(No Model.)

# W. KETON.

## THILL COUPLING.

No. 395,396. Patented Jan. 1, 1889.

*Fig. 1.*

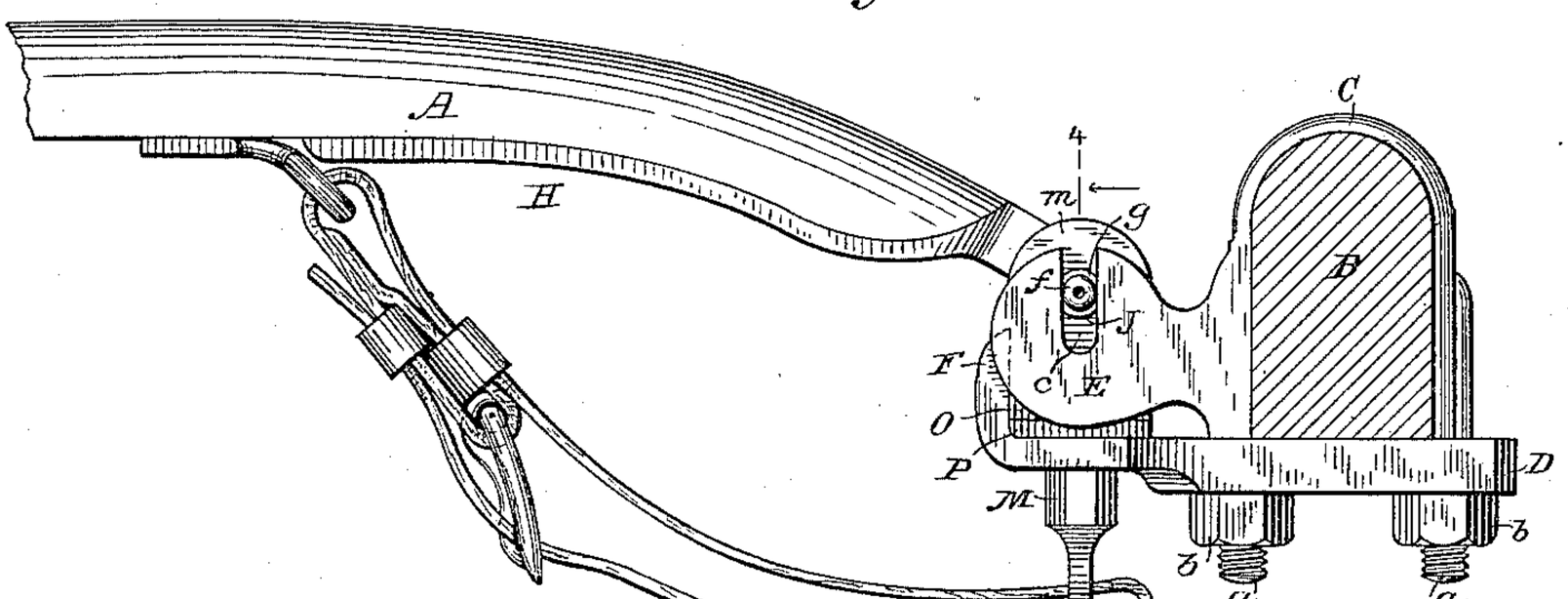



*Fig. 2.*

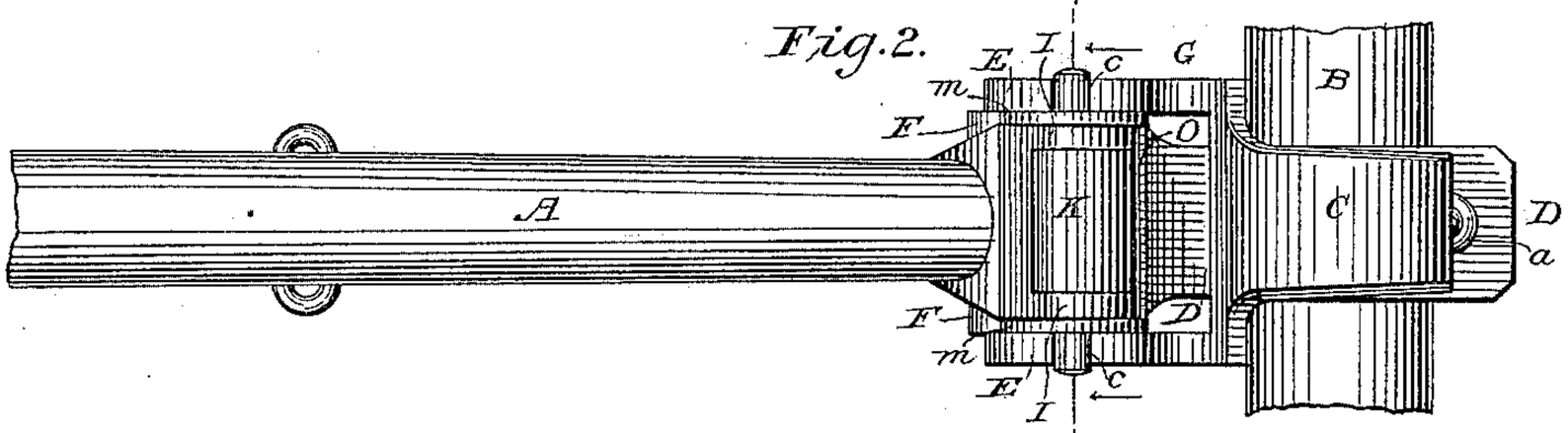



*Fig. 3.*

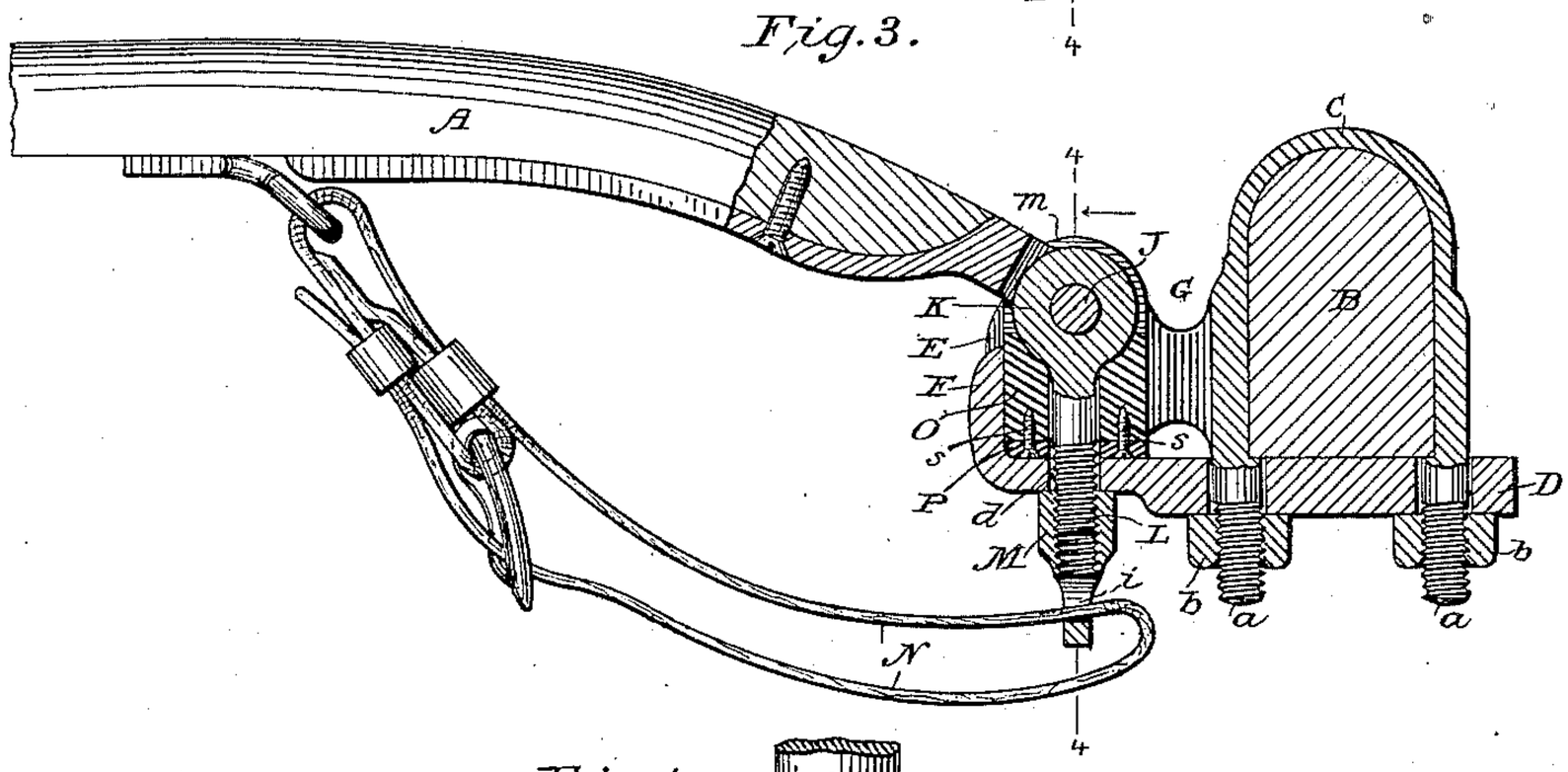
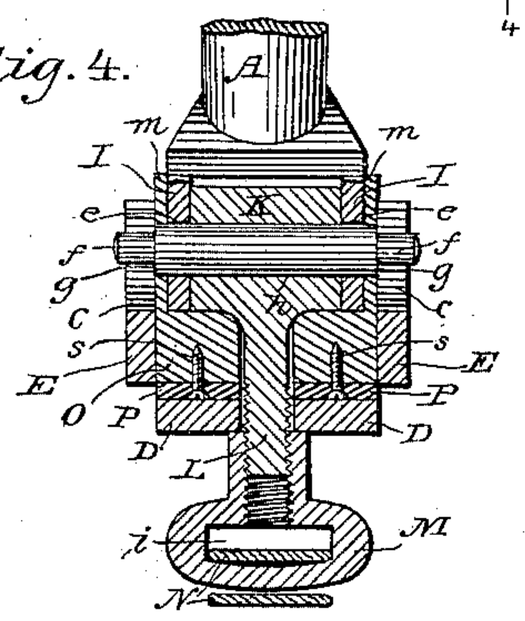



*Fig. 4.*

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# UNITED STATES PATENT OFFICE.

WALTER KETON, OF NORTH ATTLEBOROUGH, MASSACHUSETTS.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 395,396, dated January 1, 1889.

Application filed August 2, 1883. Serial No. 281,825. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER KETON, of North Attleborough, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Thill-Couplings, of which the following is a specification.

The object of this invention is to produce a thill-coupling which shall be noiseless and in which the wear can be readily taken up as it occurs, so as to prevent rattling of the thills. The improved construction by which this result is accomplished is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the coupling. Fig. 2 is a plan view of the same. Fig. 3 is a central vertical longitudinal section. Fig. 4 is a vertical cross-section in a plane indicated by the line 4 4 in the other figures.

A is one of the thills; B, the axle; C, a clip fitting over the axle and having screw-studs *a a* of the usual character; and D is the bottom clip-plate secured to the clip by the usual nuts, *b b*. The clip has on its forward side two projecting ear-plates, E E, integrally formed therewith, and each of these plates has formed therein a vertically-extending slot, *c*, open at the top. The clip-plate D extends forward beneath the slotted ear-plate, and has at its front edge an upwardly-turned flange, F, extending between the front ends of the ear-plates. The clip, its ears, the clip-plate, and its flange thus constitute a chamber, G, open at the top. The forwardly-projecting portion of the clip-plate is formed with an aperture, *d*, in the same vertical plane as the slots *c c* in the ear-plates.

The thill A at its coupling end is provided with a metallic strap, H, which is provided with two rearwardly-extending cheek-plates, I I, each having a centrally-located aperture, *e*. When in operative position, these cheek-plates are held between the ear-plates E E of the clip. Fitting in the apertures *e e* of the cheek-plates I I is a shaft, J, having at each end outwardly-projecting studs *f f*, which move vertically and are held in the slots *c c* of the ear-plates E E. The studs *f f* are smaller in diameter than the shaft J, so that shoulders *g g* are formed on the shaft, which prevent it slipping out laterally through the slots *c c*. The thill turns or oscillates on this shaft J, upon which it is journaled.

In order to hold the shaft J in position in the slots *c c* and to prevent it being lifted out of the same, it passes through the closely-fitting cylindrical bore *h* of a barrel, K, which embraces the shaft and is retained between the cheek-pieces I I. This barrel has integrally formed on its lower side a downwardly-projecting screw-threaded stud, L, which passes through the aperture *d* in the clip-plate, extending beneath the clip-plate. Beneath the clip-plate a tightening and securing nut, M, fits upon the stud L, and so holds the barrel K in position. To prevent the nut M being accidentally turned and becoming lost, it is formed with a thumb-piece having a slot, *i*, through which passes a strap, N, which is fastened to the thill, as shown. Thus the nut cannot be turned more than half a revolution without unbuckling the strap.

To prevent rattling of the thills, there is placed in the chamber G beneath the barrel K an elastic block, O, of rubber or other equivalent material. This rubber block is curved on its upper side to conform with the outer cylindrical surface of the barrel K, and it has thin side pieces, *m m*, preferably integral therewith, which extend upwardly and are held between the cheek-plates I I and the ear-plates E E. The elastic block is suitably apertured to receive the studs *f f* and L. The barrel K, which supports the parts of the coupling attached to the thill, rests upon the elastic block, and it can be held with any desired degree of pressure thereon by turning the nut M, the slots *c c* permitting the vertical movement of the barrel.

The elasticity of the rubber block holds the shaft J tightly against the cheek-plates I I, preventing any rattling at that point, and the elastic side pieces, *m m*, prevent any contact between the cheek and ear plates. In case of wear, the same may be compensated for by turning the nut M.

In case of wear on the elastic block, elastic washers may be placed beneath the same, such a washer being shown at P. The washer may be secured to the block by screws *s s*.

I claim as my invention—

1. In a thill-coupling, a clip having project-

ing ear-plates provided with vertical slots and a clip-plate extending beneath said ear-plates, in combination with a shaft vertically movable in said slots, on which shaft the thill is journaled, a barrel embracing said shaft, having a stud extending downwardly through said clip-plate, and a nut fitting on said stud beneath said clip-plate.

2. In a thill-coupling, a clip having projecting ear-plates provided with vertical slots and a clip-plate extending beneath said ear-plates, in combination with a shaft vertically movable in said slots, on which shaft the thill is journaled, a barrel embracing said shaft, having a stud extending downwardly through said clip-plate, a nut fitting on said stud beneath said clip-plate, and an elastic block interposed between said barrel and said clip-plate.

3. In a thill-coupling, a clip having projecting ear-plates provided with vertical slots and a clip-plate extending beneath said ear-plates, in combination with a shaft vertically movable in said slots, a thill having projecting cheek-plates journaled on said shaft between said ear-plates, a barrel embracing said shaft between said cheek-plates, a stud formed on said barrel extending downwardly through said clip-plate, a tightening and securing nut fitting on said stud beneath said clip-plate, an elastic block interposed between said barrel and said clip-plate, and elastic pieces between said cheek and ear plates.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

his
WALTER × KETON.
mark.

Witnesses:
HENRY RICE,
JENNIE RICE.