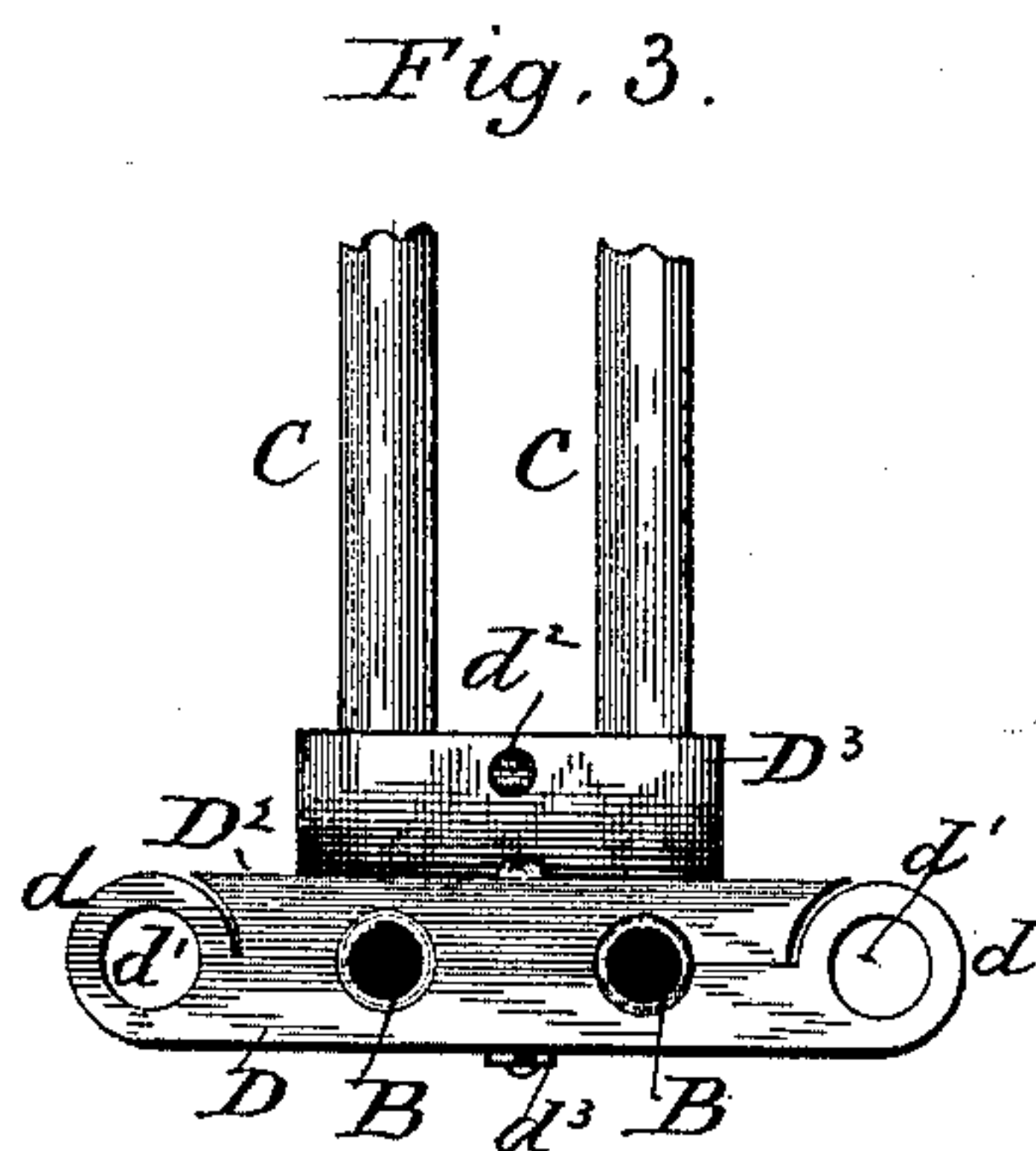
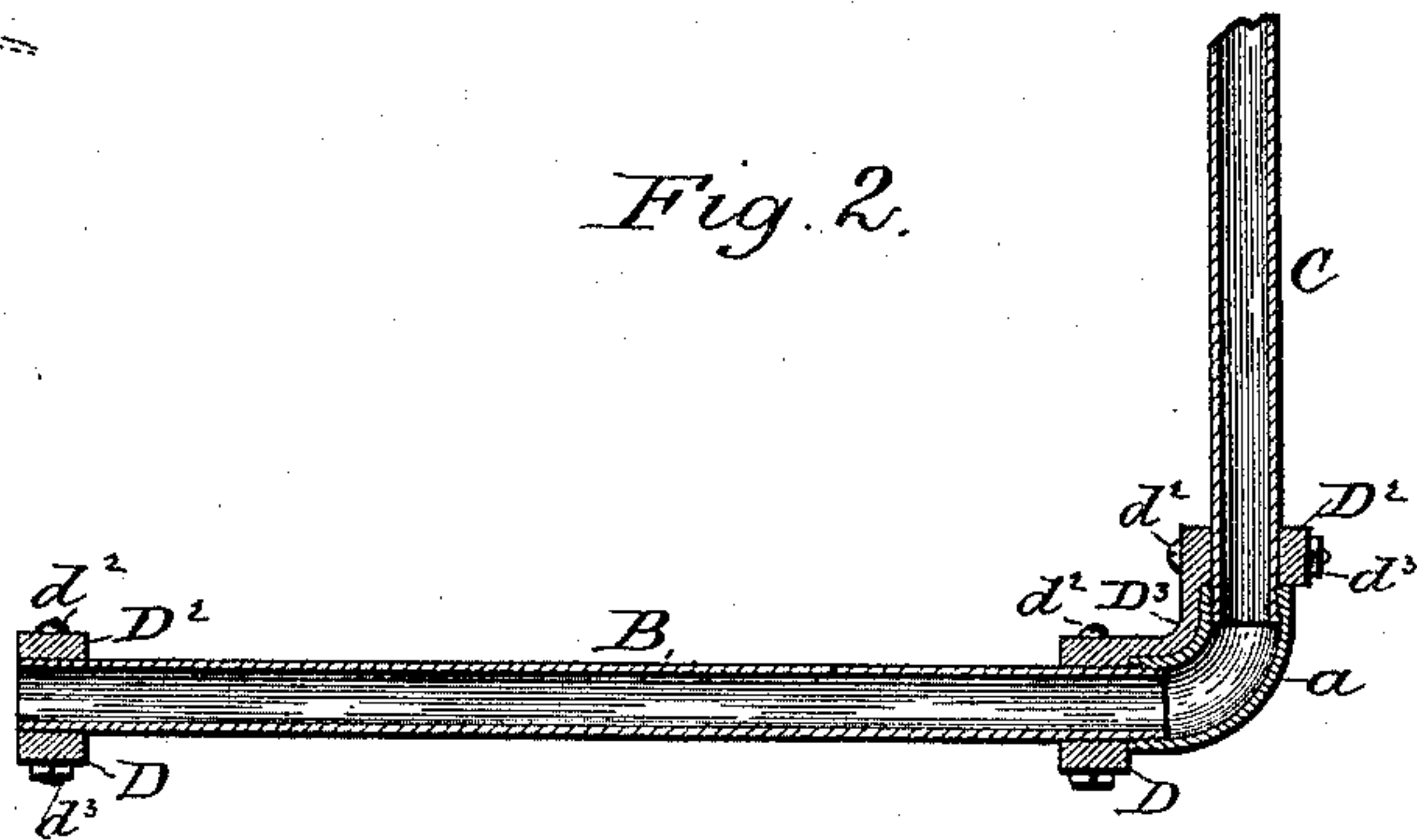
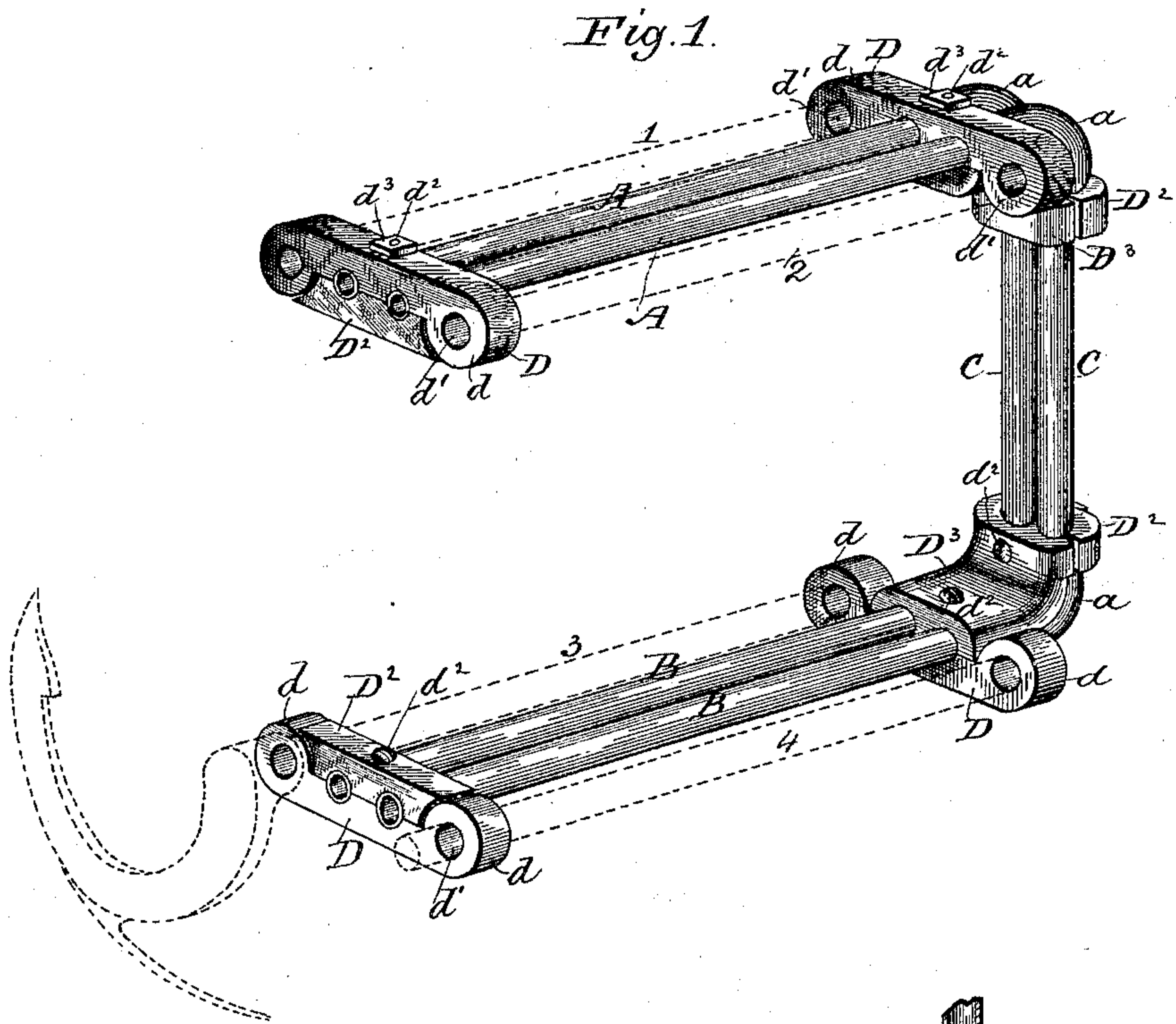


(No Model.)

H. TUTTLE.  
GRAIN BINDER FRAME.

No. 432,807.

Patented July 22, 1890.



Witnesses:  
*E. Murdeman,*  
*J. J. Masson*

Inventor:  
*Hosmer Tuttle,*  
by *E. E. Masson*  
att'y.



# UNITED STATES PATENT OFFICE.

HOSMER TUTTLE, OF CEDAR RAPIDS, IOWA.

## GRAIN-BINDER FRAME.

SPECIFICATION forming part of Letters Patent No. 432,807, dated July 22, 1890.

Application filed March 1, 1887. Serial No. 229,275. (No model.)

*To all whom it may concern:*

Be it known that I, HOSMER TUTTLE, a citizen of the United States, residing at Cedar Rapids, in the county of Linn, State of Iowa, have invented certain new and useful Improvements in Grain-Binder Frames, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in U-shaped frames used to support the operating mechanism of grain-binders; and the objects of my improvement are to produce a frame of this class fully as strong and rigid as heretofore, but to weigh only about one-quarter as much as the cast-metal frames heretofore used for that purpose. I accomplish these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a grain-binder frame constructed in accordance with my invention. Fig. 2 is a longitudinal vertical section through a portion of the connected tubes used in the construction of the frame. Fig. 3 is an end view of the lower portion of the frame.

The double frame is made of two single frames, consisting of tubes A B C, united by elbows *a* screwed upon their ends. The upper branch of the frame or the tubes A A is retained parallel to each other and at a suitable distance apart by clamps placed upon them adjacent to the ends thereof. Each outer clamp consists of a bar D, having bosses *d* at each end perforated laterally, as at *d'*, to receive the operating-shafts of the grain-binder, and a shorter bar D<sup>2</sup>, that is secured to the bar D by a bolt *d*<sup>2</sup>, passing vertically through them and a nut *d*<sup>3</sup> upon said bolt. The tubes B of the lower branch of the frame are retained united at a suitable distance apart and parallel to each other by similar bars D D<sup>2</sup>, bolted together to form a clamp adjacent to the outer end of said tubes B. To re-enforce the frame at the points of junction of the tubes A B C with their elbows *a*, the bar resting upon the bearing-plate D is extended, as shown at D<sup>3</sup>, so as to cover the inner angle of said elbows *a* and the points of junction of said elbows

with the tubes and add to the rigidity of the joint, and bolts *d*<sup>2</sup> are passed horizontally and vertically through said plate and between the parallel tubes and through the bars D and D<sup>2</sup>.

Although the binder-frame is shown as consisting of only two single frames placed some distance apart and clamped together, as described, to brace each other and prevent it from twisting in any direction, it is evident that a larger number of tubular frames may be secured together for the same purpose without departing from the spirit of my invention.

Although the upper and lower branch of the frame are shown as of the same length, it is also evident that one of the branches may be longer than the other, to suit the binding mechanism intended to be carried thereby. In the present instance the main or driving shaft is shown in dotted lines at 1, the power-transmitting shaft at 2, the needle-arm shaft at 3, and the bundle-discharger shaft at 4; but the relative positions of said shafts may be varied to suit the different styles of machines upon which the binder-frame is to be used.

Having now fully described my invention, I claim—

1. A U-shaped grain-binder frame consisting of two series of horizontal tubes and one series of vertical tubes, connected together by elbow-joints and secured parallel to each other by clamps D<sup>2</sup> D<sup>3</sup> holding the tubes and having bearings for the operating-shafts, substantially as described.

2. In a U-shaped grain-binder frame, the combination of two series of horizontal tubes, a series of vertical tubes, and elbow-joints connecting them, with clamps D<sup>2</sup> D<sup>3</sup> uniting said tubes adjacent to said elbow-joints and at their ends, substantially as and for the purpose described.

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

HOSMER TUTTLE.

Witnesses:

T. K. MILLS,  
GEO. H. OTIS.