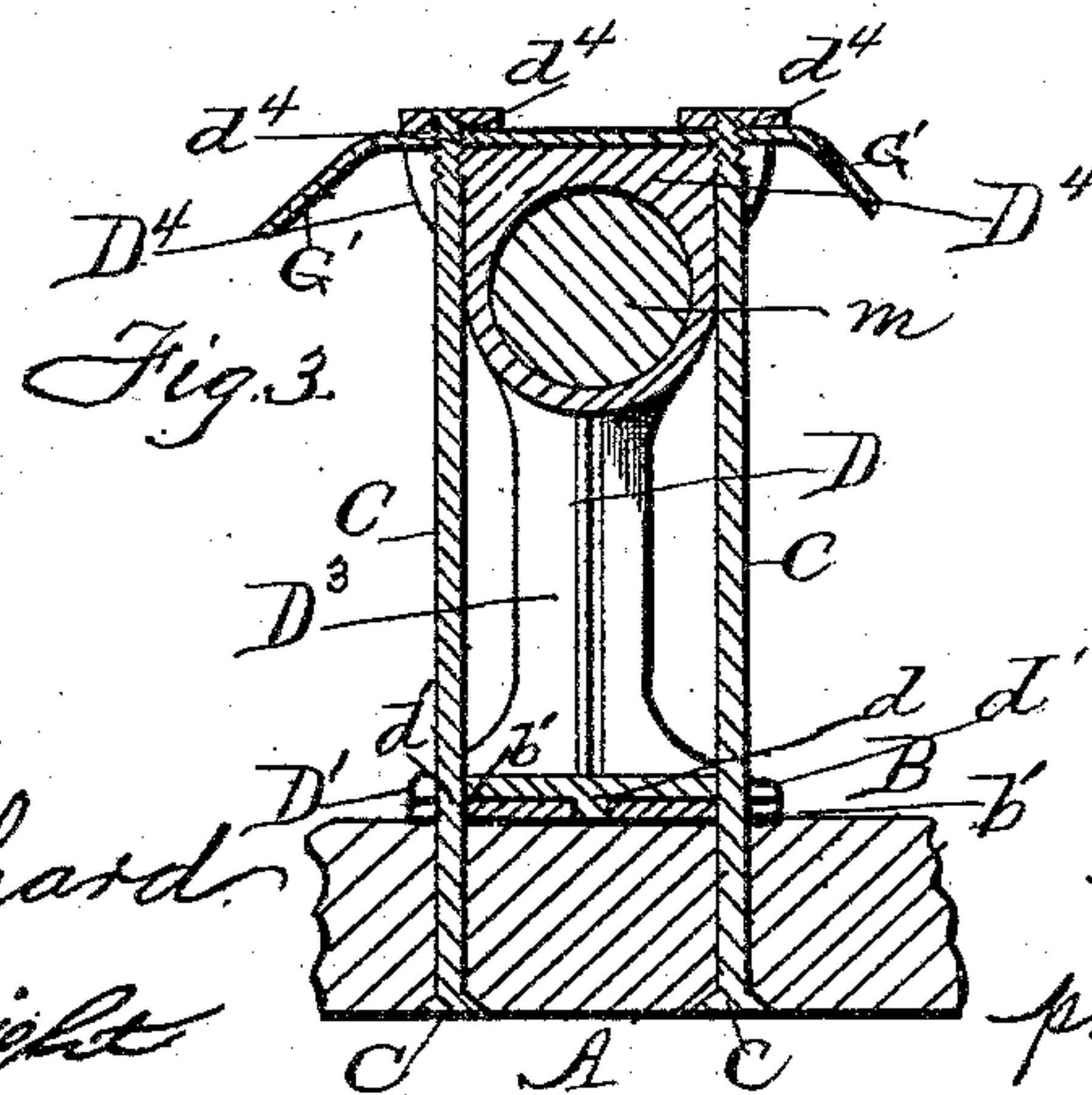
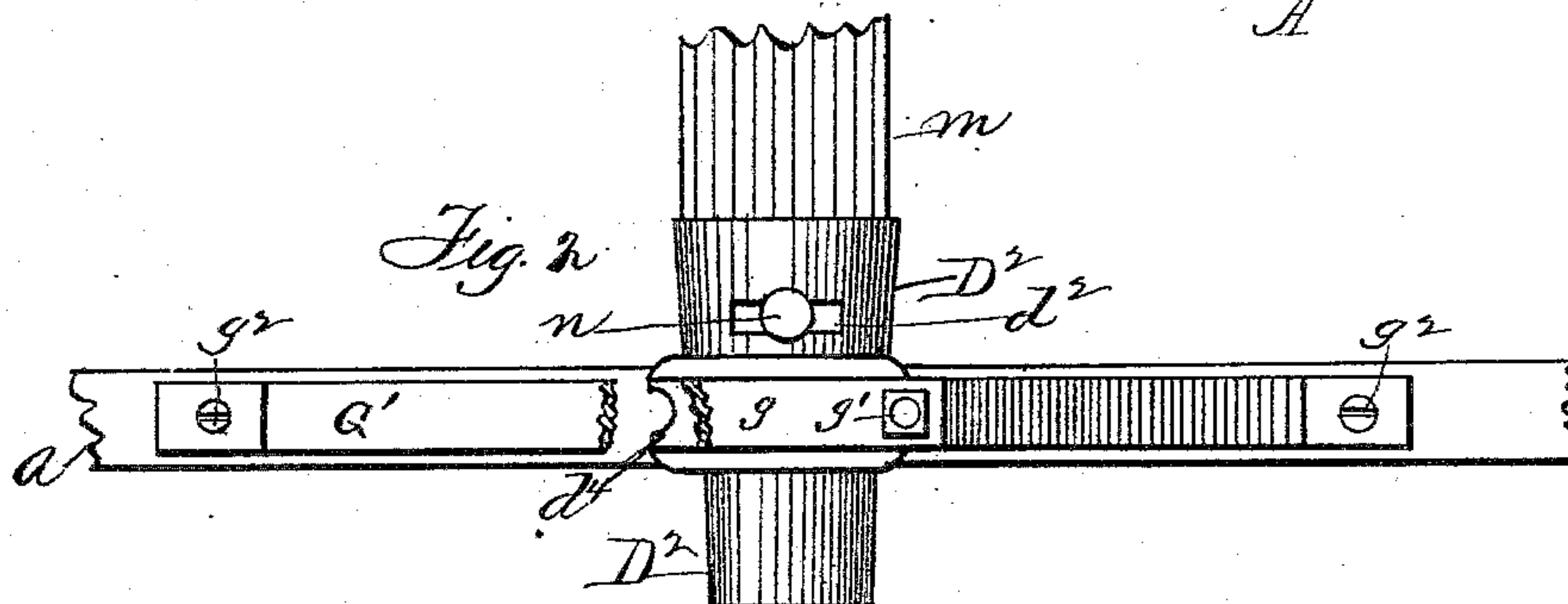
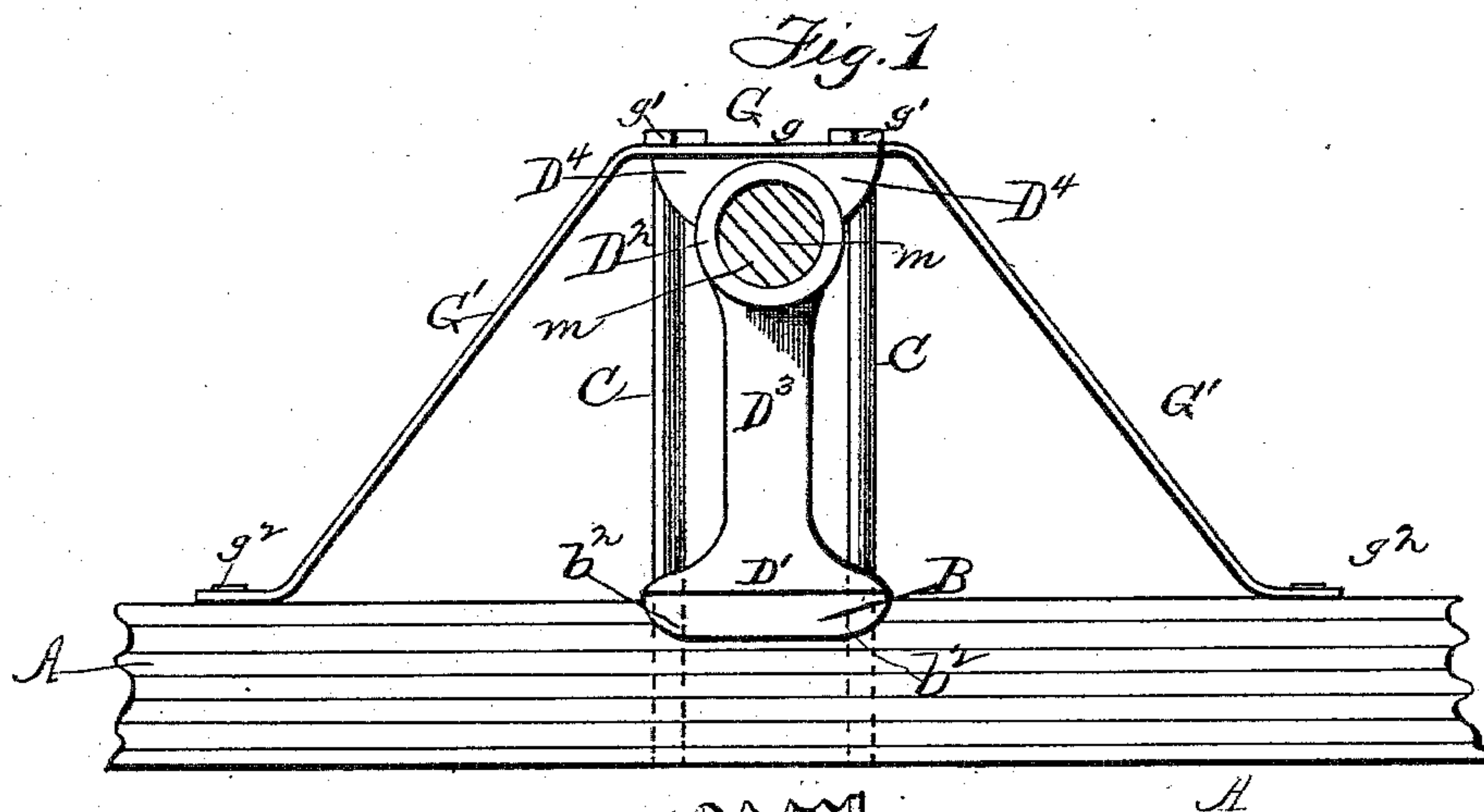


(No Model.)

G. W. TAYLOR.  
SLEIGH KNEE.

No. 301,404.

Patented July 1, 1884.



Witnesses:  
H. Fernhard  
W. H. H. Knight

Inventor  
G. W. Taylor  
per Edson B. Bost,  
Attorneys



# UNITED STATES PATENT OFFICE.

GEORGE W. TAYLOR, OF SUGAR HILL, ASSIGNOR TO FRANK J. BARTLETT,  
OF EASTON, NEW HAMPSHIRE.

## SLEIGH-KNEE.

SPECIFICATION forming part of Letters Patent No. 301,404, dated July 1, 1884.

Application filed March 22, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. TAYLOR, a citizen of the United States, residing at Sugar Hill, in the county of Grafton and State of New Hampshire, have invented certain new and useful Improvements in Sleigh-Knees; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to sleigh-runner attachments; and the novelty consists in the construction, arrangement, and adaptation of parts, as will be more fully hereinafter set forth, and specifically pointed out in the claims.

The essential object of the invention is to produce a novel and useful construction of a knee to a sleigh-runner, and in the specific application shown such knee is peculiarly adapted to be used with the body and axles of a wheeled vehicle, the wheels being removed and the axle-spindles used as bearing in the knee.

The invention is fully illustrated in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation showing my invention, Fig. 2 a top plan view, and Fig. 3 a longitudinal vertical section.

I will describe the invention as employed in applying sleigh-runners to the body of a wheeled vehicle; but it will be evident that much of the mechanism may be used with equal success and efficiency in ordinary sleighs.

Referring to the drawings, in which similar letters of reference indicate like parts in all the figures, A designates an ordinary runner under the runner-clip B, said clip having recesses  $b'$ , which receive the vertical bolts C, and flanges  $b^2$ , which embrace opposite sides of the runner.

D designates a bracket having a projection,  $d$ , which fits into the perforated plate or clip B, and it is composed, mainly, of a base-plate,  $D'$ , and a body,  $D^2$ , connected by diverging arms  $D^3$ .

The base-plate D has recesses  $d'$ , which re-

ceive the bolts C, and the cap-plate  $D^4$  of the body  $D^2$  has similar recesses,  $d^4$ , for a similar purpose. The body  $D^2$ , in a direction at right angles to the plane of the runner, forms a conical bearing corresponding with the form of an axle-spindle,  $m$ , and it is provided with a slot,  $d^2$ , through which a pin,  $n$ , secured to said spindle, operates to hold the spindle in place and at the same time allow for the rocking motion of the axle due to the changes made in the position of the runner.

G designates a brace-cap, the body  $g$  of which has an extended bearing on the cap-plate  $D^4$ , and has bolt-holes  $g'$ , to receive the upper ends of the bolts C, and the inclined arms  $G'$  of which extend forward and backward, and are secured to the runner, as at  $g^2$ .

I attach importance to the bracket D both in its relation to the vehicle axle or spindle and to the runner. The recesses  $d'$   $d^4$  give a firm bearing upon the bolts C. The projection  $d$  relieves said bolts of a portion of their strain, and the cap-brace G assists the bolts and step to hold the bracket in place. The clip B is held in one direction to the runner by the flanges  $b^2$ , in different directions by the recesses  $b'$  and the bolts, as well as by the perforated step  $b$ . With this system of securing parts the entire knee is held by the simple bolts C and brace-cap G, and may be readily taken apart when desired.

The diverging arms  $D^3$ , in connection with the extended bearing of the spindle, afford firm supports in a direction transverse to the plane of the runner, and the braces  $G'$  serve efficiently against strain in a direction parallel with such plane.

In minor details of construction modifications may be made without departing from the principle or sacrificing the advantages of my invention, the essential features of which will be readily understood.

Having thus described the invention, what I claim as new is—

1. In combination with the runner A and spindle  $m$ , the bracket D, as described, having recesses  $d'$   $d^4$ , and projection  $d$ , the pin  $n$ , and securing-bolts, as set forth.

2. In combination with the bolts C, brace-cap G  $G'$ , and bracket D, having recesses  $d'$



$d^4$ , projection  $d$ , and conical bearing, the spindle  $m$ , and pin  $n$ , as set forth.

3. The bracket described, having base  $D'$ , body  $D^2$ , diverging arms  $D^3$ , cap-plate  $D^4$ , recesses  $d'$   $d^4$ , and slot  $d^2$ , combined and adapted to serve with bolts  $C$ , perforated plate or step  $b$ , and spindle  $m$ , as set forth.

4. The clip or perforated step, and bracket  $D$ , having recesses  $d'$   $d^4$  and projection  $d$ , in com-

bination with a runner,  $A$ , and bolts  $C$ , the said clip having flanges  $b^2$ , substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. TAYLOR.

Witnesses:

KATE L. BOWLES,

WILLIS BOWLES.