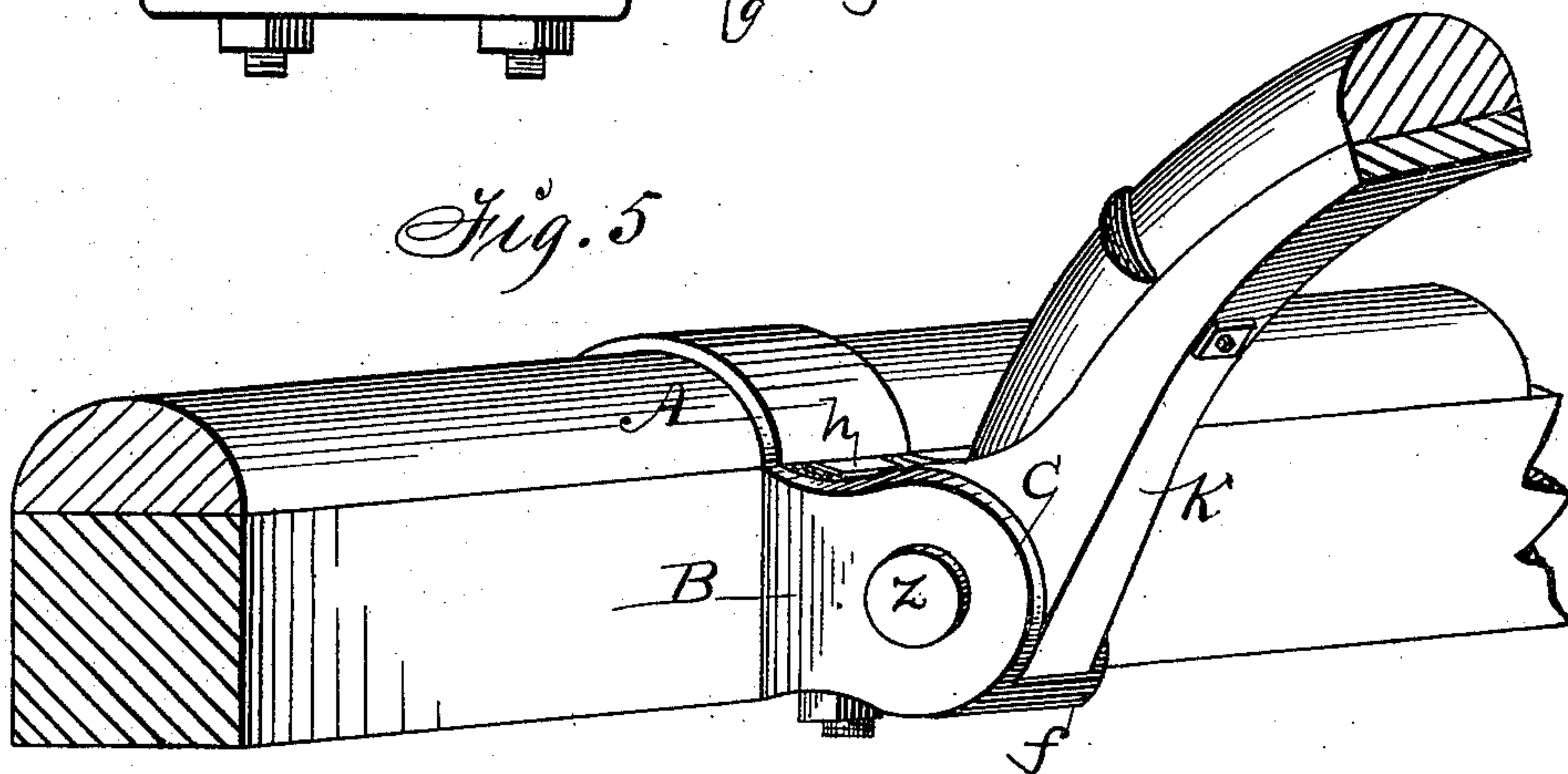
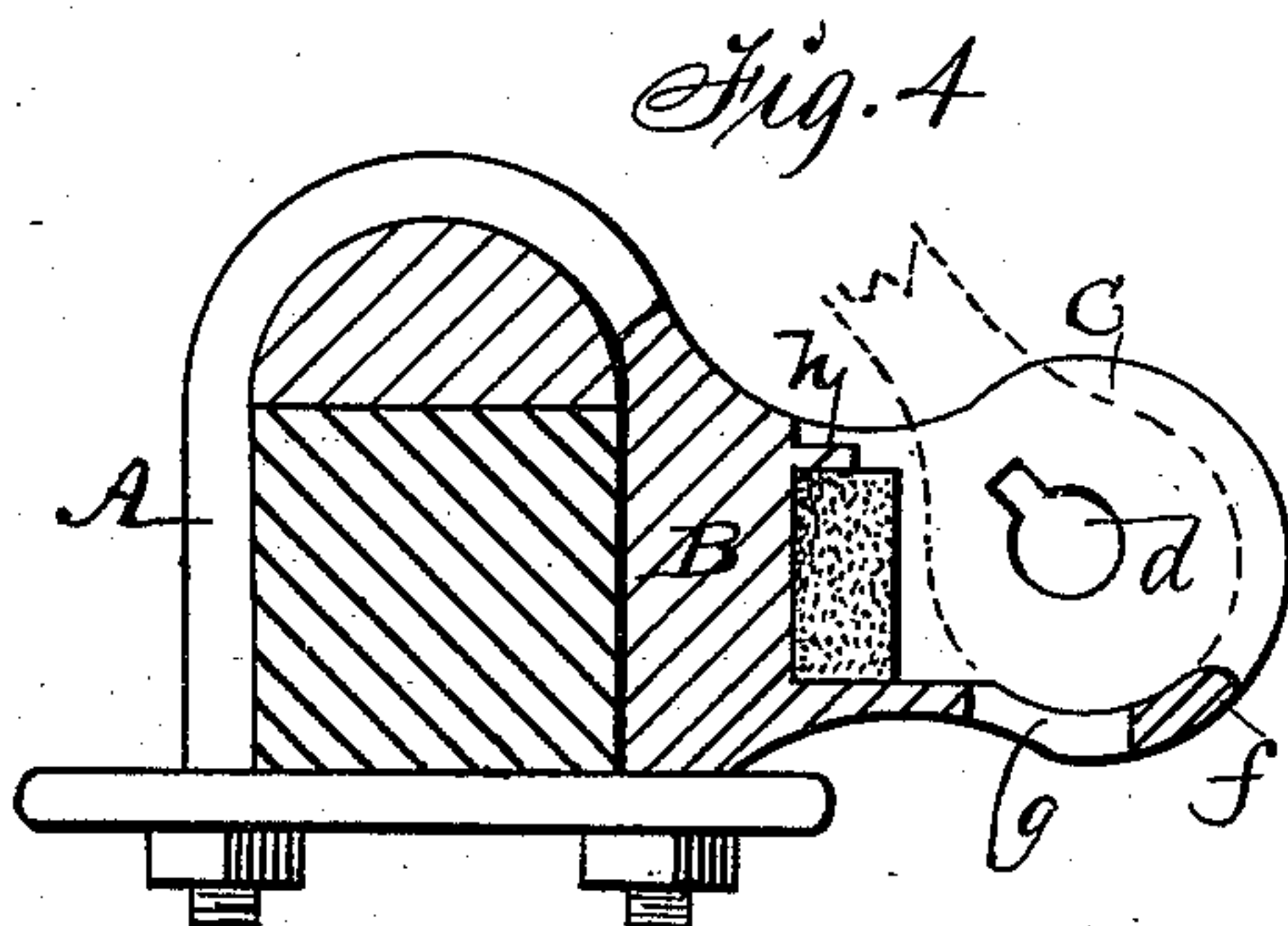
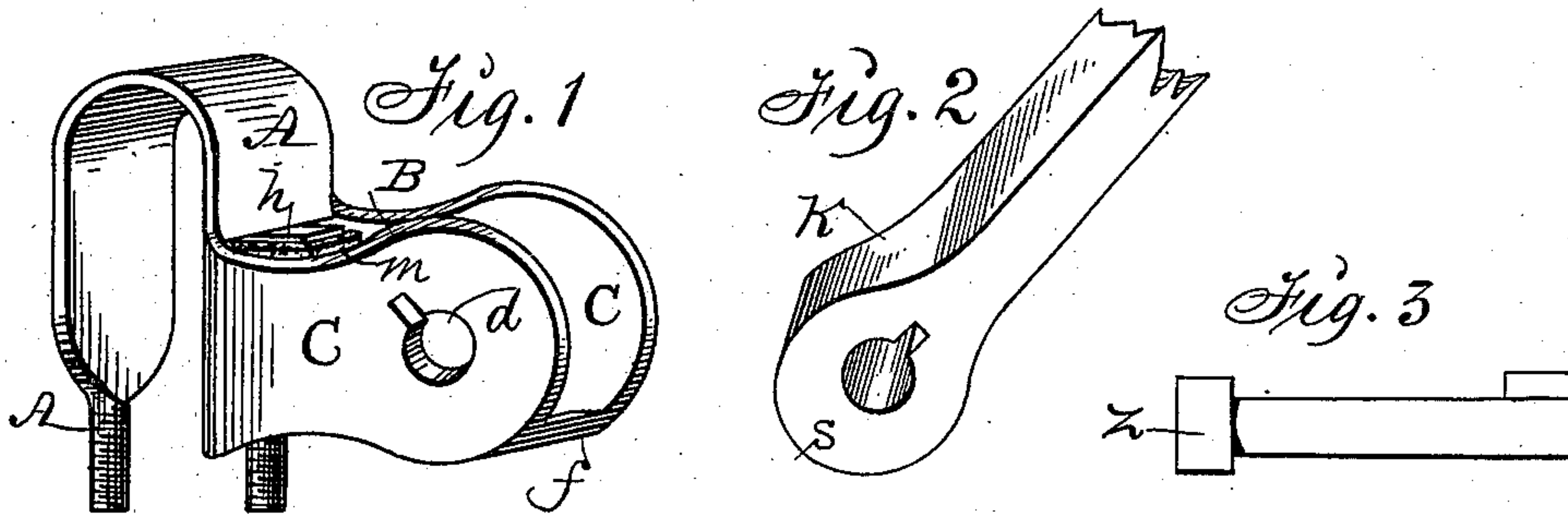


(No Model.)

J. A. HINSON.
THILL COUPLING.

No. 401,885.

Patented Apr. 23, 1889.



Witnesses:

R. H. Orwig.
M. P. Smith.

Inventor:

James A. Hinson,
By Thomas G. Orwig, Atty.

UNITED STATES PATENT OFFICE.

JAMES A. HINSON, OF DES MOINES, IOWA.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 401,885, dated April 23, 1889.

Application filed March 19, 1888. Serial No. 267,778. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. HINSON, a citizen of the United States of America, and a resident of Des Moines, in the county of Polk and State of Iowa, have invented an Improved Thill-Coupling, of which the following is a specification.

My object is to facilitate attaching and detaching a pair of thills or a pole from a vehicle, to dispense with extraneous nuts or fastening devices, and to prevent rattling and the annoyances, dangers, and accidents incident to the use of thill-couplings.

My invention consists in the construction and combination of a clip having an integral joint-socket, a thill-iron, a rubber block, and a key-bolt, as hereinafter set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the clip and socket. Fig. 2 is a side view of the rear end of the thill-iron. Fig. 3 shows the key-bolt. Fig. 4 is a sectional view showing the clip and socket attached to an axle. Fig. 5 is a perspective view showing my device applied as required for practical use.

A represents a clip of common form made of wrought-iron. It may vary in size to suit axles of different dimensions.

B represents the socket of a joint formed integral with the clip in such a manner that it will project forward at right angles to the clip and the axle to which the clip is fixed. The parallel sides C of the socket have coinciding perforations *d* of common form that admit a key-bolt.

f is a cross-piece of concavo-convex shape that connects and re-enforces the front portions of the sides C, and also forms a support that will retain the thill-iron in position, as required, to allow the key-bolt to be inserted and withdrawn at pleasure.

g is an opening in rear of the cross-piece *f*, that allows water and dirt to escape when it enters the open top of the socket, as required, to prevent it from obstructing the operation of the joint.

h is a projection at the top of the rear wall of the socket, that allows a rubber cushion, *m*, to be placed in the rear portion of the socket

in such a manner that it cannot escape when the thill-iron is secured in the same socket by means of the key-bolt.

k is a thill-iron adapted in shape and size to fit in between the sides C of the socket and to rest upon the cross-piece *f*. A hole conforming in shape and size with the perforations *d* in the sides of the socket is formed in the enlarged and circular end to admit the passage of the key-bolt.

s is an enlargement and eccentric on the circular end of the thill-iron, that engages the rubber block *y*, that is placed in the socket.

z is a key-bolt of common form that fits in the perforations *d*.

To connect the thills with the sockets, as required, in attaching them to a vehicle, I place the irons *k* in position, as indicated by dotted lines in Fig. 4, so that the holes therein will register with the coinciding perforations *d* in the sides C of the socket, and then insert the key-bolt *z* and turn the thills downward. The inner ends of the enlargements or fins on the ends of the bolt will then be in contact with the side faces of the circular ends of the thill-irons in the sockets, so that the bolts will be prevented from moving longitudinally and escaping, and consequently the thills cannot become detached while in use, and as the thills are turned down the eccentric *s* engages the rubber cushion *m*, as required, to prevent rattling. To detach the thills, reverse movements of the irons and key-bolts are required, so as to bring the axis of the pin into concentric position with the perforations *d* for the purposes of withdrawing the key-bolt and freeing the thill-irons.

I am aware that thill-irons and clips having perforated ears have been detachably connected by means of feathered bolts, so that nuts were not required. I am also aware that rubber cushioning-blocks and metal springs have been placed in thill-couplings to prevent rattling; but my manner of forming a joint-socket having a cross-bar at its front and lower portion to support a thill-iron and a forward projection at its top and rear portion to retain a rubber cushion is novel and greatly advantageous in that the rotating part of the thill-iron in the socket will have a rigid metal

support at the front and under side of the socket upon which it can rest while the bolt is being inserted or withdrawn from the coinciding perforations without being affected by the rubber cushion, which cushion will press upon the thill-iron only when the thills are turned down from the elevated position in which they must be placed to be attached and detached from the clip and joint-socket formed integral with the clip.

I claim as my invention—

1. An axle-clip having an integral socket, B, composed of parallel sides C, that have coinciding perforations *d*, an integral thill-iron support, *f*, and an integral projection, *h*, for retaining a rubber cushion or block in the rear portion of the socket, substantially as shown and described.

2. An improved thill-coupling composed of an axle-clip having an integral joint-socket and an integral thill-iron rest at the front end and bottom of said socket, a rubber cushion or elastic block fitted in the rear end of the socket, a thill-iron having an enlarged circular end and eccentric, and a perforation corresponding in size and shape with perforations in the parallel sides of the socket, and a key-bolt, constructed and combined in the manner set forth.

JAMES A. HINSON.

Witnesses:

M. P. SMITH,

THOMAS G. ORWIG.