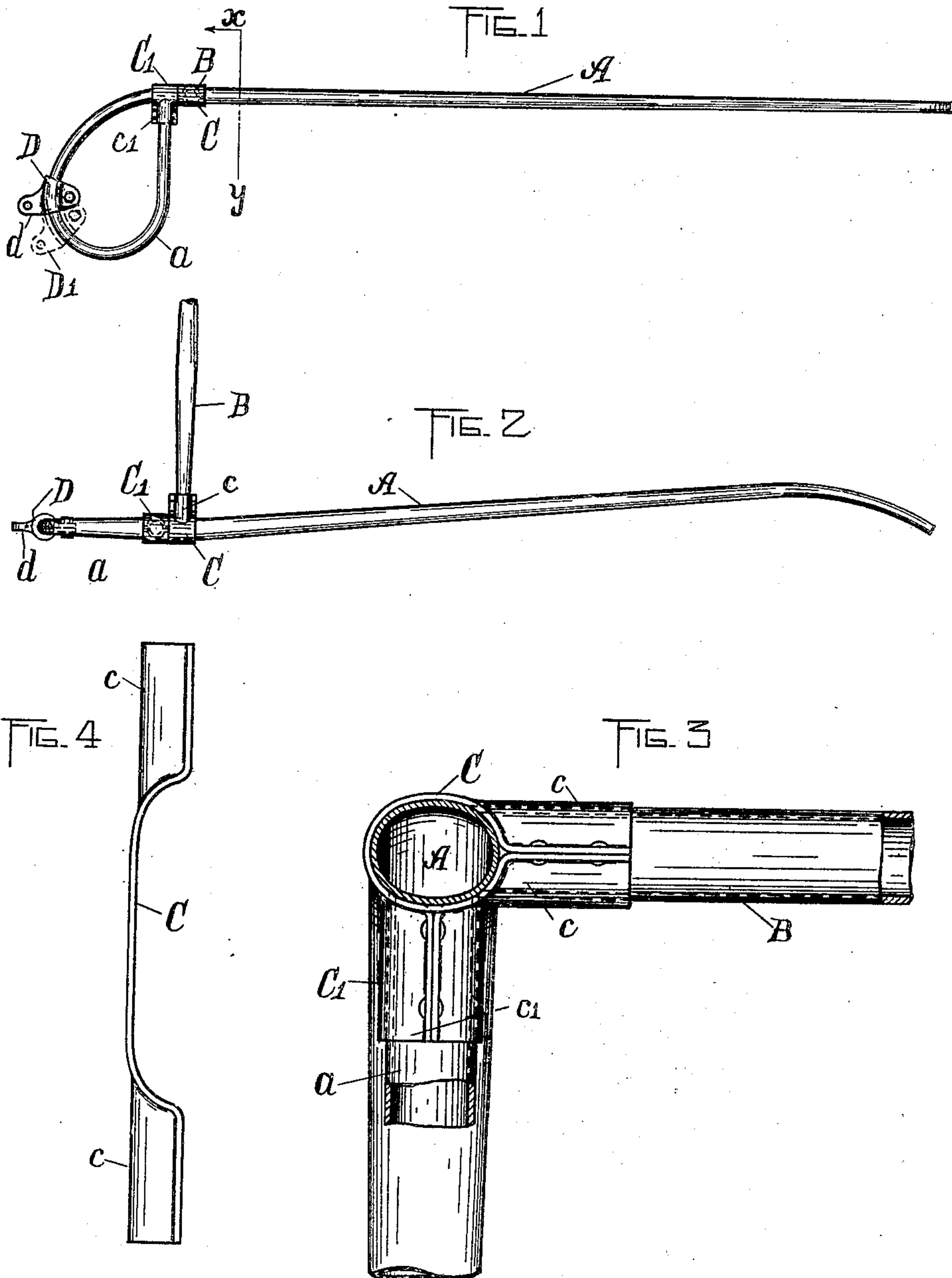


W. H. COOLEY & H. E. MARKS.
 THILL FOR CARRIAGES.
 APPLICATION FILED JUNE 27, 1907.

914,555.

Patented Mar. 9, 1909.



WITNESSES:
Osborne F. Gurnsey
Lettie Hood

INVENTORS
Wm. H. Cooley
and
Herbert E. Marks
 by *W. H. Cooley* ATTY.

UNITED STATES PATENT OFFICE.

WILLIAM H. COOLEY, OF BROCKPORT, AND HERBERT E. MARKS, OF POUGHKEEPSIE,
NEW YORK.

THILL FOR CARRIAGES.

No. 914,555.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed June 27, 1907. Serial No. 381,065.

To all whom it may concern:

Be it known that we, WILLIAM H. COOLEY and HERBERT E. MARKS, citizens of the United States, and residents, respectively, of Brockport, Monroe county, and Poughkeepsie, Dutchess county, State of New York, have invented a new and Improved Thill for Wagons, Carriages, &c., of which the following is a specification.

10 The object of our invention is to provide a construction for tubular thills for wagons, carriages, etc. which shall require the use of as few parts as possible and in which such parts may be readily assembled.

15 Another object of our present invention is to provide a construction in which the portion of the thill receiving the greatest strain shall be strengthened and reinforced and further, to provide means for readily adjusting the point of attachment of the 20 thill to the front axle of a wagon or carriage and also the height of the thills above the ground when in a level position.

25 The accompanying drawings illustrating our invention are as follows:—

Figure 1 is a side view and Fig. 2 is a plan or top view of a pair of thills constructed in accordance with our invention. Fig. 3 is a sectional view of the parts seen 30 in Fig. 2 taken along the line *x—y* of Fig. 1 and with all parts to the right of such line removed. Fig. 4 is a side view of one of the clips used for securing the parts of our thill together.

35 Referring to the drawings,—A pair of thills constructed in accordance with our invention comprise two main shafts or sections A bent to form a loop *a* at the left hand or rear end, as seen, and the end of the loop 40 thus formed is adapted to be secured within and between the semi cylindrical sections of the socket *c*¹ provided therefor and formed by bending the clip C¹ around the thill so as to bring such semi cylindrical members *c*¹ 45 together and into engagement around the upper free end of the loop formed, as above stated, in the tubular shaft.

50 The sections *c*¹ when properly brought together after forming the clip C¹ around the shaft A are securely riveted together. Any additional means, such as a rivet or pin, may be used to more firmly secure the socket *c*¹ of the clip C¹ on the free end of the loop *a* in the tubular shaft A. Immediately to the 55 right of the clip C¹ is seen a similar clip C,

which may be formed by the same dies, arranged on the shaft A in a position to receive the end of the cross bar B in the socket *c* thereof and such socket *c* is therefore arranged practically at right angles to 60 the socket *c*¹ of the clip C¹ and with its semi cylindrical formations at its ends adapted to engage around and be secured to the end of the cross bar B, by means of which the 65 members A are held in position.

A combined eye piece and clasp D is adapted to be formed around and secured to each of the thill members A at the point of usual attachment of such members to the front axle of the wagon or carriage. These 70 eye clasps D may be adjustably secured upon the loop formed at the rear end of the members A in the manner indicated by loosening the nut on the bolts by means of which such 75 clasps D are secured to the members A, and such clasps D adjusted to the desired point on the loop formed in the members A. These clasps D carry rearward extensions *d* having bolt holes therethrough and adapted to engage between the usual clips on the front 80 axle and receive the usual attaching bolt for securing the thills to the front axle of the wagon or carriage. By making the outer ends of the cross bar B of practically the same size with the upper and free end of 85 the loop on the thill member A, the clips C and C¹ may be formed exactly alike and from the same dies.

The method of applying a pair of thills constructed in accordance with our inven- 90 tion to a wagon or carriage and their use and operation is believed to be sufficiently clear from the above statement to call for no further description.

What we claim is:— 95

1. A thill for wagons, carriages etc., comprising a tubular member bent upon itself to form a bracing loop, the end of such looped section secured to the main body portion of the tube and an attaching means to secure 100 the thill to the wagon secured on such thill member and at the loop formed therein.

2. A thill for wagons, carriages etc., comprising a tubular member bent upon itself to form a bracing loop, the end of such looped 105 section secured to the main body portion of the tube and a fastening means adapted to secure the thill to the front axle of the wagon adjustably secured on such thill member and within the loop formed therein. 110

3. A pair of thills for wagons, carriages etc., comprising two tubular members, each bent upon itself to form a bracing loop, the ends of such looped sections secured to the
5 main body portions of the tubes and an attaching means to secure the thills to the wagon secured on each such thill member and at the loop formed therein.

4. A pair of thills for wagons, carriages,
10 etc., comprising two tubular members, each bent upon itself to form a bracing loop, the ends of such looped sections secured to the main body portions of the tubes and a fastening means adapted to secure the thill to
15 the front axle of the wagon adjustably secured on each such thill member and within the loop formed therein.

5. A pair of thills for wagons, carriages, etc., comprising two tubular members, each
20 bent upon itself to form a bracing loop, the ends of each of such looped sections secured to the main body portions of the tubes, such thill members connected by a cross piece and such cross piece secured to such main mem-
25 bers by suitable clips encircling such main members and provided with sockets for engaging the ends of the cross piece.

6. A pair of thills for wagons, carriages, etc., comprising two tubular members, each
30 bent upon itself to form a bracing loop, the

ends of such looped sections secured to the main body portions of the tubes and an eye clip adapted to engage the clip on the front axle of the wagon adjustably secured on each such thill member and within the loop
35 formed therein, such thill members connected by a cross piece and such cross piece secured to such main members by suitable clips encircling such main members and provided with a socket for engaging the ends of
40 the cross piece.

7. Means for securing the members of thills for wagons, carriages, etc. together, comprising a clip having a flat portion adapted to be formed around one of such
45 members and having its ends semi cylindrically formed to adapt them when brought together to form a socket to receive the end of a second member and means for securing the ends of such clip together to clamp the
50 flat part of the clip around and on such first member and with the socket thus formed engaging around the end of the second member.

WM. H. COOLEY.
HERBERT E. MARKS.

Witnesses:

OSBORNE F. GURNEY,
LOTTIE WOOD.