

(No Model.)

C. E. STRUCK.
THILL COUPLING.

No. 372,093.

Patented Oct. 25, 1887.

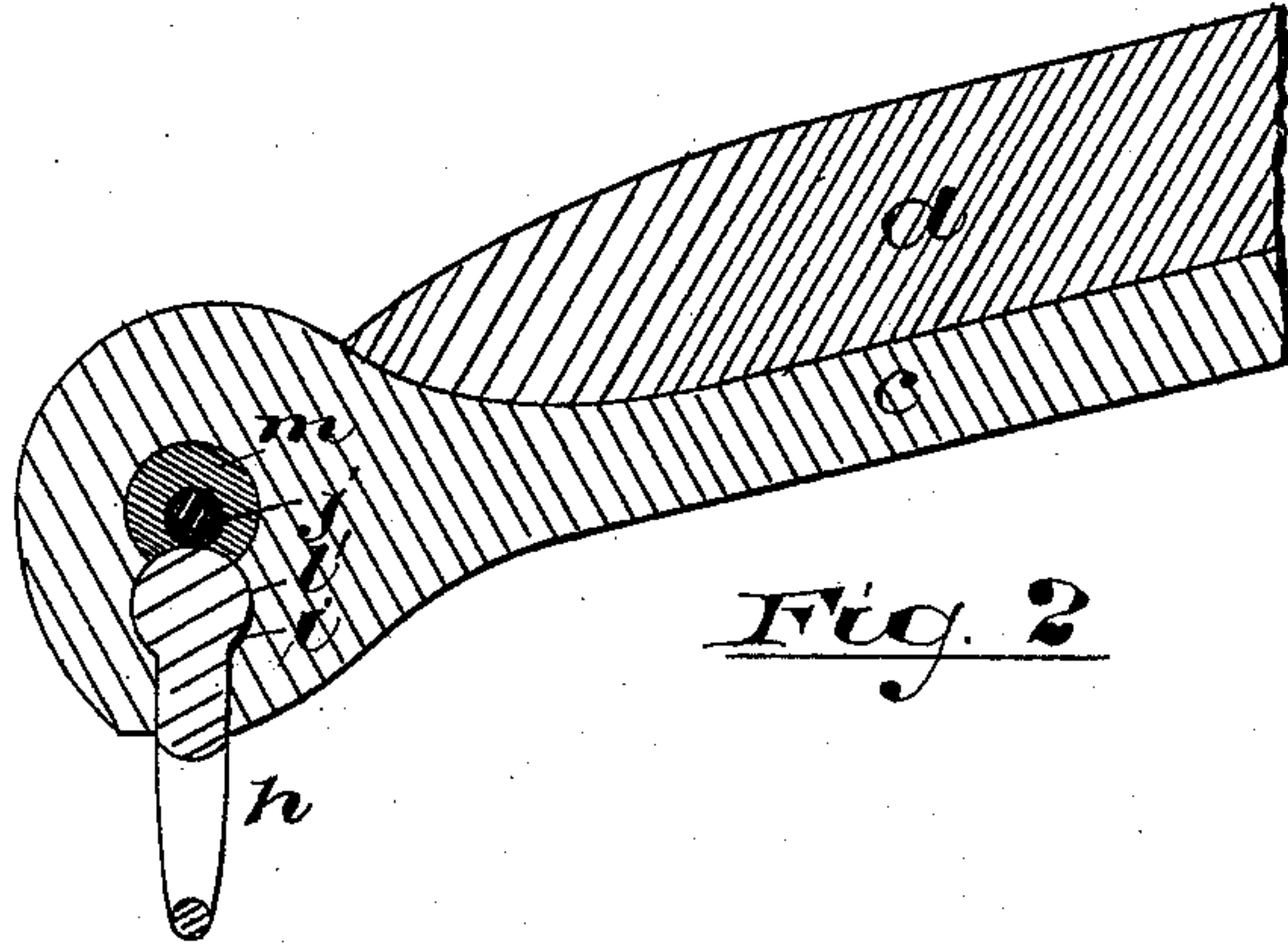


Fig. 2

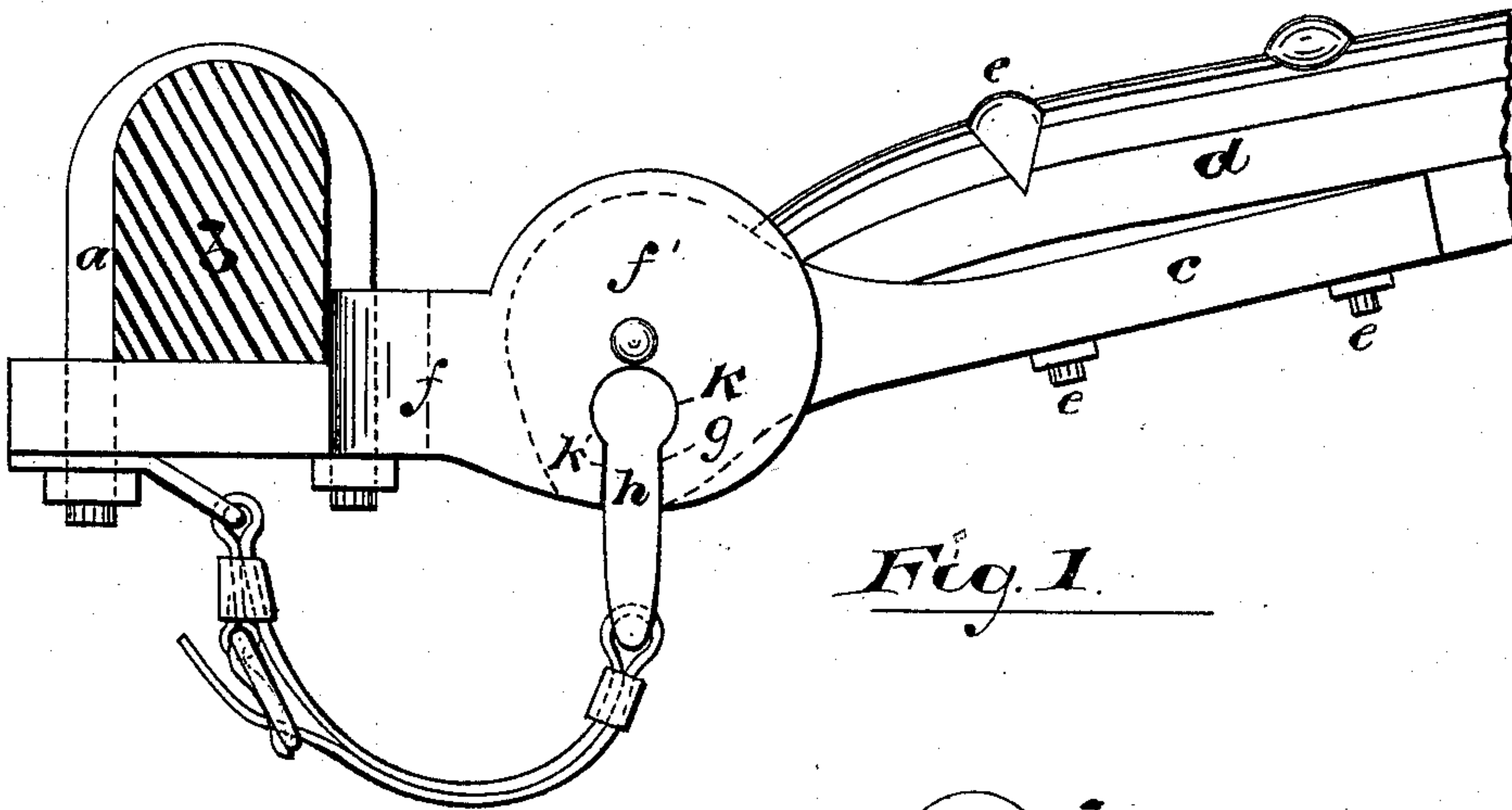


Fig. 1

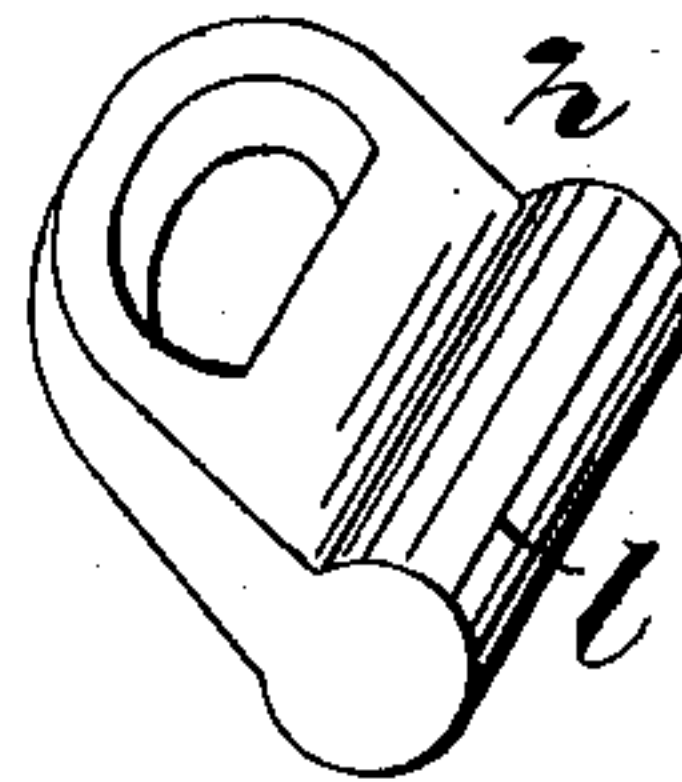


Fig. 3

WITNESSES:

INVENTOR:

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UNITED STATES PATENT OFFICE.

CHARLES E. STRUCK, OF NEWARK, NEW JERSEY.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 372,093, dated October 25, 1887.

Application filed August 31, 1887. Serial No. 248,359. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. STRUCK, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide an anti-rattling thill-coupling of increased utility, effectiveness, and of reduced cost of construction, and one that may be coupled and uncoupled with greater facility and ease.

The invention consists in the combination and arrangement of parts, substantially as will be hereinafter set forth, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1 is a side elevation of the improved coupling. Fig. 2 is a central vertical section of the same, taken longitudinally through the shaft and across the axle, and Fig. 3 is a detail perspective view of the key adapted to hold the coupling in operative engagement with the thill.

In said drawings, *a* indicates a clip attached to the axle *b* in any ordinary and suitable manner.

c indicates the thill-iron secured to the shaft *d* by ordinary bolts, *e*, or other suitable means.

f indicates the jack, which extends beneath the shaft and is held thereto by the clip. The jack *f* is provided with two cheeks, *f'* *f''*, between which the thill-iron *c* has its bearings.

One of the cheeks of the said jack is radially slotted, as at *g*, to allow the key *h* to pass therethrough into a similar radial slot in the head *i*. The cheeks of the jack are provided with a central pivotal pin, *j*, adapted to hold the thill-iron and take the draft therefrom, and the slot, before referred to, extends only to said pin, enough metal being provided

around said pin to hold the same firmly in place. The slot in the cheeks of the jack is given a rounded or circular shape at its inner end, as at *k*, and contracted near the periphery of the cheek, as at *k'*, coinciding with the shape of the key adapted to pass therethrough. The slot in the head of the thill-iron is also made to conform to the key, so that the latter may be passed into said head and be retained therein because of the contracted mouth at the peripheral portion.

The pivotal portion of the head is enlarged, so as to be considerably greater in diameter than the diameter of the pivotal pins. It is thus adapted to receive a packing, *m*, which lies around the pivotal pin and prevents the usual noise caused in driving.

The key shown in Fig. 3 is provided with a cylindrical head, *l*, which fits into the rounded portion *l'* of the slot in the head, bearing against the packing, and also against the pivotal pin.

By being made cylindrical, as shown, instead of being concaved at its inner extremity to conform to the shape of the pin, as in a previous patent granted to me, No. 299,696, I reduce the cost of construction of the key by avoiding the tedious and expensive operation of milling, and secure a more limited bearing upon the pivotal pin, and thus reduce the amount of friction on said pin and the amount of wear thereon.

By having rubber or other suitable cushion-like packing secured in the large chamber formed in the head, in the manner shown and described, the same is held in place by the cheeks of the jack, so that the said rubber or other suitable packing is prevented from becoming displaced by lateral movement.

The enlarged cylindrical head prevents the key from being withdrawn through the contracted portion of the slot or opening in the head.

When the shafts are in position so that their ends lie upon or near the ground, or in a position away from their normal driving position, the slots in the thill-head coincide with that in the cheek, so that the key can be laterally moved from its seat in said head and the thill detached from the vehicle. When the shaft is raised so as to be in position for driv-

ing purposes, the key is brought away from the opening or slot in the cheek, and is thus locked in position, so that it is impossible for it to work out, through accident or otherwise.

5 Having thus described the invention, what I claim as new is—

1. The improved thill-coupling herein described, combining therein a thill-iron having a slotted head and a jack provided with 10 cheeks, one of which is slotted to coincide with the slot in the head, and a key having a cylindrical head, said head serving the double purpose of retaining the key in position and reducing the frictional contact, substantially 15 as set forth.

2. The improved thill-coupling, combining

therein a jack provided with a pivotal pin and with cheeks, one of which is slotted, as described, and a thill-iron provided with correspondingly-slotted head, and a chamber hav- 20 ing therein packing for preventing the contact between said head and the pivotal pin of the jack, and a key adapted to hold said parts in operative relation, substantially as set forth.

In testimony that I claim the foregoing, I 25 have hereunto set my hand this 9th day of August, 1887.

CHARLES E. STRUCK.

Witnesses:

CHARLES H. PELL,

OSCAR A. MICHEL.