No. 674,583. Patented May 21, 1901.

J. MACPHAIL.

SINGLETREE, DOUBLETREE, &c.

(Application filed Mar. 21, 1900.)

(No Model.)

Fig. 1.

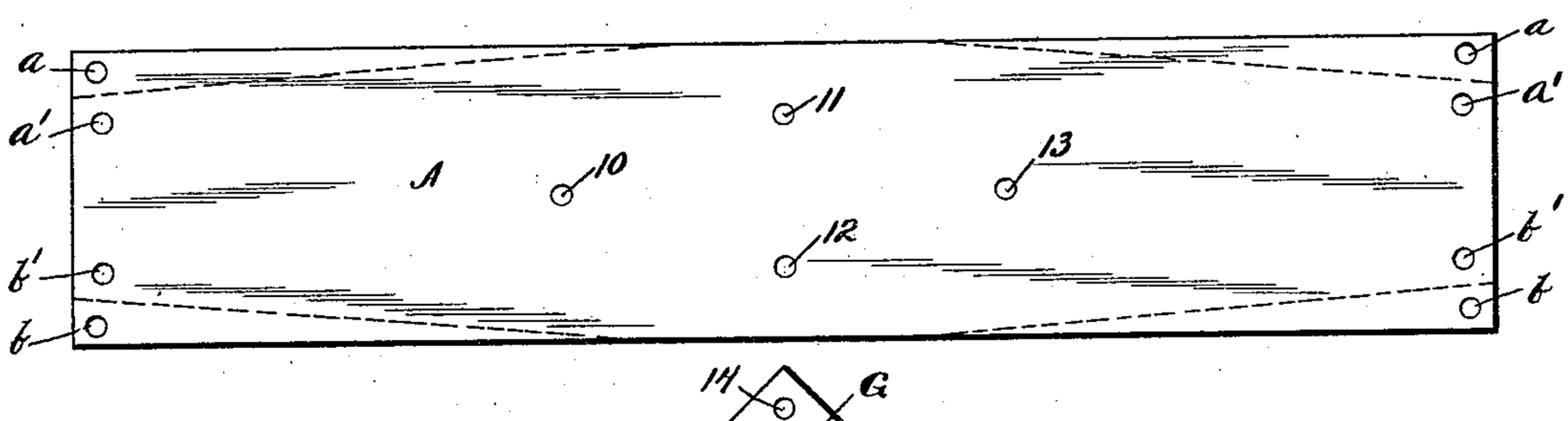
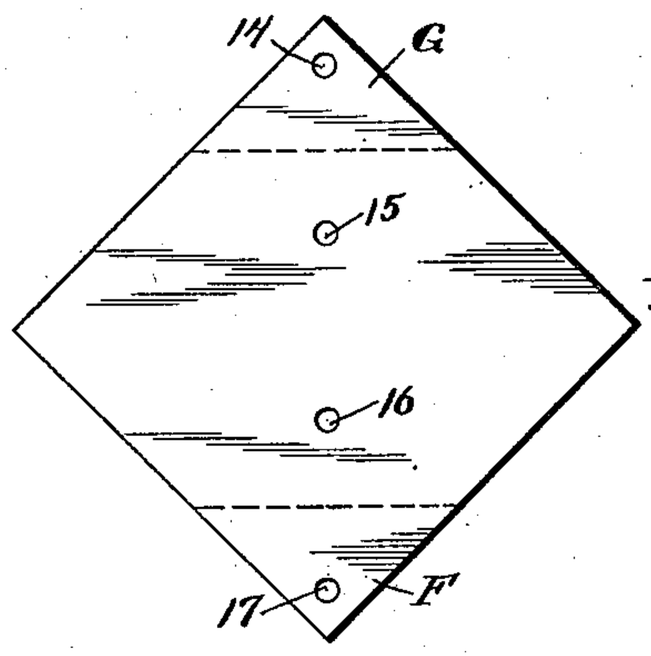


Fig. 2.



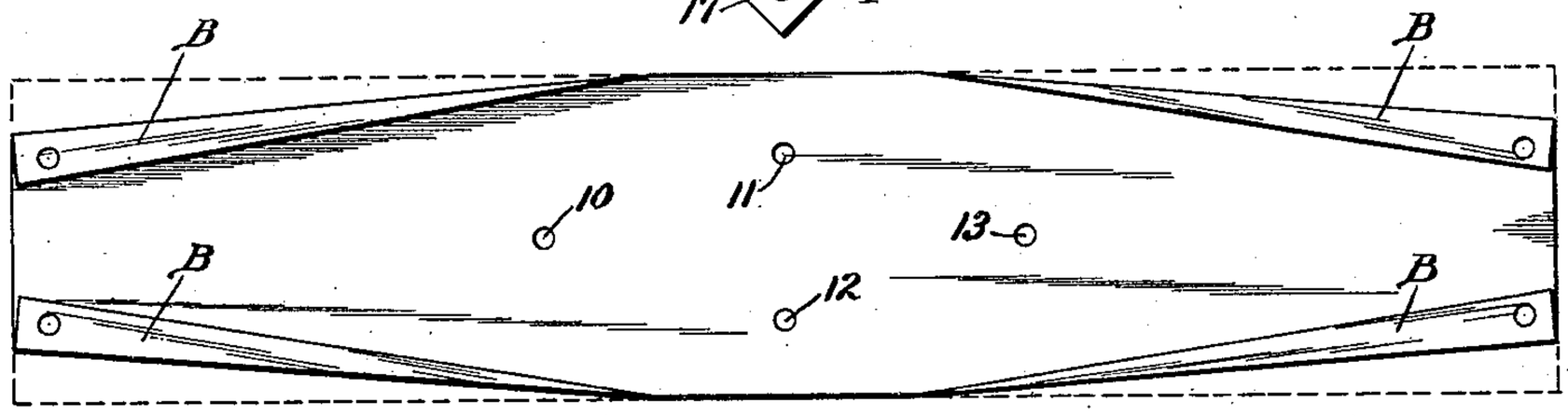


Fig. 3.

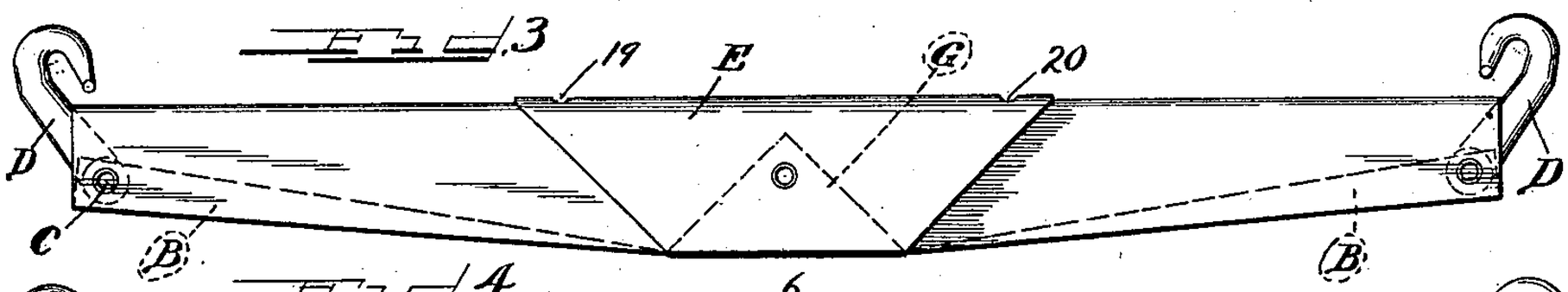


Fig. 4.

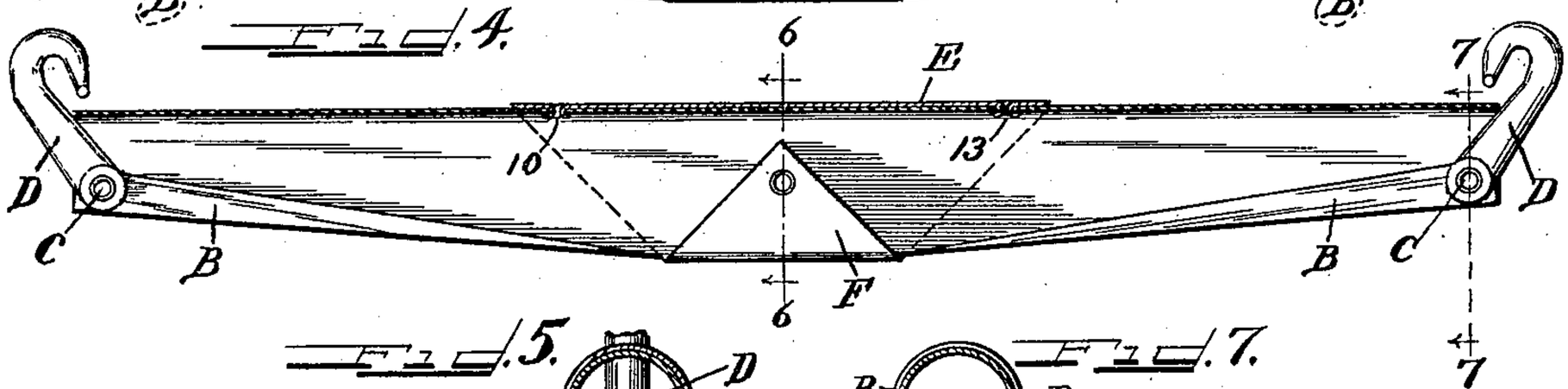


Fig. 5.

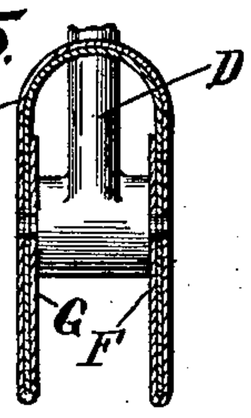
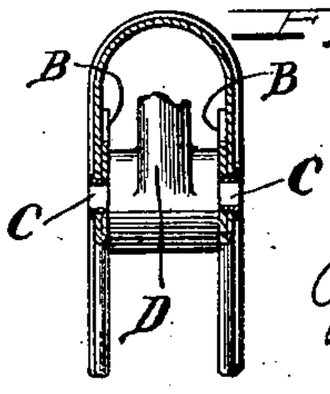


Fig. 6.

Fig. 7.



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UNITED STATES PATENT OFFICE.

JAMES MACPHAIL, OF BLUE ISLAND, ILLINOIS.

SINGLETREE, DOUBLETREE, &c.

SPECIFICATION forming part of Letters Patent No. 674,583, dated May 21, 1901.

Application filed March 21, 1900. Serial No. 9,633. (No model.)

To all whom it may concern:

Be it known that I, JAMES MACPHAIL, a citizen of the United States, residing at Blue Island, in the county of Cook and State of Illinois, have invented a new and useful Singletree, Doubletree, and the Like, of which the following is a specification.

This invention relates to singletrees, doubletrees, and the like.

The object of the invention is to produce a singletree, doubletree, or the like which is light, strong, durable, and economical in manufacture.

The invention consists, substantially, in the construction, combination, location, and arrangement, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally pointed out in the appended claims.

Referring to the accompanying drawings, and to the various views and reference-signs appearing thereon, Figure 1 is a view in plan of a blank sheet employed in the construction of a singletree in accordance with my invention. Fig. 2 is a similar view of a blank sheet employed for strengthening the singletree. Fig. 3 is a view similar to Fig. 1, showing the edges of the blank at the ends folded or bent over upon the main body of the blank in the manufacture of singletrees or similar articles. Fig. 4 is a view in plan of a finished singletree constructed in accordance with my invention, showing the application of the strengthening-plate thereto. Fig. 5 is a central longitudinal section of the same. Fig. 6 is a transverse section on the line 6 6, Fig. 5, looking in the direction of the arrows. Fig. 7 is a similar view on the line 7 7, Fig. 5, looking in the direction of the arrows.

In carrying out my invention I take a blank A (see Fig. 1) of sheet or stamped metal of a length corresponding to the length of the single or double tree or other article and of a width substantially double that of the article to be produced. In this blank are formed, by punching or otherwise, a series of holes *a b a' b'* at each end thereof. The edges of this blank are then turned or folded over upon the main body of the blank, as indicated at B, Figs. 3, 5, and 6. The edges are not turned or bent over the entire length of the blank or sheet, but, as clearly shown, the bent or folded portion of each edge commences at a point between the middle transverse line of the blank and the end thereof, and this folded-over portion increases in width to the end of the blank, as clearly shown, and the holes *a a'* and *b b'* are so relatively arranged that one member of each set is in the bent or folded-over portion and one in the main body portion, and the members of each set register with each other when said edges are bent or folded over. Of course it is evident that the edges may be turned back or folded over before the holes are formed therein. The blank thus formed and shown in Fig. 3 is bent laterally on a longitudinal line midway the width thereof into substantially U shape, as clearly shown in Figs. 6 and 7, thereby forming the single or double tree or other article. This longitudinal bend is in a direction to leave the folded edges B on the inside, as clearly shown in Fig. 7, and the sets of registering holes *a a'* at each end of the tree are brought thereby into alinement with the holes *b b'* at the same end therewith. In these alined sets of holes at each end of the tree are received the trunnions C of hooks or other suitable devices D, adapted to form means of attachment of the traces to the singletrees or the singletrees to the doubletrees.

By the construction above described it will be seen that the single or double tree or other article is efficiently reinforced and strengthened by the folding or bending over of the edges B, and an efficient bearing is also thereby provided for the trunnions of the hooks or other suitable devices D. The bending or folding of the sheet-metal blank into U shape also imparts strength and rigidity to the article, and in the use of the tree the draft pull or strain is imposed toward the web portion of the U-shaped frame. Thus I produce an exceedingly efficient, strong, durable, light, and economical single or double tree or other similar article.

The single or double tree may be secured to the wagon tongue or bolster in the ordinary or any convenient manner by clevis-pin, bolt, or otherwise, and for this purpose suitable holes 11 12 may be formed through the blank sheet, as indicated in Figs. 1 and 3, and so relatively arranged as to be brought into alinement with each other when the blank is bent

longitudinally into U shape, and the clevis-pin or bolt may be passed through said alined holes.

It may sometimes be desirable to reinforce and strengthen the single or double tree at the point where the clevis-pin passes therethrough. In order to effect this result, I employ a reinforce-blank, (indicated at E, Fig. 2.) This blank is provided with the ends or corners F G, which when said reinforce-blank is applied to the tree-blank project beyond the edges of the latter. These projecting corners are then bent or folded over the edges of the tree-blank and flat against the inside face thereof, as clearly shown in Figs. 4, 5, and 6. The reinforce-blank is provided with the series of holes 14 15 16 17, the holes 14 and 15 registering with each other and with hole 11 of the tree-blank when the corner or end G is turned or bent over, as above explained, and the holes 16 17 registering with each other and with hole 12 of the tree-blank when the corner or end F is turned or bent over.

It is evident that when the tree-blank is longitudinally bent into U shape the reinforce-blank assumes the same shape.

If desired, the tree-blank and the reinforce-blank may be separately bent into the desired shape and the latter then applied to the former by slipping the same thereon.

It is obvious that the registering clevis-pin or bolt holes may be formed in the tree and reinforce blanks after these parts have been bent to the desired form and assembled in the desired relation.

If desired and in order to retain the reinforce-blank in proper position and to prevent the same from shifting endwise or longitudinally of the tree, these parts may be held by suitable rivets or in any other manner, as by punching or otherwise forming the holes 10 13 (see Figs. 1 and 3) in the tree-blank and the corresponding holes 19 20 in the reinforce-blank, as clearly shown in Fig. 4. These holes of course may be punched in these parts after assembling the same. In this manner the tree is efficiently reinforced and strengthened midway the length thereof and at the point where the clevis-pin or securing-bolt passes through the tree.

While I have described my invention as embodied in a singletree or doubletree, it is evident that the principles thereof may be also applied to the manufacture of other articles.

Having now set forth the object and nature of my invention and an operative embodiment and mode of operation thereof, what I claim as new and useful and of my own invention, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a singletree, doubletree or the like, comprising a sheet-metal blank bent laterally on a longitudinal line midway the width thereof, and having the edges bent or folded over upon the body portion thereof to strengthen and reinforce the ends thereof, as and for the purpose set forth.

2. As a new article of manufacture, a singletree, doubletree or the like, composed of a thin sheet of metal having a portion of the edges of increasing width from adjacent a point midway the length thereof toward the ends bent or folded over upon the body portion thereof, said metal sheet being bent into substantially U shape, as and for the purpose set forth.

3. As a new article of manufacture, a singletree made of sheet metal bent into substantially U shape and having a reinforce-sheet applied thereto at a point midway the length thereof, as and for the purpose set forth.

4. As a new article of manufacture, a singletree, doubletree or the like, made of sheet metal bent into substantially U shape, and having reinforced ends formed of double thicknesses of the metal sheet, as and for the purpose set forth.

5. As a new article of manufacture, a singletree, doubletree or the like, made of sheet metal bent into substantially U shape and having reinforced ends formed of double thicknesses of the metal sheet, said ends provided with holes to receive hooks, and having a reinforce plate or sheet applied thereto midway the length thereof, as and for the purpose set forth.

In witness whereof I have hereunto set my hand, this 12th day of March, 1900, in the presence of the subscribing witnesses

JAMES MACPHAIL.

Witnesses:
E. C. SEMPLE,
S. E. DARBY.