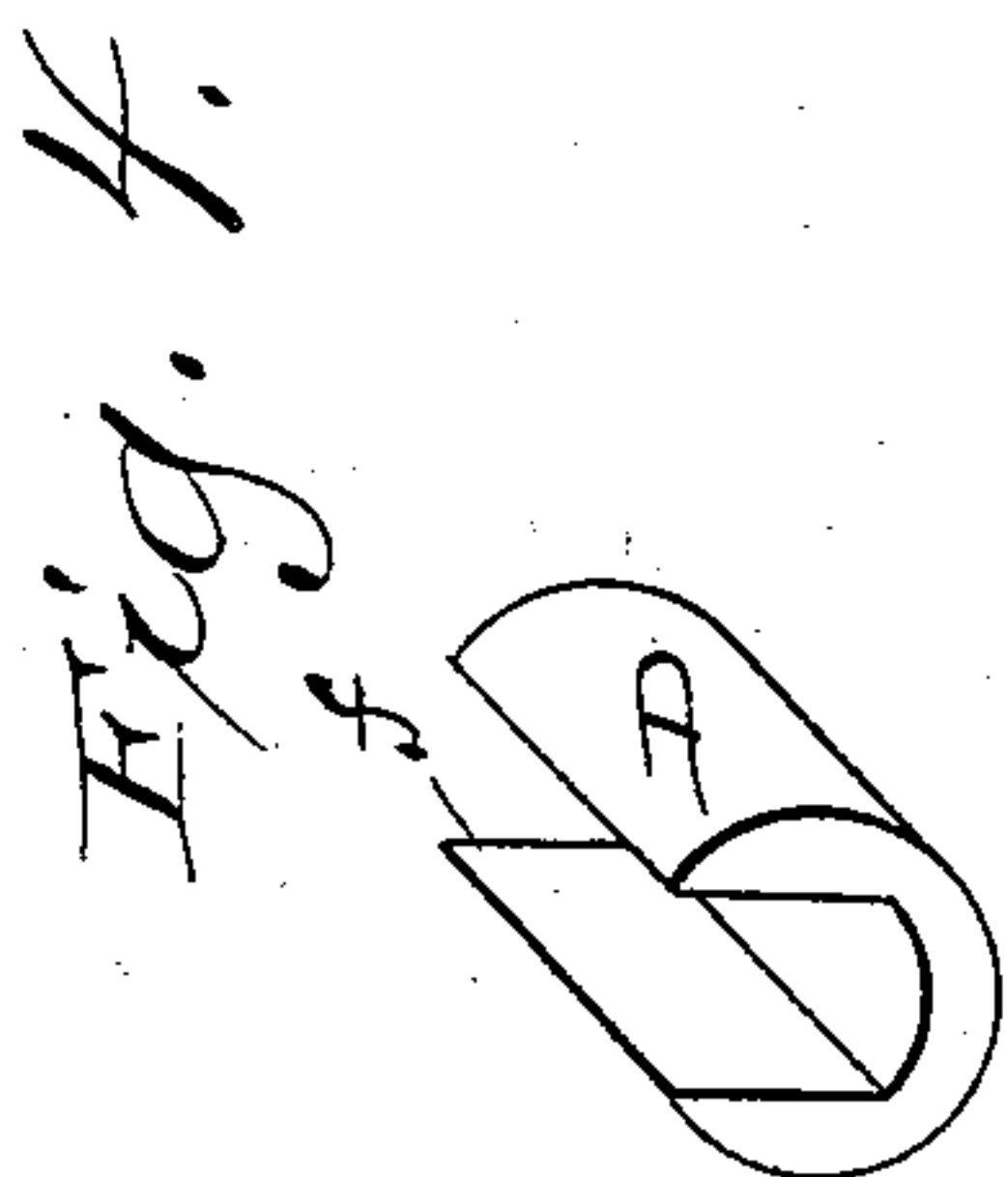
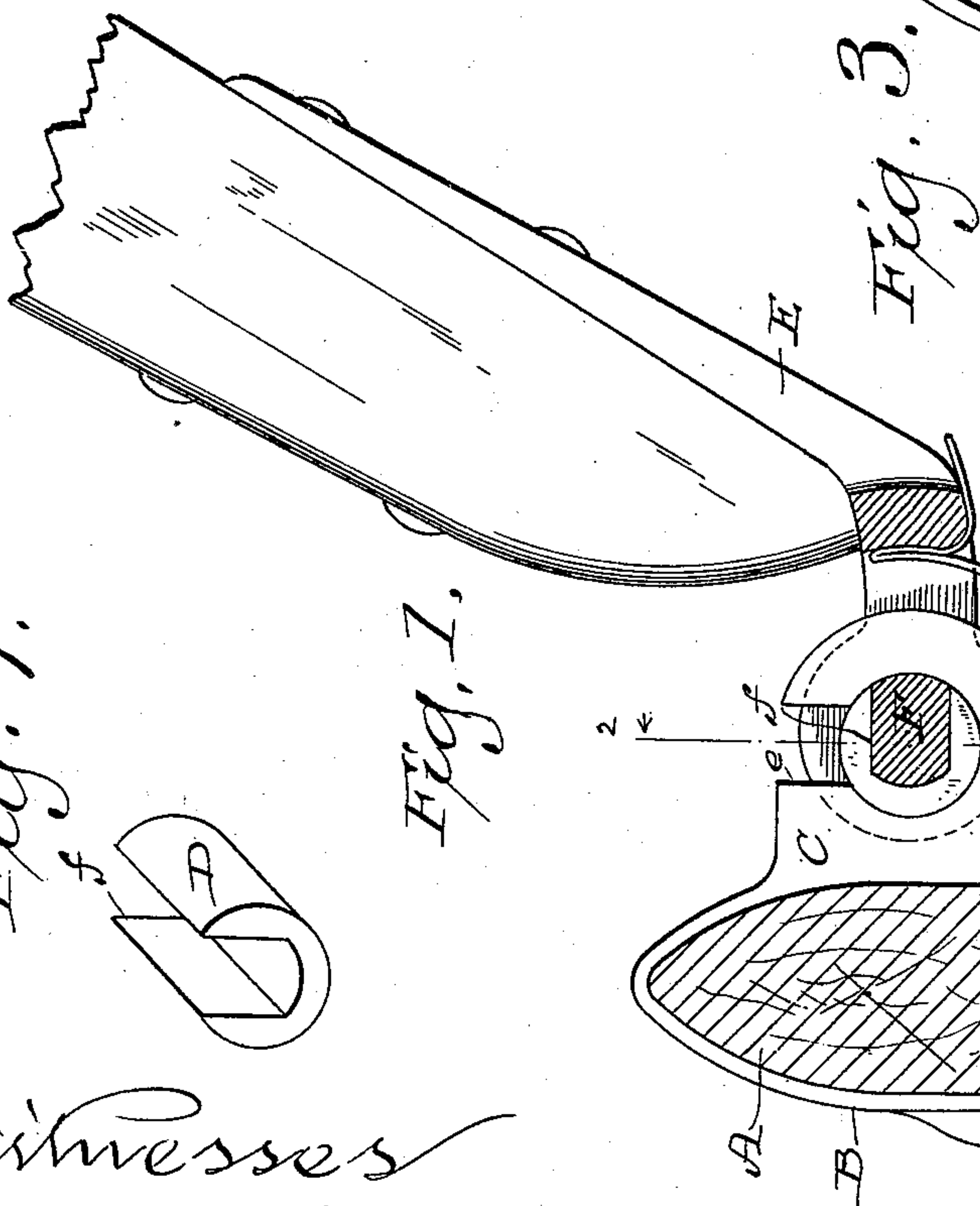
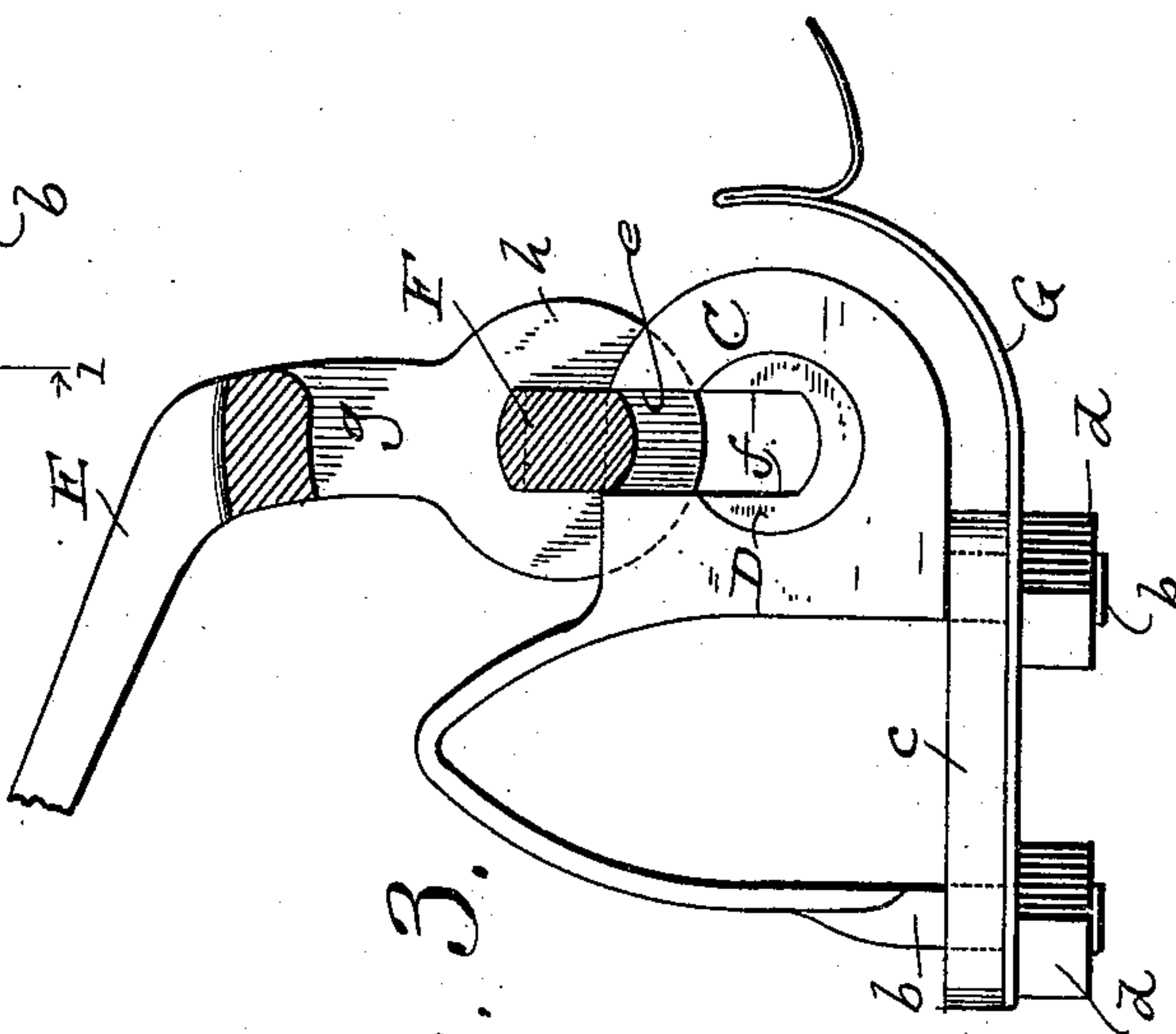
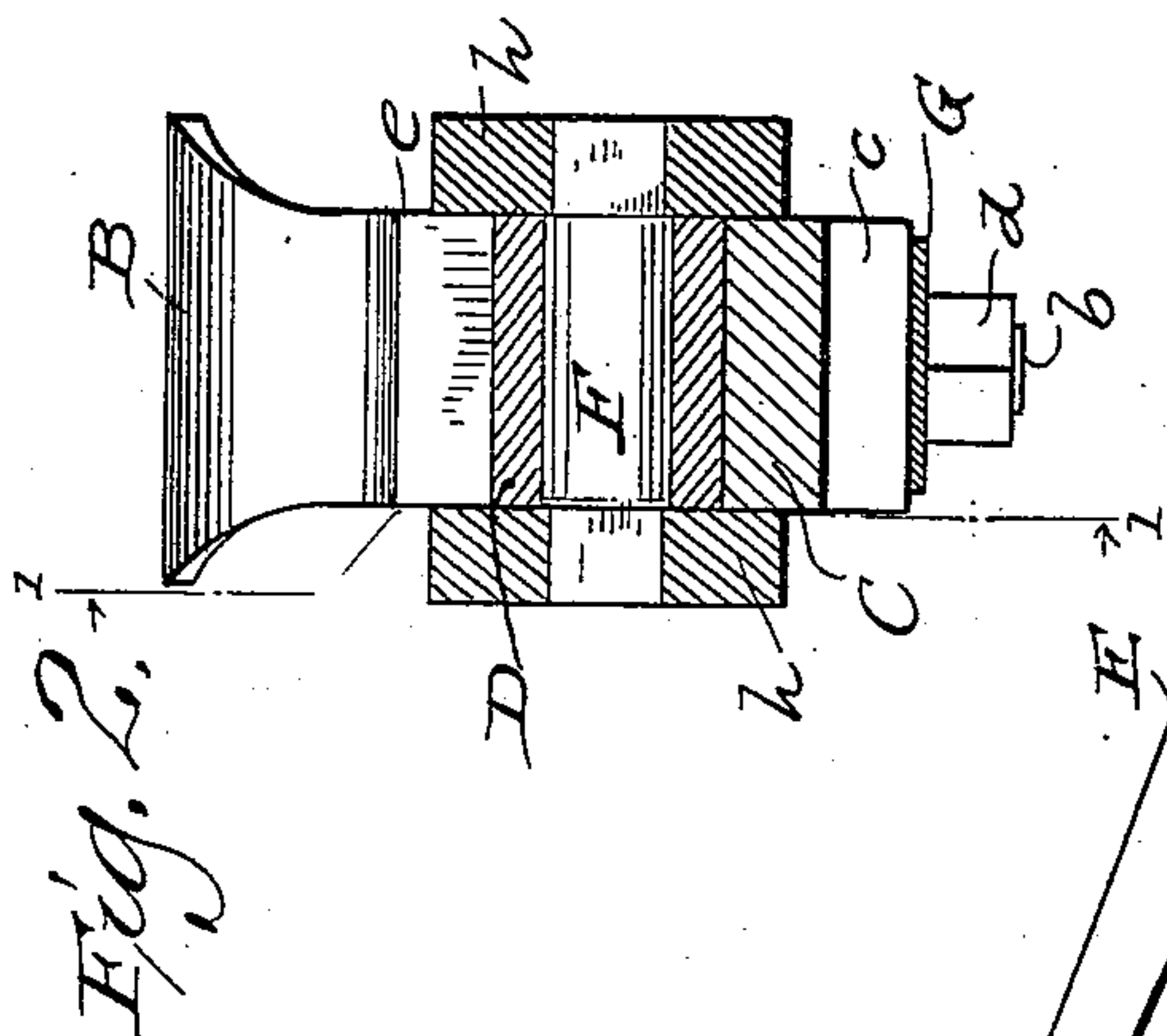


(No Model.)

C. THORP.
THILL COUPLING.

No. 488,781.

Patented Dec. 27, 1892.



Witnesses
Geo. W. Fourny
H. E. Oliphant

Inventor
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UNITED STATES PATENT OFFICE.

CHARLES THORP, OF TRENTON, WISCONSIN.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 488,781, dated December 27, 1892.

Application filed February 12, 1892. Serial No. 421,278. (No model.)

To all whom it may concern:

Be it known that I, CHARLES THORP, a citizen of the United States, and a resident of Trenton, in the county of Dodge, and in the State of Wisconsin, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof.

I am aware of a coupling comprising a clip, a horizontally slotted tumbler seated in the clip and a draft-iron cut out at its rear end to leave a transverse portion for engagement with the tumbler. I am also aware of a coupling comprising a clip having vertically slotted and forwardly extended side ears, a horizontally slotted tumbler engaging the clip-ears and a draft-iron provided with lateral projections at its rear end for engagement with the tumbler, the shank of this draft-iron coming between said clip-ears. I am still further aware of a coupling comprising a clip provided with side ears joined by a bolt, (that has to be withdrawn when a pole is substituted for thills, or otherwise) having a hook shaped rear end engaging the bolt, and a spring connected at its ends to the clip and draft-iron, this spring being for the purpose of absorbing vibration and preventing rattle in said coupling.

To provide a stronger, more durable and convenient coupling than those above enumerated is the main object of my invention, and the latter has also for its object to provide the coupling with an anti-rattler spring that is positioned to oppose the draft-iron, although independent of any connection with the latter, as well as to do away with any bolt and nut connection between the members of said coupling. These objects I attain by the construction hereinafter described with reference to the accompanying drawings and subsequently claimed.

In the drawings: Figure 1 represents a side elevation of my coupling partly in section on line 1—1 of the succeeding figure, Fig. 2, a vertical transverse section taken on line 2—2 of the preceding figure, Fig. 3, a view similar to Fig. 1, but illustrating the draft-iron in the position necessary for its attachment, or withdrawal from the clip and tumbler, and Fig. 4, a detail perspective view of said tumbler.

Referring by letter to the drawings A represents the front axle of a buggy or analogous vehicle, B a clip arranged on said axle and having bolt terminals *b* passed through a base-plate *c* and engaged by nuts *d*, as is usual in the art to which my invention relates. Extending forward from the clip B and forming part of the same is a block C cut out to form a circular seat intercepted by a slot *e*, and the latter extends down from the top of said block to register with a corresponding slot *f* in a tumbler D loosely arranged in said seat, this tumbler being old in the art, as previously explained.

The draft-iron E, forming part of my coupling, is bifurcated at its rear end, and the furcations *g* terminate in circular guards *h* that are united by a bar F, which latter engages with the tumbler D, when said draft-iron is in its working position, as shown in Fig. 1. The guards *h* on the draft-iron furcations are of such diameter as to overlap the ends of the tumbler D in all directions and thereby prevent this tumbler from working out of its seat.

Arranged on the bolt terminals *b* of the clip B, between the base-plate *c* and nuts *d*, is a spring G that is shown as bent upward for a certain distance then recurved and extended forward to oppose the draft-iron E when the latter is brought toward the front after being connected to the tumbler D in the block portion of said clip. It is to be observed that the spring G has no connection whatever with the draft-iron and this is of especial advantage, inasmuch as said spring does not have to be manipulated when said draft-iron is engaged with, or detached from the clip. The spring G absorbs vibration to prevent rattle in the coupling, and as there is no connection between said spring and draft-iron, the former is not liable to accidental displacement.

To couple or uncouple, the draft-irons of a pair of thills, or a pole, and the relative clips, these draft-irons are brought into the position shown by Fig. 3, and thus the bar F connecting the guards *h* of each draft-iron is brought into full register with the slot *e* in the relative clip-block C, the tumbler D of this clip-block being also turned in its seat to have the slot *f* come into register with the one in said clip-block. Each bar F being

seated in the relative tumbler, it will clear the slot in the adjacent clip-block C and consequently the thill or pole may be brought over to have each draft-iron E impinge against
5 an anti-rattler spring G, thereby turning said tumbler to lock said bar in said clip-block and thus complete the operation of coupling.

In practice it is usual to provide a vehicle with a pair of thills and a pole that are substituted one for the other when necessary or
10 desirable, and if said thills and poles be provided with draft-irons, such as I have described, for connection with clips similar to those herein specified, the substitution of a
15 pole for thills, or otherwise, may be quickly effected, inasmuch as there are no bolts to remove and replace in performing the operation.

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

A coupling comprising a clip having a single forwardly extended block provided with a circular seat intercepted by a slot, a slotted
25 tumbler loosely arranged in the seat, a draft iron that is bifurcated at its rear end and has the furcations thereof terminated in guards that come outside the block and tumbler and are united by a bar for detachable engagement with the tumbler-slot, and a spring con-
30 nected at one end to the clip, the other end of this spring being free, but positioned to oppose the draft-iron, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Beaver Dam, 35
in the county of Dodge and State of Wisconsin, in the presence of two witnesses.

CHARLES THORP.

Witnesses:

J. E. HOSMER,
E. G. SMITH.