

(No Model.)

H. B. STURGES.
THILL FOR CARRIAGES.

No. 563,091.

Patented June 30, 1896.

Fig. 1

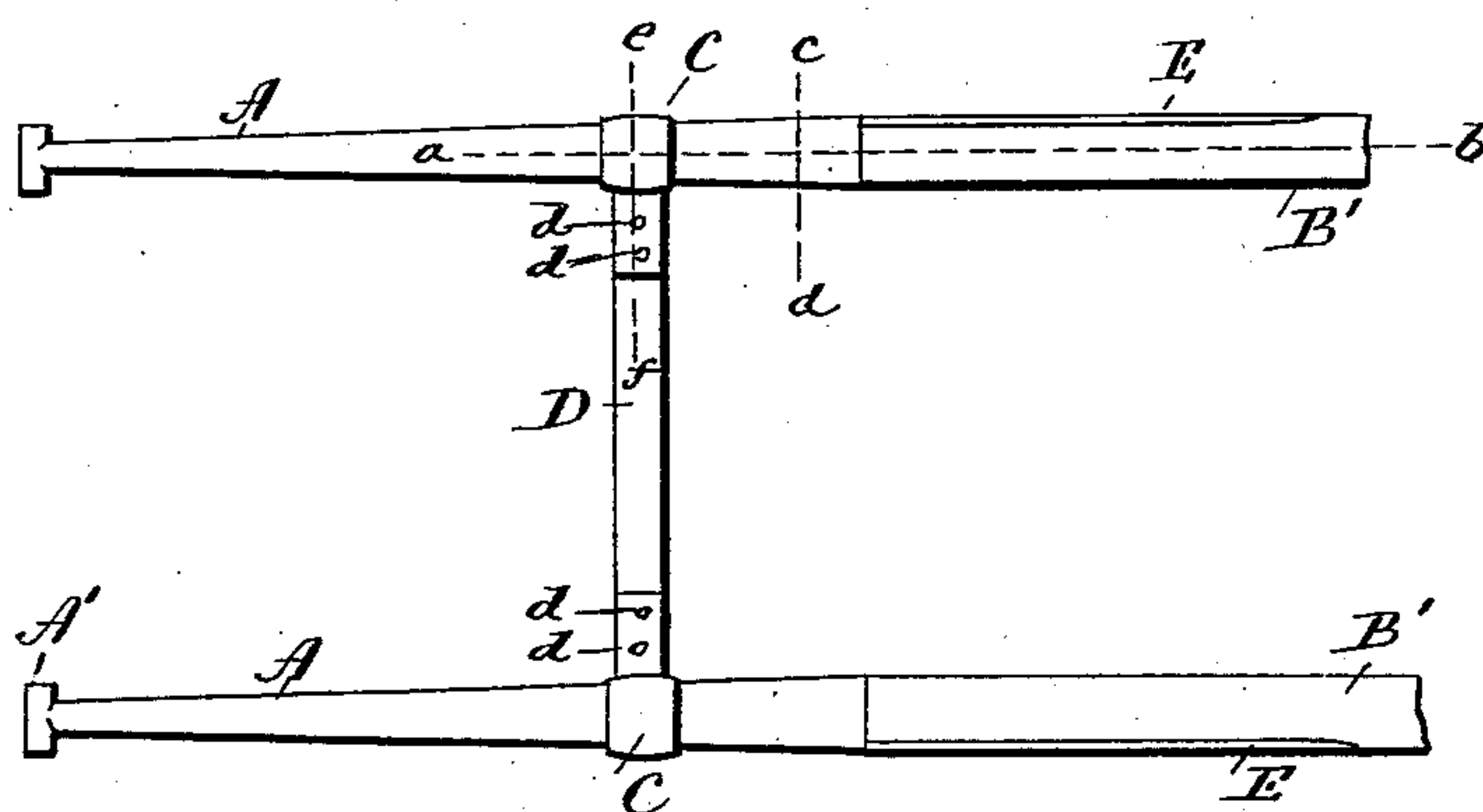


Fig. 2

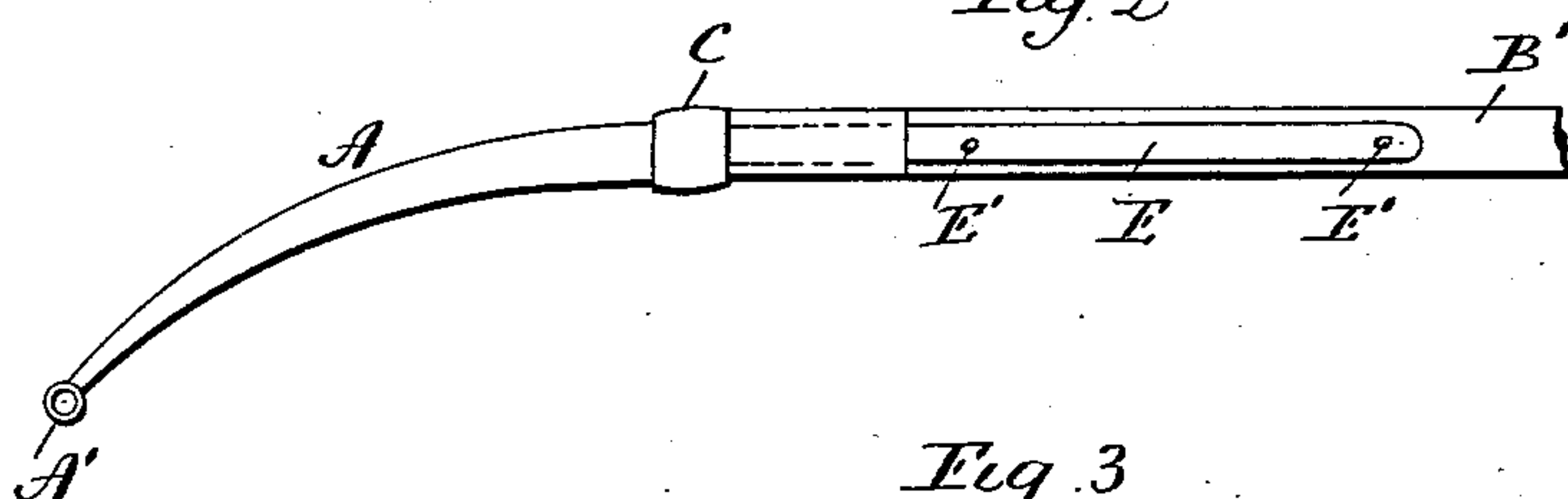


Fig. 3

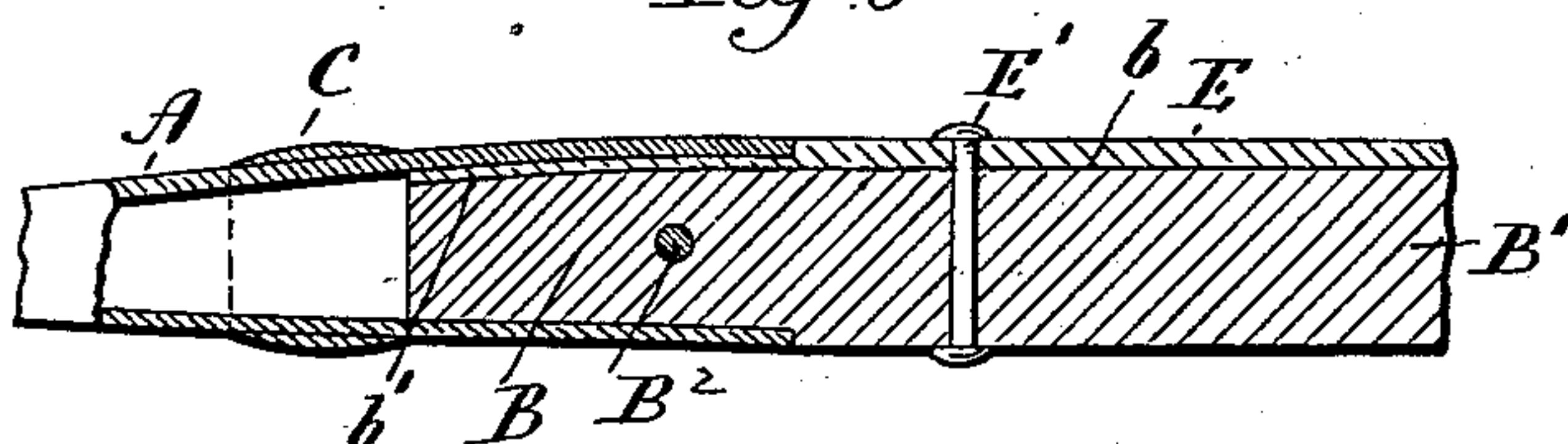


Fig. 5.

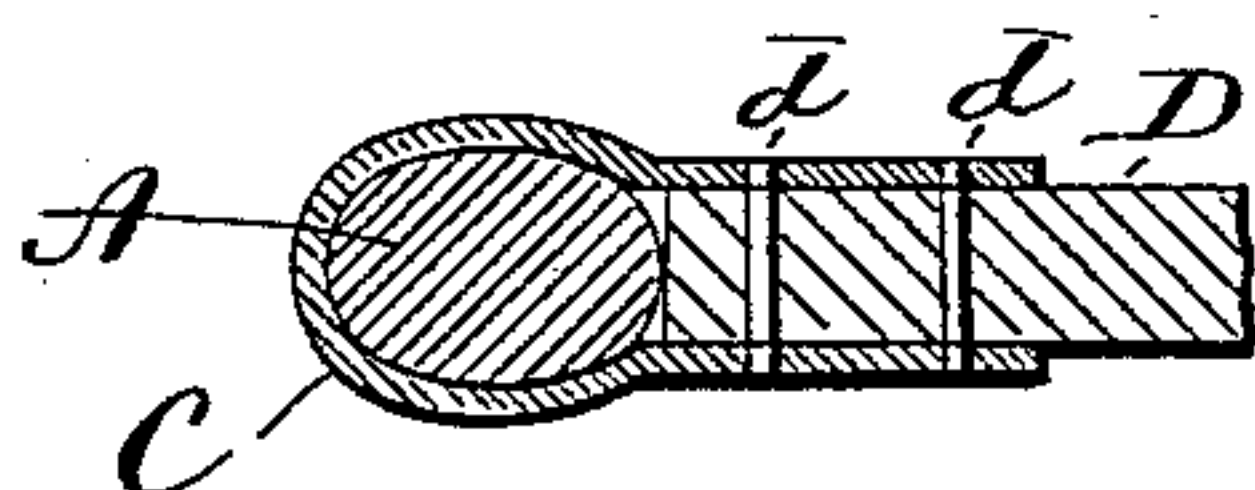
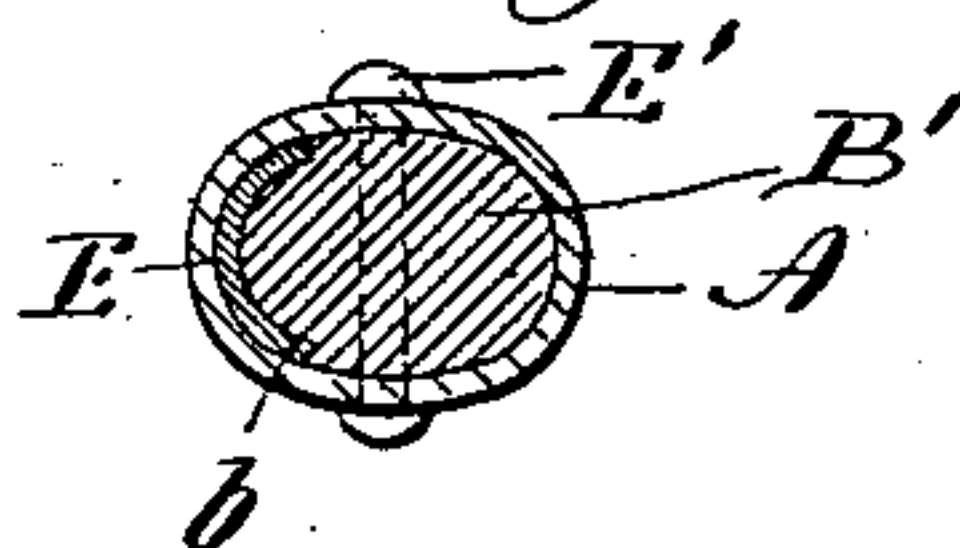


Fig. 4



Witnesses.
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UNITED STATES PATENT OFFICE.

HENRY B. STURGES, OF NEW HAVEN, CONNECTICUT.

THILL FOR CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 563,091, dated June 30, 1896.

Application filed April 20, 1896. Serial No. 588,260. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. STURGES, of New Haven, in the county of New Haven and State of Connecticut, have invented a new
5 Improvement in Shafts or Thills for Carriages; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact
10 description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a plan view of a pair of shafts constructed in accordance with my invention;
15 Fig. 2, a broken view of one of the shafts in side elevation; Fig. 3, a broken sectional view of one of the shafts on the line *a b* of Fig. 1; Fig. 4, a view of the thill in cross-section on the lines *c d* of Fig. 1; Fig. 5, a similar view on the line *e f* thereof.

My invention relates to an improvement in shafts or thills for carriages and wagons, the object being to produce, at a comparatively low cost, shafts or thills of superior strength
25 and durability.

With these ends in view my invention consists in a sectional shaft or thill composed of a tapering tubular metal horn-shaped shaft-iron forming its rear end, and a body portion
30 or reach formed from wood.

My invention further consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

35 As herein shown, the tapering tubular metal horn-shaped shaft-iron *A* of each shaft is provided at its rear end with a transversely-arranged eye *A'* for the reception of the horizontal bolt, by means of which the shaft is
40 connected with the running-gear of the vehicle. The forward end of the shaft-iron is made open and constitutes a socket for the reception of the tenon *B*, formed at the rear end of the body portion or reach *B'* of the
45 thill, the said body portion being made of wood in the required form. A transverse pin *B²*, passing through the forward end of the shaft-iron and through the tenon, firmly secures the shaft-iron and body portion to-
50 gether. A metal strap *C* is passed around the shaft-iron at a point well forward of its longitudinal center, and firmly secured there-

to, its ends being concavo-convex, and extended laterally inward to form a socket for the reception of the cross-bar *D*, which unites 55 the two thills or shafts together, and which is secured to the said ends of the straps by means of pins *d*.

Preferably, and as herein shown, I provide each thill with a concavo-convex metal wear- 60 ing-plate *E*, the outer end of which is let into a longitudinal recess *b*, formed in the outer face of the rear end of the body or reach of the thill, to which it is secured by long rivets *E'*. The rear end of this plate is reduced in 65 thickness, let into a recess *b'*, formed in the outer face of the tenon, and extended into the forward end of the shaft-iron, as clearly shown in Fig. 4. This plate has the twofold function of forming a wearing-surface, and 70 also of reinforcing and strengthening the joint of the thill, and giving continuity thereto by bridging, so to speak, the line of demarcation between the comparatively rigid shaft-iron and the elastic reach. 75

It is apparent that in carrying out my invention some changes in the form herein shown and described may be made, and I would therefore have it understood that I do not limit myself to the exact construction 80 herein shown, but hold myself at liberty to make such changes as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters 85 Patent, is—

1. A sectional thill or shaft having a tapering tubular metal horn-shaped shaft-iron constituting its rear end, and a body portion or reach made of wood and having its rear 90 end inserted into the open forward end of the horn-shaped shaft-iron, substantially as described.

2. A sectional thill having a tapering tubular metal horn-shaped shaft-iron, a wood 95 body portion or reach having its rear end inserted into the open forward end of the horn-shaped shaft-iron, and a strap passed around the shaft-iron and forming a socket for one end of the cross-bar which unites the two 100 thills, substantially as described.

3. A sectional thill having a tapering tubular metal horn-shaped shaft-iron, a wood body portion or reach constructed at its rear

end with a tenon which is inserted into the
open forward end of the horn-shaped shaft-
iron, and a wearing-plate applied to the rear
end of the wood body portion and to the said
5 shaft-iron thereof, and extending into the
shaft-iron for reinforcing the thill at the joint
between the said parts, substantially as set
forth.

In testimony whereof I have signed this
specification in the presence of two subscrib- 10
ing witnesses.

HENRY B. STURGES.

Witnesses:

J. H. SHUMWAY,
LILLIAN D. KELSEY.