

No. 777,830.

PATENTED DEC. 20, 1904.

H. P. BALTZER.
VEHICLE THILL.

APPLICATION FILED MAY 25, 1904.

NO MODEL.

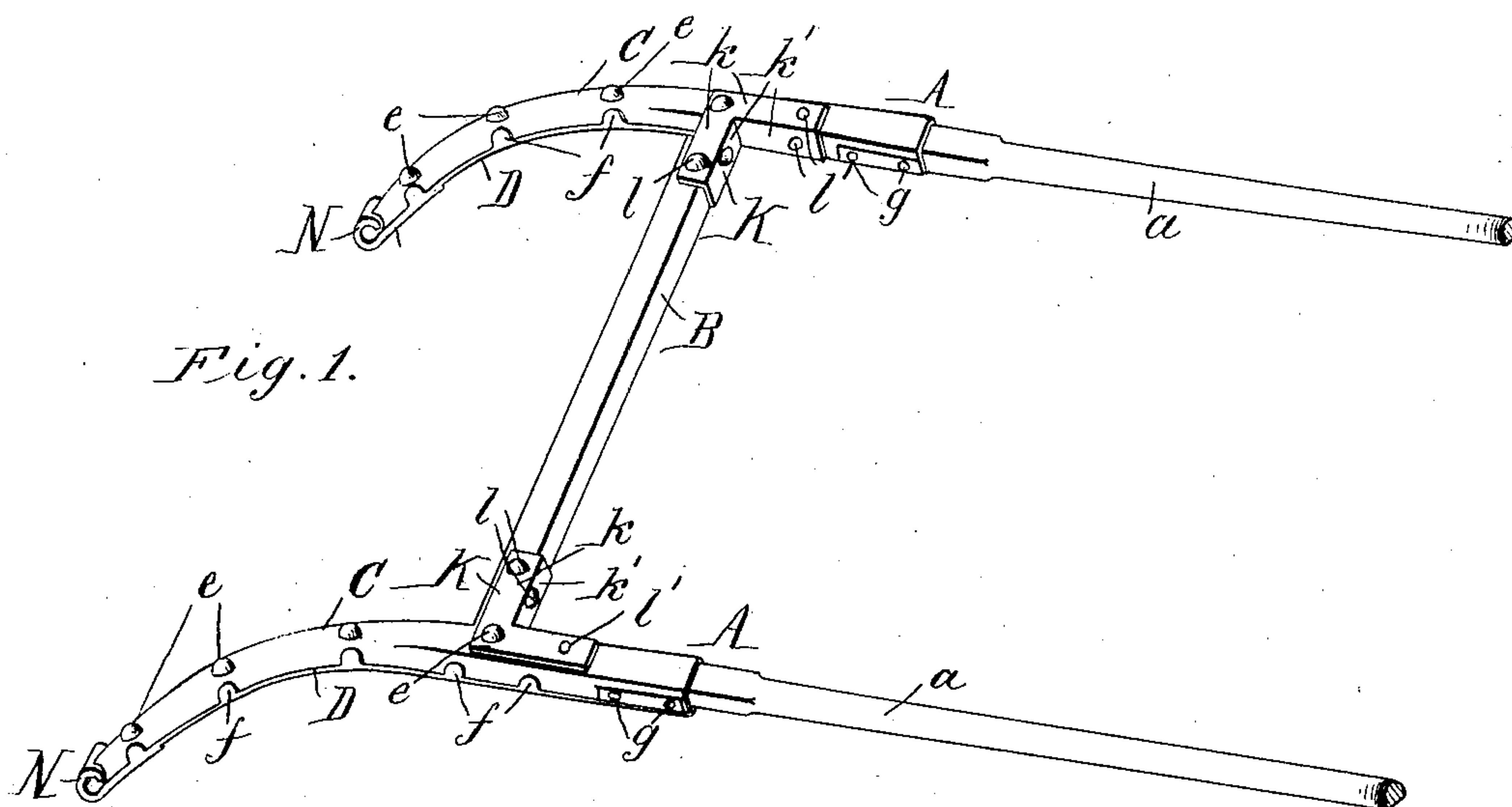


Fig. 1.

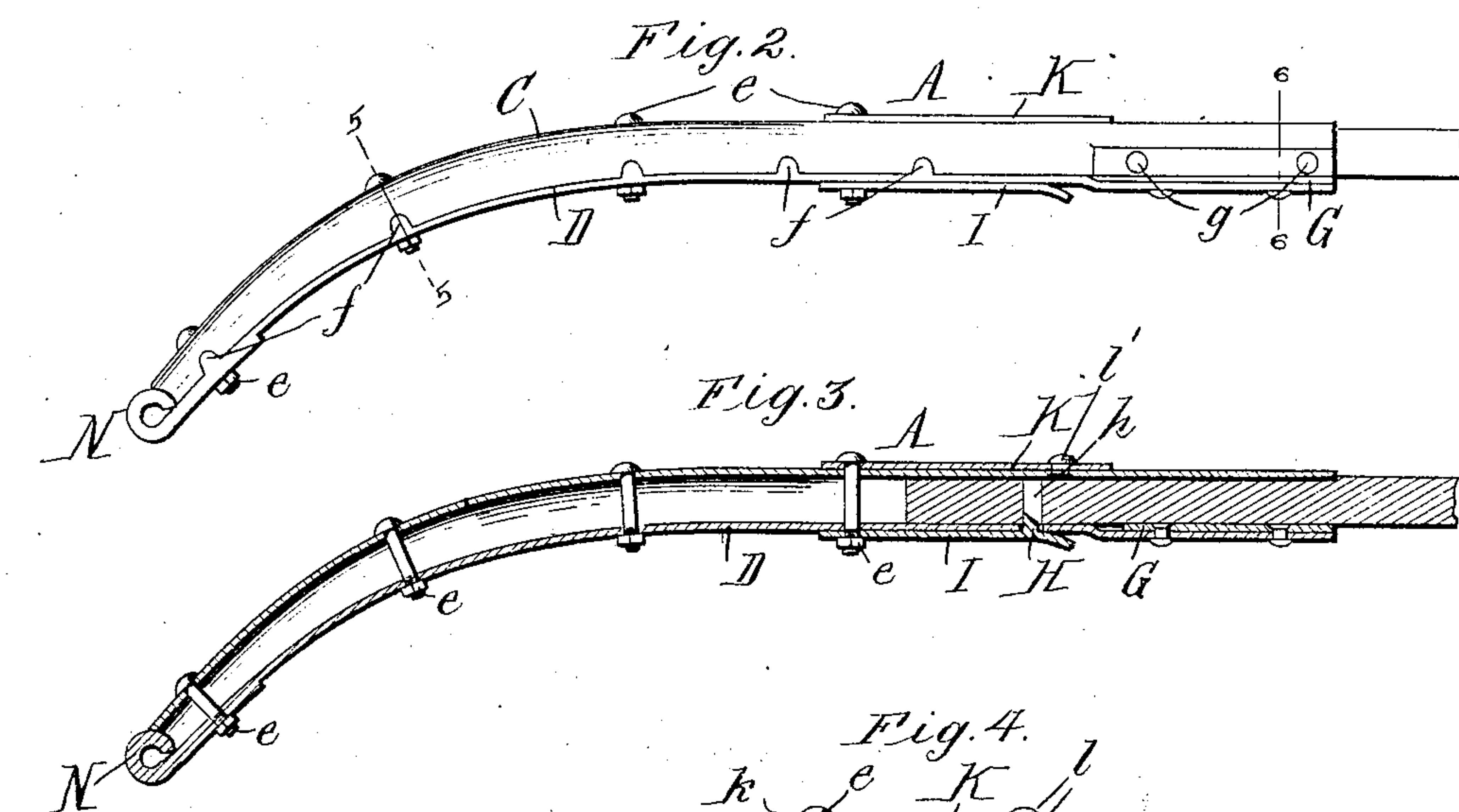


Fig. 2.

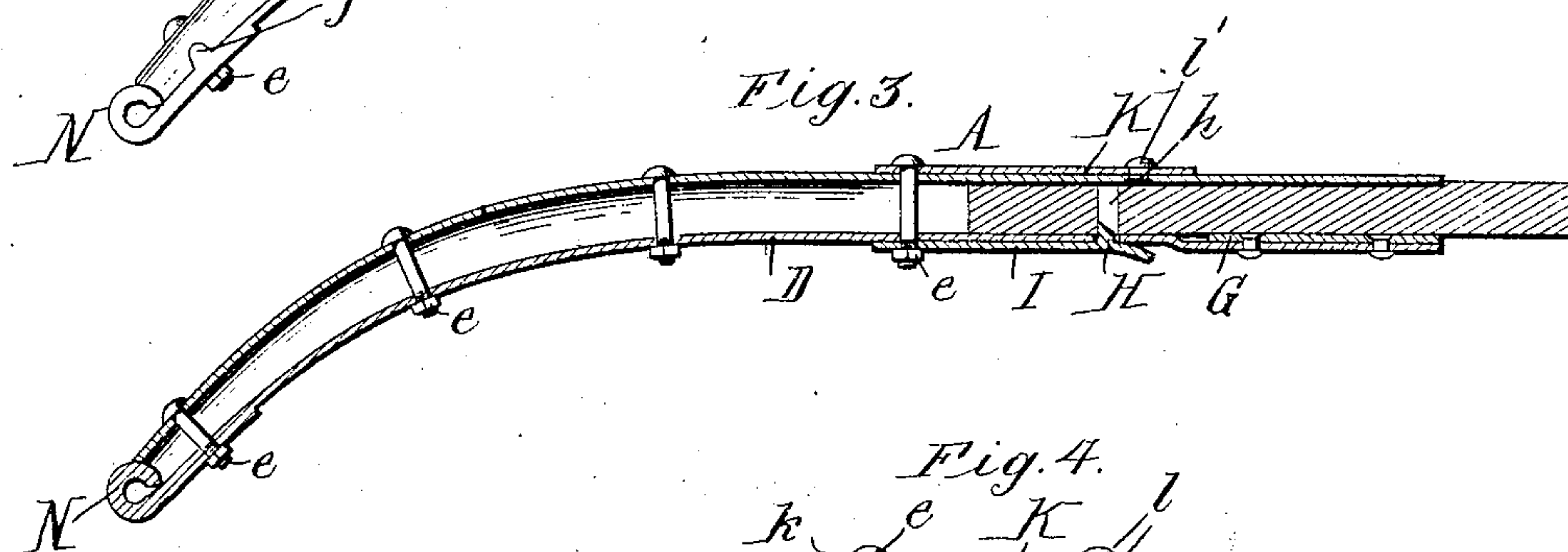


Fig. 3.

Fig. 5.

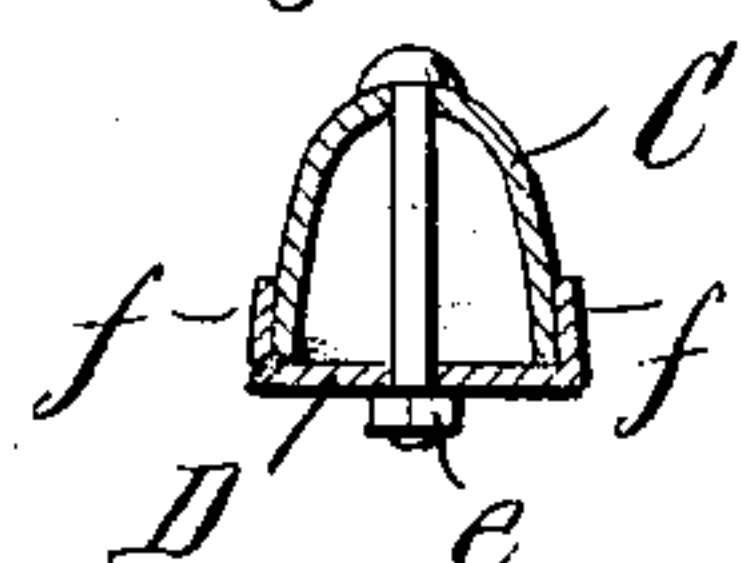


Fig. 6.

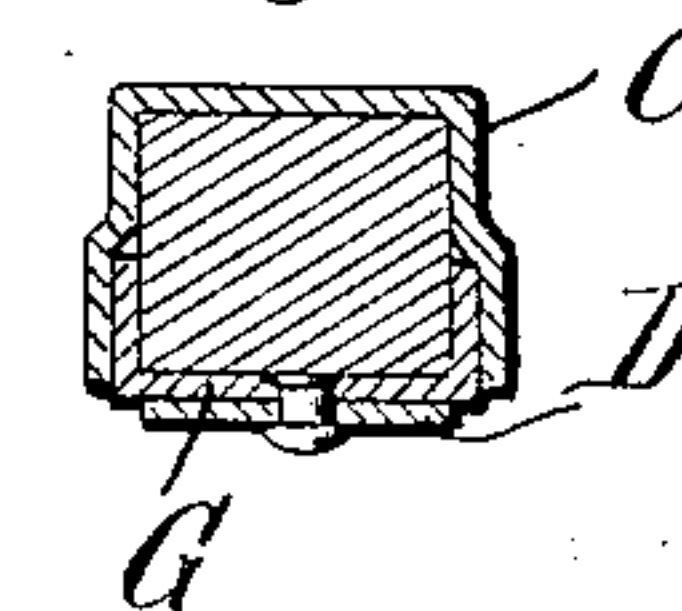


Fig. 4.

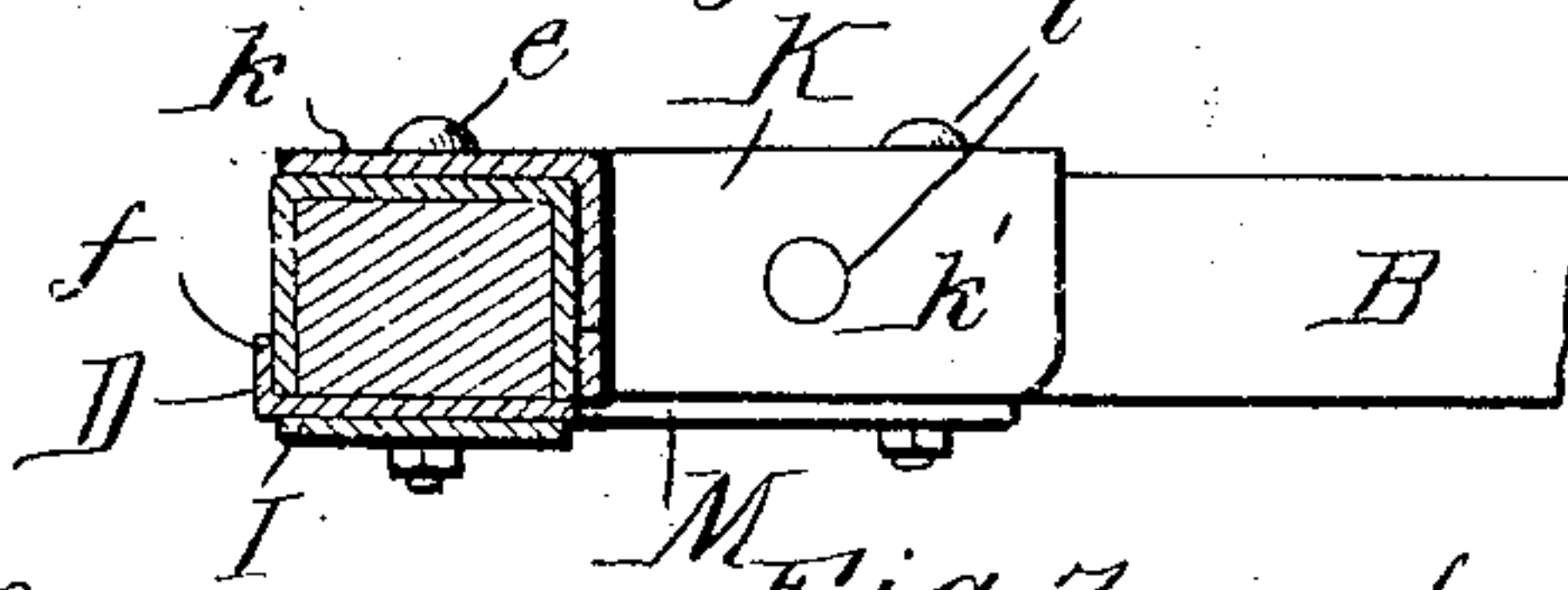
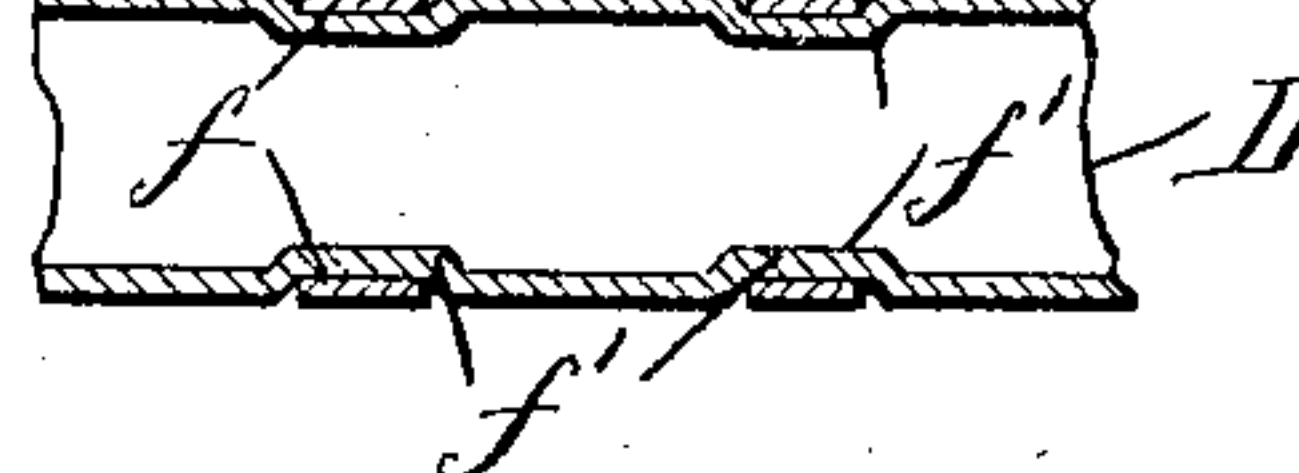


Fig. 7.



Witnesses:-
R. W. Rumer.
E. A. Volk.

Inventor
by H. P. Baltzer
Wilhelm, Parker & Hard
Attorneys.

UNITED STATES PATENT OFFICE.

HENRY P. BALTZER, OF HAMBURG, NEW YORK.

VEHICLE-THILL.

SPECIFICATION forming part of Letters Patent No. 777,830, dated December 20, 1904.

Application filed May 25, 1904. Serial No. 209,633.

To all whom it may concern:

Be it known that I, HENRY P. BALTZER, a citizen of the United States, residing at Hamburg, in the county of Erie and State of New York, have invented new and useful Improvements in Vehicle-Thills, of which the following is a specification.

This invention relates to vehicle thills or shafts.

The object of the invention is to provide thills of light, strong, and economical construction and neat attractive appearance in which the front portions of the shafts are removably connected to the rear portions, whereby they can be quickly and easily detached to save room and prevent injury thereto when the vehicle is not in use and can be again readily attached for use.

In the accompanying drawings, Figure 1 is a fragmentary perspective view of a pair of vehicle-thills embodying the invention. Fig. 2 is a fragmentary side elevation thereof. Fig. 3 is a fragmentary longitudinal section of one of the shafts. Fig. 4 is a transverse sectional elevation of the connection of the cross-bar with one of the shafts. Figs. 5 and 6 are transverse sections, on an enlarged scale, of one of the shafts in lines 5 5 and 6 6, respectively, Fig. 2. Fig. 7 is a fragmentary longitudinal horizontal section, on an enlarged scale, of one of the shafts, showing a slightly-modified construction.

Like letters of reference refer to like parts in the several figures.

The thills comprise, as usual, the separated shafts A, connected between their ends by the cross-bar B. Each shaft consists of front and rear detachably-connected parts or sections. The front part *a* of the shaft, of which only a portion is shown, is preferably made of wood and may be of the ordinary or any preferred form and cross-sectional shape. The rear part of the shaft is made of metal and is hollow and of similar shape in cross-section to the corresponding part of the ordinary single-piece wooden shaft. It is composed of an upper piece of inverted-U or trough shape in cross-section, which is formed into the shape shown by stamping or pressing from sheet metal, and a bottom metal piece or strip D, which is

flat and joins the lower separated edges of the upper piece, to which it is connected by bolts or rivets *e* passing vertically through the two pieces. The bottom piece D is provided at its side edges with upturned ears or portions *f*, which embrace the sides of the upper piece to prevent any lateral movement between the pieces. If preferred, the sides of the trough-shaped piece C may be provided with depressions *f'* to receive the ears *f*, as shown in Fig. 7, so that the outer faces of the ears will be flush with the side surfaces of the upper piece C and will not be readily perceptible when the shafts are painted. The bottom strip D has secured to its front end by welding or riveting or otherwise or formed integrally therewith a U-shaped piece of metal G, the upright sides of which extend up inside of and are secured to the sides of the upper trough-shaped piece C by rivets *g*. The front end of the tubular metal rear part of the shaft thus constructed is preferably rectangular in cross-section, as shown in Fig. 6, and tapers rearwardly, so that the rear end of the front wooden part of the shaft, which is correspondingly shaped, will wedge and fit snugly therein and will be held from twisting or turning in the tubular rear part.

The front part of the shaft is detachably held in the tubular rear part by a releasable holding pin or device H, which extends through a hole in the tubular metal part and engages in a hole *h* in the detachable front part of the shaft. The retaining-pin H is preferably secured to one end of a flat spring I, located beneath and attached at its opposite end to the tubular metal part of the shaft by one of the bolts connecting the upper and lower pieces thereof together or in any other suitable manner. The free end of the spring is turned down, so that it can be grasped to retract the retaining-pin to release the front section of the shaft, and the front side of the retaining-pin is preferably beveled to enable the front shaft part to be inserted into the tubular rear part and engaged with the holding-pin without retracting the latter by hand.

The cross-bar B is connected to the shafts and held rigidly in right-angular relation

thereto by angular corner-pieces K, each having a horizontal flange k overhanging the cross-bar and metal part of the shaft and a vertical flange k' depending beside the front and inner faces, respectively, of the cross-bar and shaft. The transverse arms of the corner-pieces are secured to the cross-bar by vertical and horizontal bolts l , and the longitudinal arms thereof are secured to the top and inner walls of the tubular metal parts of the shafts by rivets l' , so as to leave the latter unobstructed for the reception of a considerable portion of the detachable front parts of the shafts. The cross-bar and shafts are further braced by inwardly-projecting metal straps M, welded or otherwise secured to or formed integral with the bottom pieces D of the tubular rear parts of the shafts and secured to the under side of the cross-bar by the vertical bolts connecting the corner-pieces K thereto.

N represents thill-coupling eyes or members, which may be formed on or secured to the rear ends of the bottom pieces D of the rear metal parts of the shafts in any suitable manner, or the coupling members may be provided with straps bolted, as usual, on the under sides of the rear ends of the shafts.

Thills of ordinary construction are relatively straight or only slightly curved from the cross-bars forward, while rearwardly from the cross-bar they curve abruptly downwardly to the couplings connecting them with the vehicle. The shafts must be made from selected wood, which at the present time is comparatively expensive, and if the front part of a shaft is broken, and this is the part most liable to be broken, an entire new shaft is necessary. Where the shaft is constructed with the detachable front part, as described, this can be made of a cheaper grade of wood than that required for making the curved rear part, and if it is broken the front part only need be replaced, which can be done at small cost and without labor by any person without the use of tools of any sort. Furthermore, the front parts of the shafts being readily detachable can be removed whenever the vehicle is not in use, thus greatly lessening the danger of breaking them and at the same time saving room in the carriage-house.

The thills described are light and strong and very rigid at the joints of the cross-bar with the shafts, and their appearance when finished and painted is almost identical with that of the ordinary wooden thills, and they can be produced at small cost.

It has been proposed heretofore to construct thills with front parts bolted to metal rear

parts; but the bolts were relied upon to hold the parts rigid, and the front part could only be detached by removing the securing-bolts. Such construction was not intended and is not adapted for detaching and attaching the front parts quickly.

I claim as my invention—

1. The combination of rear shaft parts of tubular form throughout their length and each consisting of attached sheet-metal sections, a connecting cross-bar permanently attached to the same, front shaft parts removably seated directly in the hollow front ends of said tubular rear shaft parts, and means for detachably holding said front parts in said rear parts, substantially as set forth.

2. The combination of rear shaft parts of tubular form throughout their length and each consisting of attached sheet-metal sections, a cross-bar connecting the same between their ends, angular corner-pieces secured to said cross-bar and hollow portions of said rear shaft parts in front of said cross-bar, and front shaft parts detachably secured directly in the hollow front ends of said tubular rear shaft parts, substantially as set forth.

3. The combination of tubular metallic rear shaft parts, a connecting cross-bar permanently attached to the same, front shaft parts removably seated in said tubular rear parts, holding-pins engaging in holes in said front shaft parts, and springs secured to said shafts and carrying said holding-pins, substantially as set forth.

4. The combination of rear shaft parts of tubular form throughout their length, each composed of an upper inverted-U-shaped sheet-metal piece, and a flat bottom piece joining the sides of said upper piece, bolts or the like connecting said pieces, a connecting cross-bar permanently attached to said rear shaft parts, and front shaft parts secured to said rear shaft parts, substantially as set forth.

5. The combination of tubular metallic rear shaft parts, each composed of an upper inverted-U-shaped piece, and a flat bottom piece joining the sides of said upper piece and having upright ears embracing the sides of said upper piece, bolts or the like connecting said pieces, a cross-bar connecting said rear shaft parts, and front shaft parts secured to said rear shaft parts, substantially as set forth.

Witness my hand this 9th day of May, 1904.

HENRY P. BALTZER.

Witnesses:

E. C. HARD,
C. M. BENTLEY.