES H. BROWN.

Witnesses for Gilman:

CHAS. HAKANS,
H. M. ROBERTSON.

Witnesses for Brown:

H. W. LUEDERS,
SVEA ASBERG.