

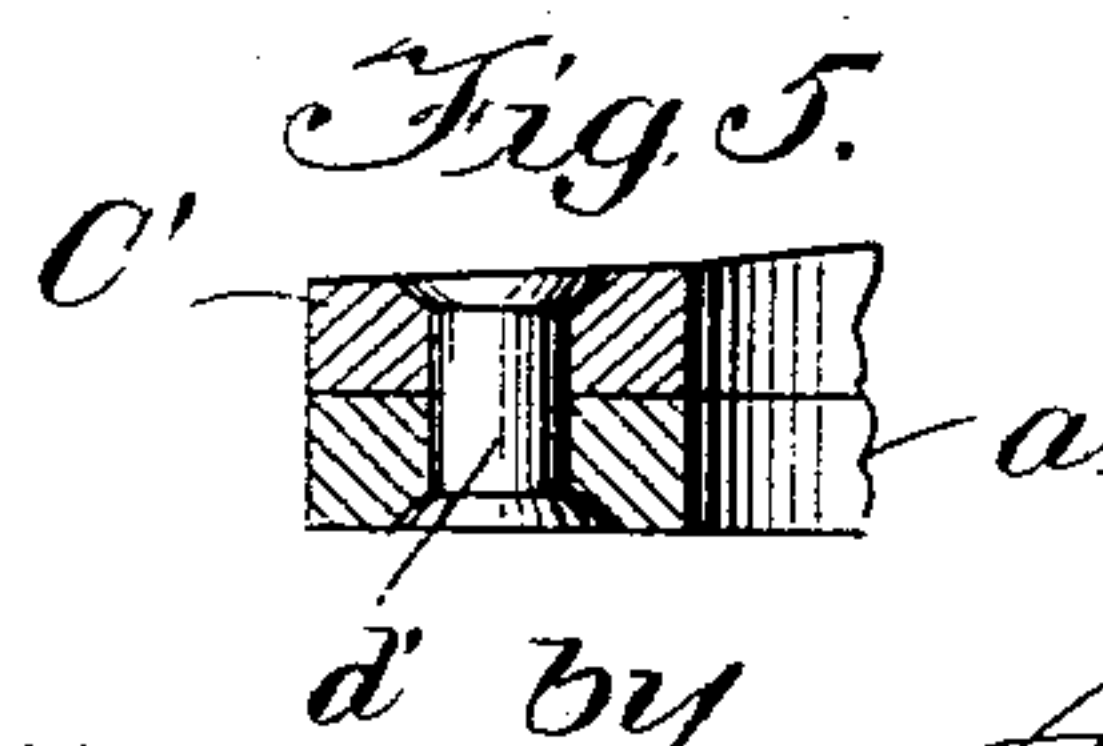
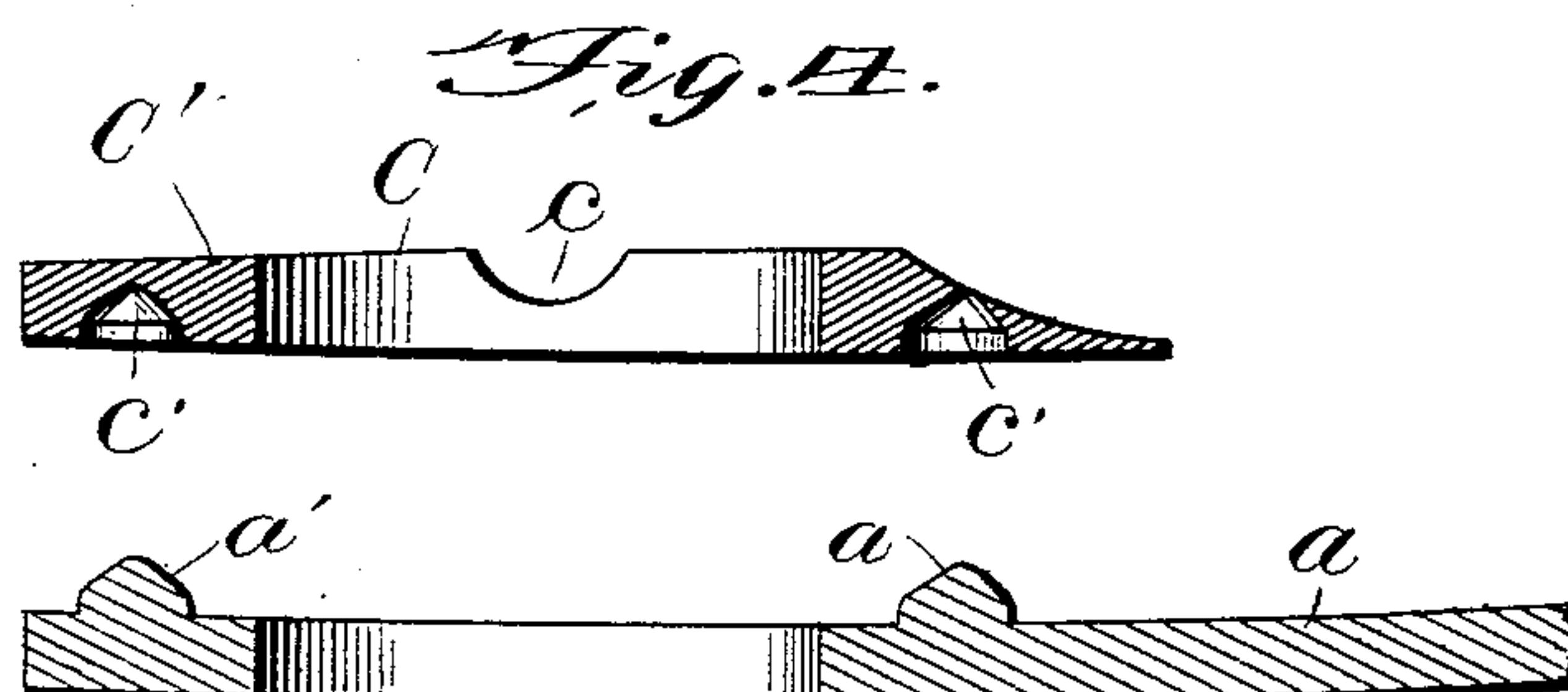
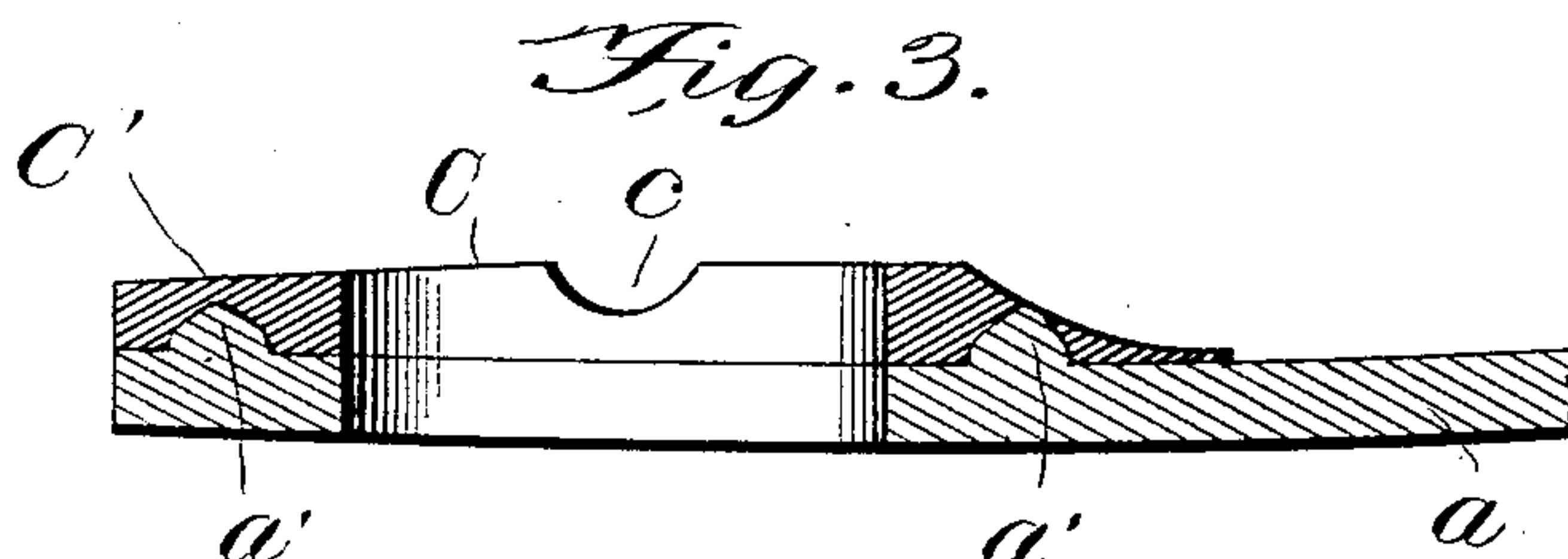
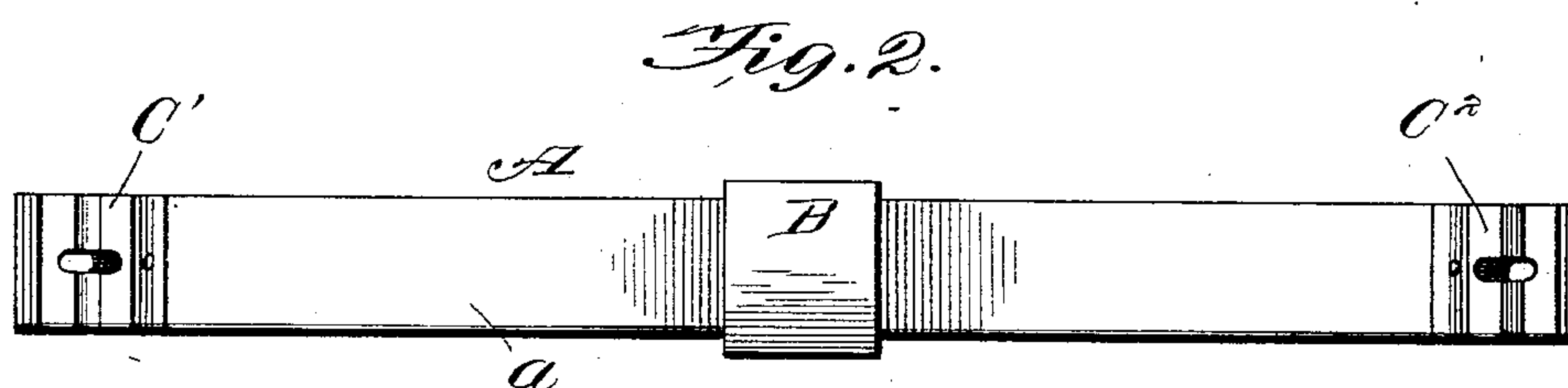
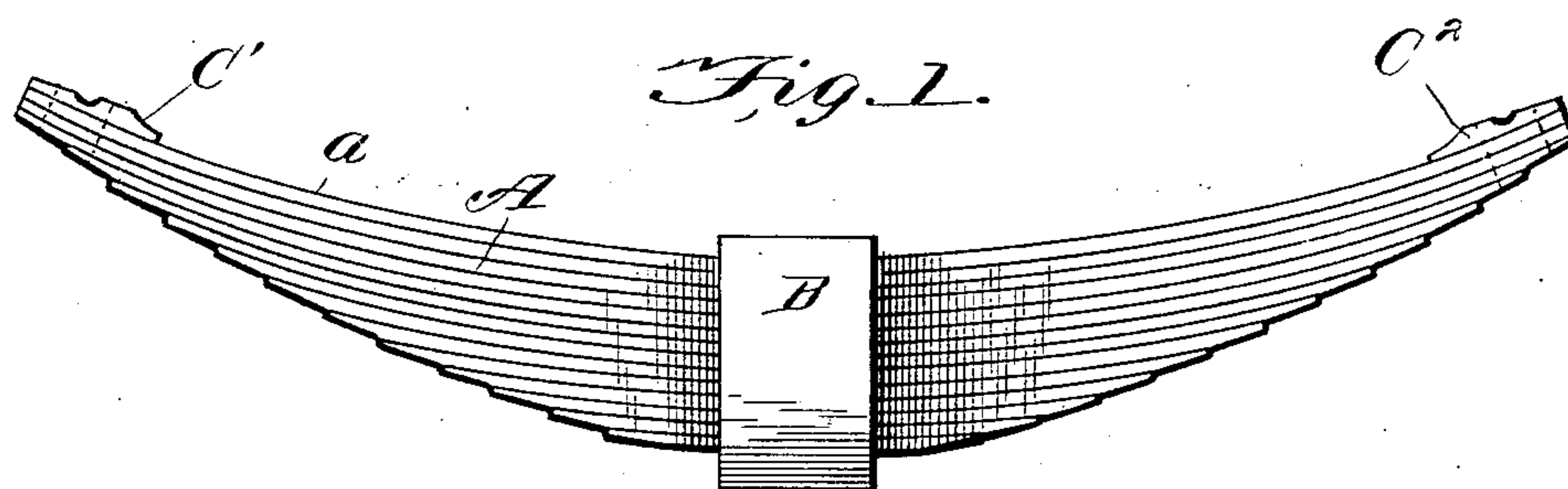
No. 751,850.

PATENTED FEB. 9, 1904.

J. W. HARTY.
LOCOMOTIVE SPRING.

APPLICATION FILED JULY 13, 1903

NO MODEL.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES W. HARTY, OF CHICAGO, ILLINOIS.

LOCOMOTIVE-SPRING.

SPECIFICATION forming part of Letters Patent No. 751,850, dated February 9, 1904.

Application filed July 13, 1903. Serial No. 165,239. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. HARTY, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Locomotive-Springs; and I 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.

My invention relates in general to semi-elliptical springs, and more particularly to such springs especially adapted for locomotives.

It is usual to provide the ends of semi-elliptical springs with bearing-plates upon which the load is supported. Such plates are ordinarily secured to the ends of the main leaf of the spring by welding. It has, however, been heretofore proposed to secure the bearing-plates to the ends of the spring by mechanical means—as, for instance, by sockets formed in the bearing-plates into which the ends of the spring extend or by lugs on the plates received in notches in the ends of the spring or within elongations of the usual slots through which the hangers extend.

The primary object of my invention is to provide simple and efficient means for mechanically securing the bearing-plates to semi-elliptical springs without weakening the ends of the springs either by cutting notches therein or by extending the usual hanger-slots.

A further object of my invention is to provide a locomotive-spring which will be simple in construction, inexpensive in manufacture, and durable and efficient in use.

My invention, generally described, consists in providing studs upon the upper surface of the top leaf of the spring, such studs being located at the opposite ends thereof and in alignment with the hanger-slots, and in providing recesses or sockets in the under surfaces of the ends of the bearing-plates into which the studs project.

My invention will be more fully described hereinafter with reference to the accompanying drawings, in which the same is illustrated

in a convenient and practical form, and in which—

Figure 1 is an elevational view; Fig. 2, a plan view; Fig. 3, an enlarged longitudinal section through one end of the spring, showing the bearing-plate in position; Fig. 4, a view similar to Fig. 3, showing the bearing-plate disengaged from the spring; and Fig. 5, a detail view of a modification.

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

Reference character A indicates a semi-elliptical spring of any usual or ordinary construction which comprises a main or top leaf α and underlying supplemental shorter leaves placed successively one beneath the other.

B designates the band or clip which surrounds and closely embraces the central portions of the several leaves, thereby binding them tightly together.

The ends of the spring are provided with elongated slots, through which extend the upper ends of the hangers for sustaining the load—such, for instance, as the engine-supporting rods or stirrups.

C' and C² designate the end bearing-plates, each of which is provided with an elongated slot C, which registers with the hanger-slot in the corresponding end of the spring. These bearing-plates may be made of any suitable material—such, for instance, as wrought or malleable iron. The upper surface of each plate is provided with a transverse groove c , in which is adapted to be seated a pin or key extending through the upper end of the hanger or stirrup.

As the construction of the hanger or stirrup and of the retaining pin or key forms no part of my invention, they are neither illustrated nor described in detail herein.

It is desirable that the bearing-plates should be securely supported upon the ends of the spring, so as to avoid the possibility of accidental detachment therefrom; but it is also desirable that the bearing-plates should be capable of being removed from the spring when, for instance, the spring becomes broken and useless, in which case the bearing-plates may

be removed and again used upon a new spring. This result I accomplish by providing studs $a' a'$ upon the upper surface of the top leaf a of the spring, such studs being located at the ends of and preferably in alinement with the hanger-slots. These studs may be formed integrally with or fixed to the upper surface of the ends of the spring. The studs or pins $a' a'$ are preferably tapered, so as to be tightly forced within the recesses $c' c'$ in the corresponding plate, thereby insuring the retention of the plate upon the spring. On the under surface of each hanger-plate are formed recesses or sockets $c' c'$, located at the ends of and in alinement with the slot C, which registers with the hanger-slot in the corresponding end of the spring. These recesses or sockets are spaced apart a distance to correspond to the space between the studs $a' a'$, so that each bearing-plate may be retained in position upon the corresponding end of the spring by means of the studs $a' a'$ entering the corresponding recesses $c' c'$, thereby maintaining the hanger-slots in the plate and spring in alinement.

In lieu of employing the studs or pins $a' a'$ and the cooperating tapered recesses $c' c'$ in the plates detachable pins or rivets, such as indicated at d' in Fig. 5, may be employed, which extend entirely through the recesses in the bearing-plates and are headed at their opposite ends, so as to tightly retain the plates in position upon the spring. The heads on the pins do not, however, prevent the plates from being removed by means of a chisel or similar tool when it is desired to detach the plates from one spring and use them on another spring.

The operation of and manner of using my invention will be readily understood from the foregoing description. The plates C' and C'' are located upon the respective ends of the spring, with the studs extending within the

recesses in the plates prior to the connection of the hangers with the ends of the springs.

From the foregoing description it will be observed that I have invented improved means for supporting bearing-plates upon the ends of locomotive or other elliptical springs whereby such plates may be secured in position upon the springs so as to prevent their accidental displacement without, however, preventing the removal of the bearing-plates from the spring when it is desired to do so.

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

1. The combination with a semi-elliptical spring, of a bearing-plate mounted upon an end thereof, and studs projecting upwardly from the top surface of the spring engaging recesses in the plate.

2. The combination with a locomotive-spring, of bearing-plates mounted upon the ends thereof, said plates having hanger-slots registering with similar slots in the ends of the spring, and studs on the ends of the spring located adjacent to the hanger-slots, and adapted to be received in recesses in the bearing-plates.

3. The combination with a locomotive-spring, of bearing-plates mounted upon the ends of the spring to sustain the load said plates and spring having registering slots through which the hangers extend, and alined studs located on the upper surface of the ends of the spring at each end of each hanger-slot adapted to engage recesses formed in the under surface of the plates.

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

JAMES W. HARTY.

Witnesses:

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