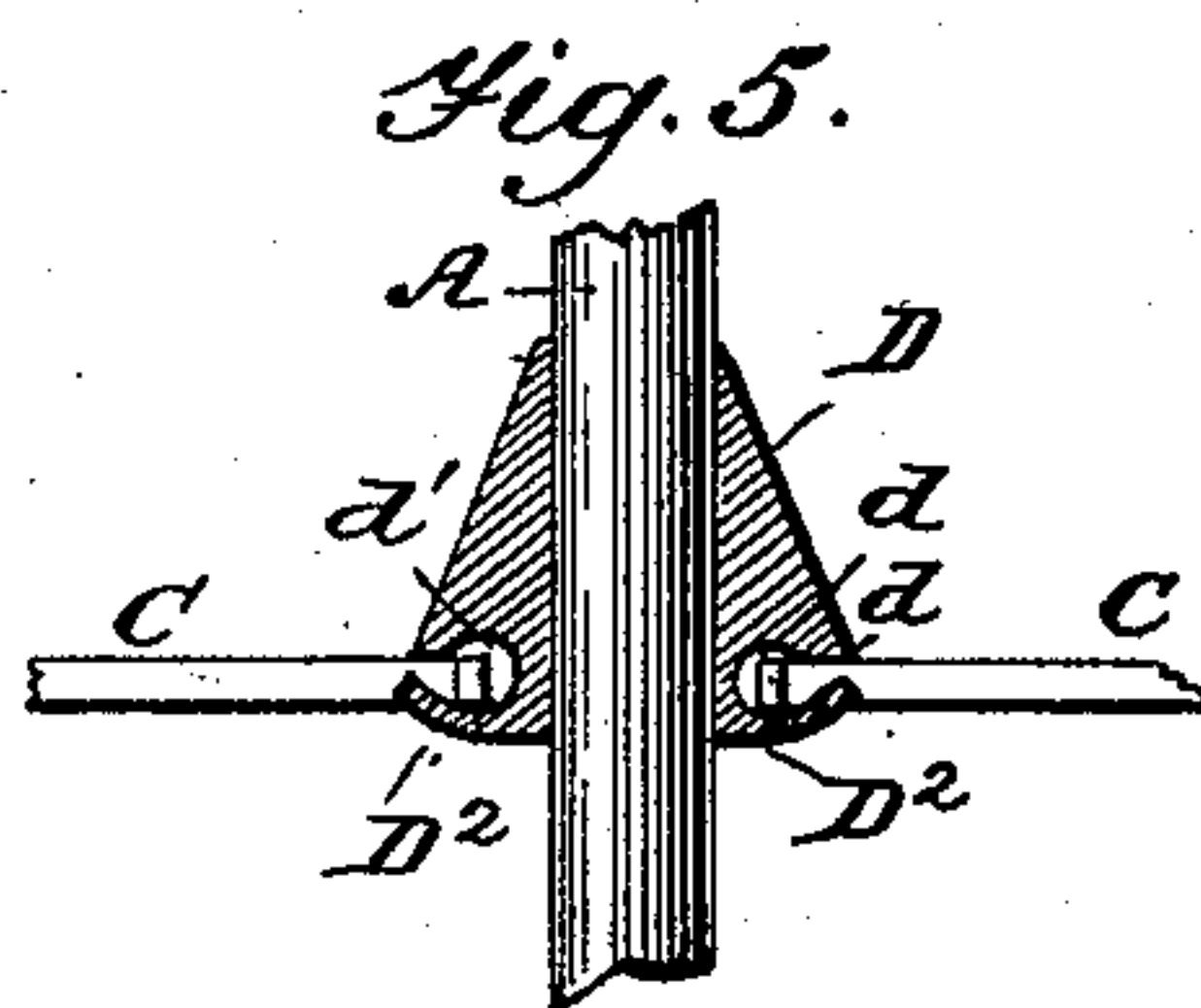
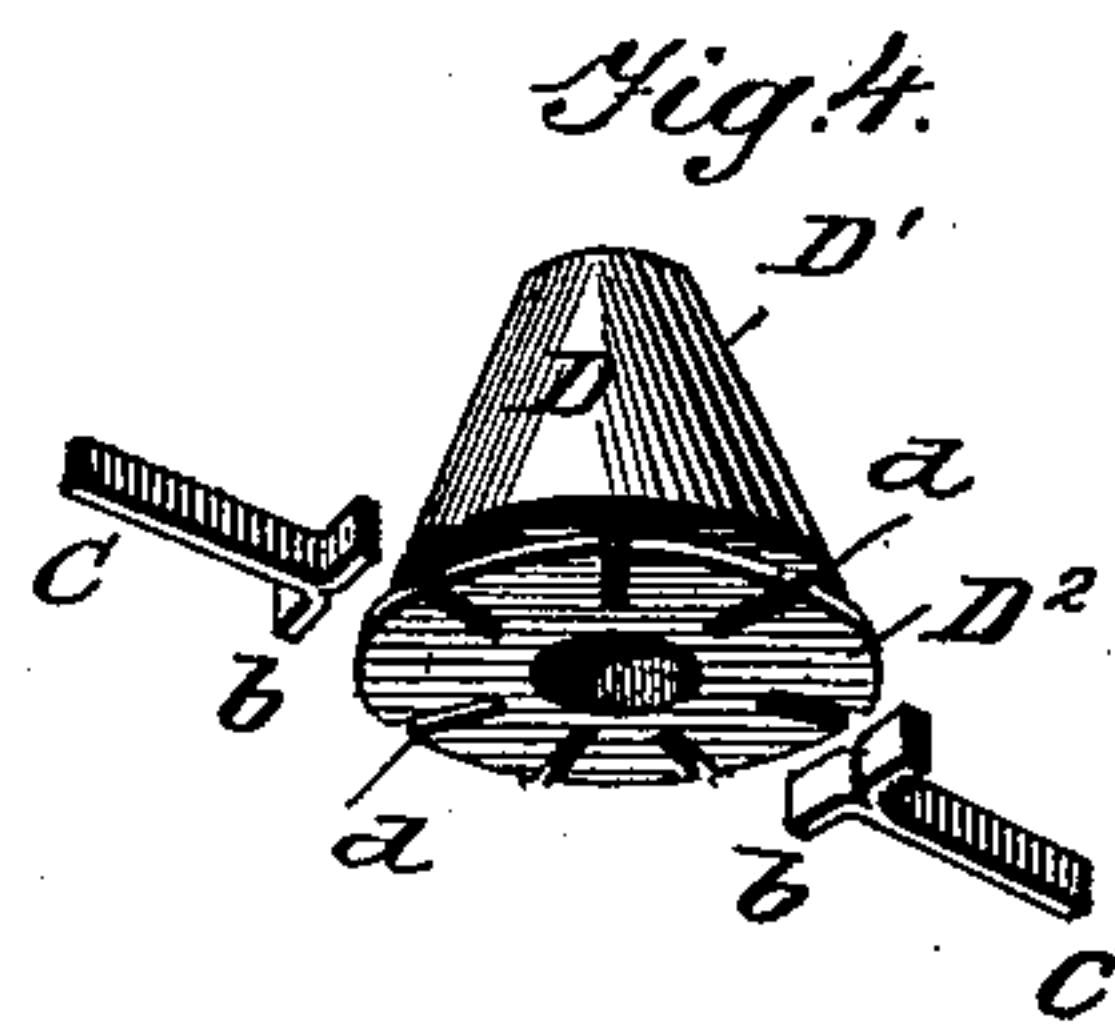
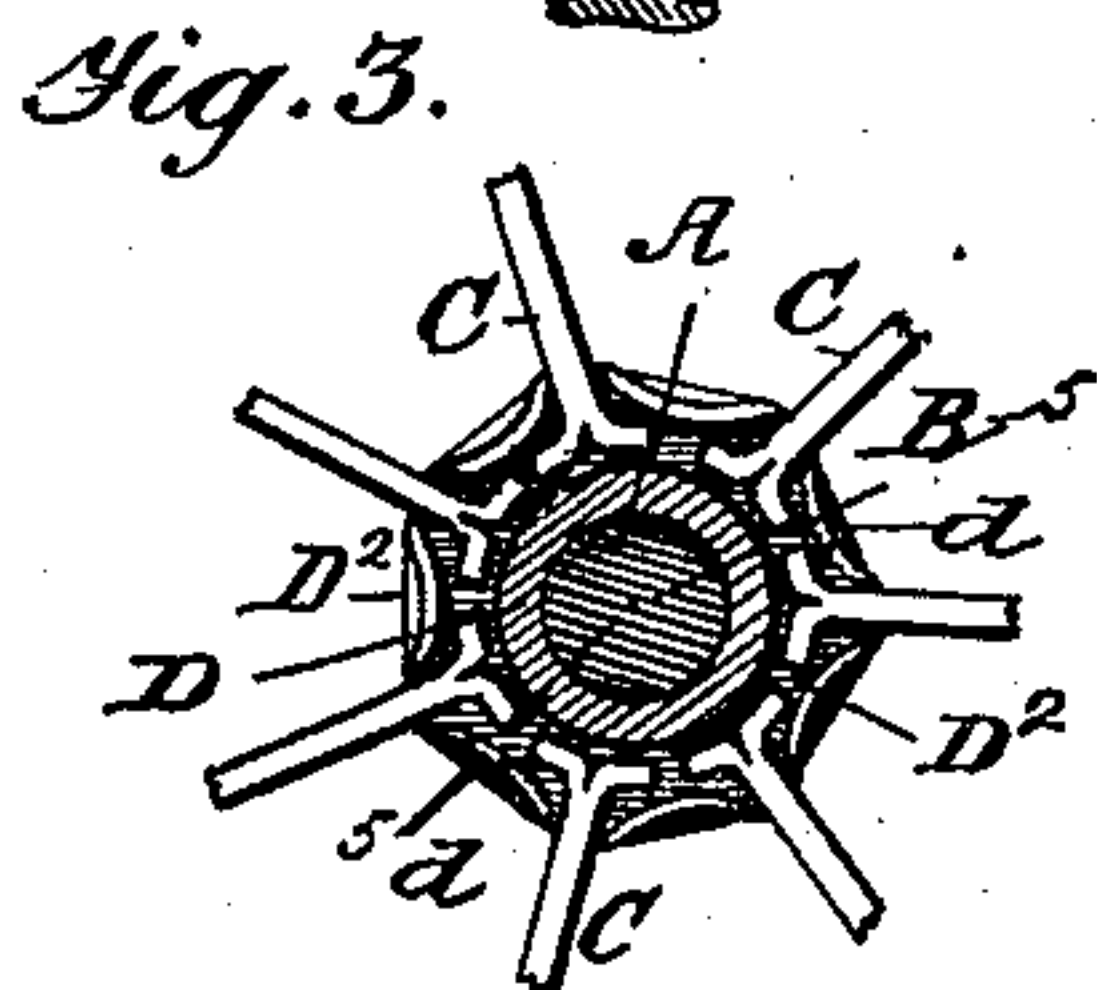
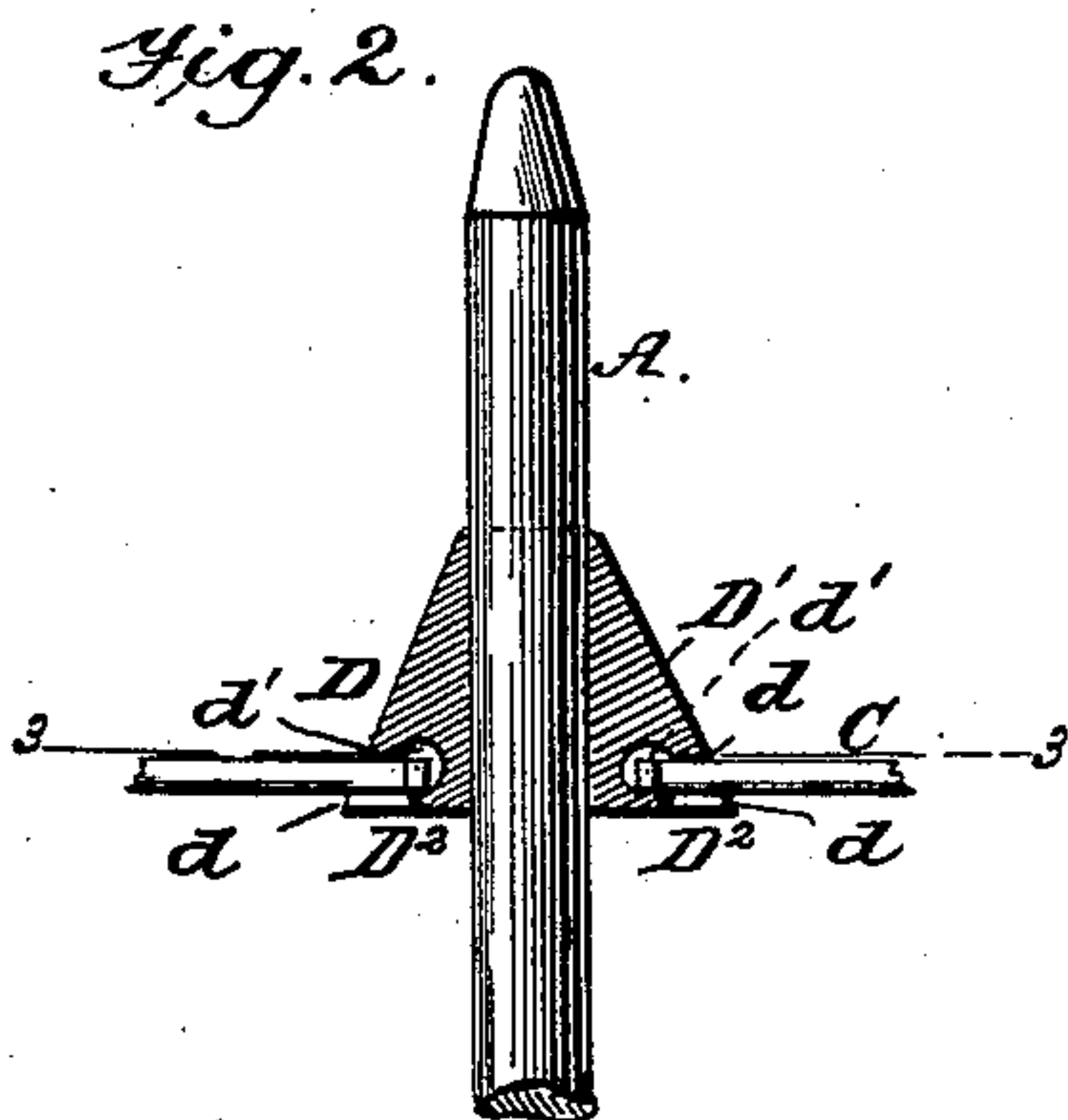
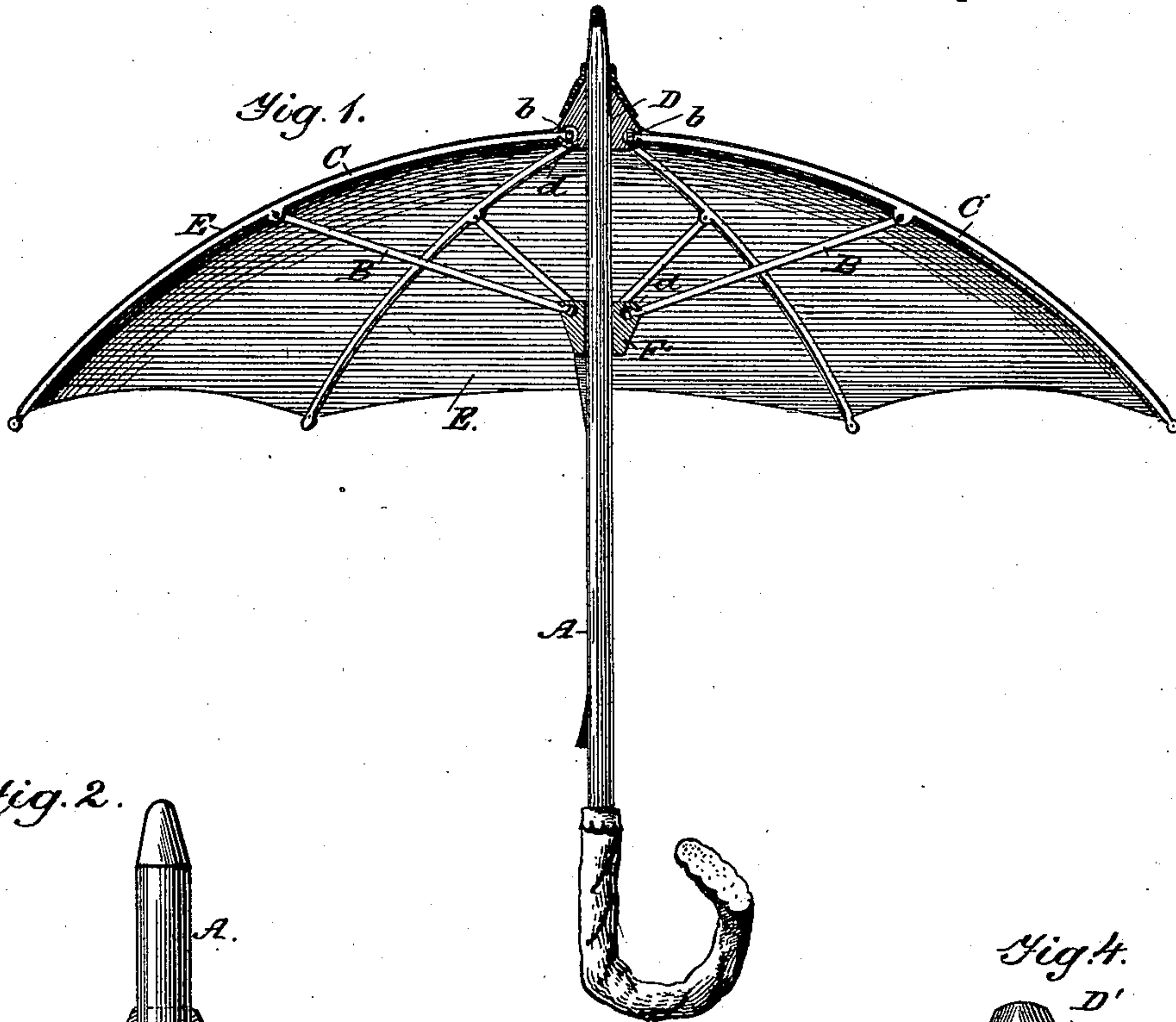


(No Model.)

F. SCHAEFER.  
UMBRELLA.

No. 581,087.

Patented Apr. 20, 1897.



WITNESSES

J. E. Luckett  
Geo. Wallace

INVENTOR

Fred Schaefer

BY Fred G. Dietrich & Co.

ATTORNEYS



# UNITED STATES PATENT OFFICE.

FREDRICK SCHAEFER, OF WILLIAMSPORT, PENNSYLVANIA.

## UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 581,087, dated April 20, 1897.

Application filed September 19, 1896. Serial No. 606,334. (No model.)

*To all whom it may concern:*

Be it known that I, FREDRICK SCHAEFER, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have  
5 invented a new and Improved Umbrella, of which the following is a specification.

My invention relates to improvements in umbrella and parasol frames; and it has for its object to provide an umbrella or parasol  
10 having the rib-holder or top notch and the runner so arranged as not to cut the cover when the umbrella or parasol is opened or closed.

Furthermore, my invention seeks to provide a simple means for connecting the braces and the ribs to the top notch and runner without the use of fastening-wires and in such a manner that in case one or more of the ribs or braces break they can be quickly removed  
20 and new ribs or braces applied without taking the umbrella apart.

With other objects in view, which will hereinafter be referred to, the invention consists in the peculiar construction and novel arrangement of parts, such as will be first described in detail, and then be specifically pointed out in the appended claim, reference being had to the accompanying drawings, in which—

30 Figure 1 is a view illustrating my improvement as applied for use. Fig. 2 is an enlarged sectional view of the top notch, showing the end of the rib fitted therein and the clamp-rib or annulus in its straight or flattened position. Fig. 3 is a horizontal section taken on the line 3 3 of Fig. 2. Fig. 4 is a perspective view of the top notch and the upper ends of the ribs detached; and Fig. 5 is a section taken on the line 5 5 of Fig. 3, the annular  
40 flexible rim being shown bent up to lock the braces in place.

In the accompanying drawings, A indicates the umbrella or parasol stick, B the braces, and C the ribs, all of which except as relate to  
45 the end portion of the ribs and braces, which connect with the top notch and the runner, are of the ordinary construction.

D indicates the top notch, which is fitted to the upper end of the stick. This notch  
50 has its upper portion extended and made conical, as at D', so as to present a smooth surface, so that the cover E, which is secured over

the upper part of such piece, will be held from engagement with the sharp edges or corners, as is the case in the ordinary umbrella or parasol, and thereby protected from being  
55 torn at this point. Furthermore, the conical end of the piece D provides for a smooth gathering of the cover at this point and a more rigid connection.

The piece D has integral therewith on its bottom an annular rim D<sup>2</sup> of a thickness sufficient to give the necessary strength for the purposes intended, but sufficiently flexible to admit of its being bent inward or outward  
60 for a purpose presently explained. The rim D<sup>2</sup>, as also the lower portion of the member, D', is provided with a series of radial notches d, which merge into enlarged annular seat portions d', formed in the bottom of the part  
65 D'. The ribs C have their upper ends provided with T-heads b, which are preferably formed by splitting such upper end and turning the ends out, as shown.

So far as described it will be manifestly  
75 clear that to join the ribs to the top notch it is only necessary to slip the upper ends in the radial notches until the heads rest in the annular seat d' and then bend up the annular rim D<sup>2</sup> at points between the shanks of  
80 the ribs, as shown in Figs. 1 and 3, it being obvious that as the members of the T-head project at each side of radial slots they will be securely locked from pulling outward.

It will be noticed by reference to Fig. 4 that  
85 while the turned-up edges of the flexible rim D<sup>2</sup> serve as ample locking means to prevent the outward pull of the ribs such edges do not turn up in contact with the shanks of the ribs, and as the T-heads are arranged to have  
90 a slight free lateral movement in the continuous or annular seat part d' it follows that the rib-heads will have a slight lateral movement when the ribs are opened out and thereby overcome any twist strain on the ribs,  
95 which frequently causes the upper ends of the ribs to become loosened or broken when such ends are secured against a free lateral movement.

F indicates the runner, which is constructed  
100 in precisely the same manner as the top notch, to which the braces B are joined in a manner similar to the connection of the ribs to the top notch.

From the foregoing description, taken in connection with the accompanying drawings, it is thought the advantages of my invention will readily appear.

5 It will be seen the parts can be quickly assembled, and in case of breakage of one of the ribs or braces the same can be quickly removed by bending down the lock-lip of the rim  $D^2$  and a new one inserted and held in place  
10 by bending such lip up again.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

As an improvement in parasols or umbrellas, the combination of the stick, the top

notch, consisting of a body portion  $D$ , having an annular groove  $d$ , terminating at its inner end in an enlarged annular socket  $d'$  and having a bottom plate slotted radially, the ribs having T-heads adapted to loosely play in the socket  $d'$ , the said bottom plate being made thin and flexible, whereby the parts intermediate the radial slots can be bent up between the shanks of the ribs, or down, to admit of the ready withdrawal of any one of such ribs as specified. 20 25

FREDRICK SCHAEFER.

Witnesses:

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