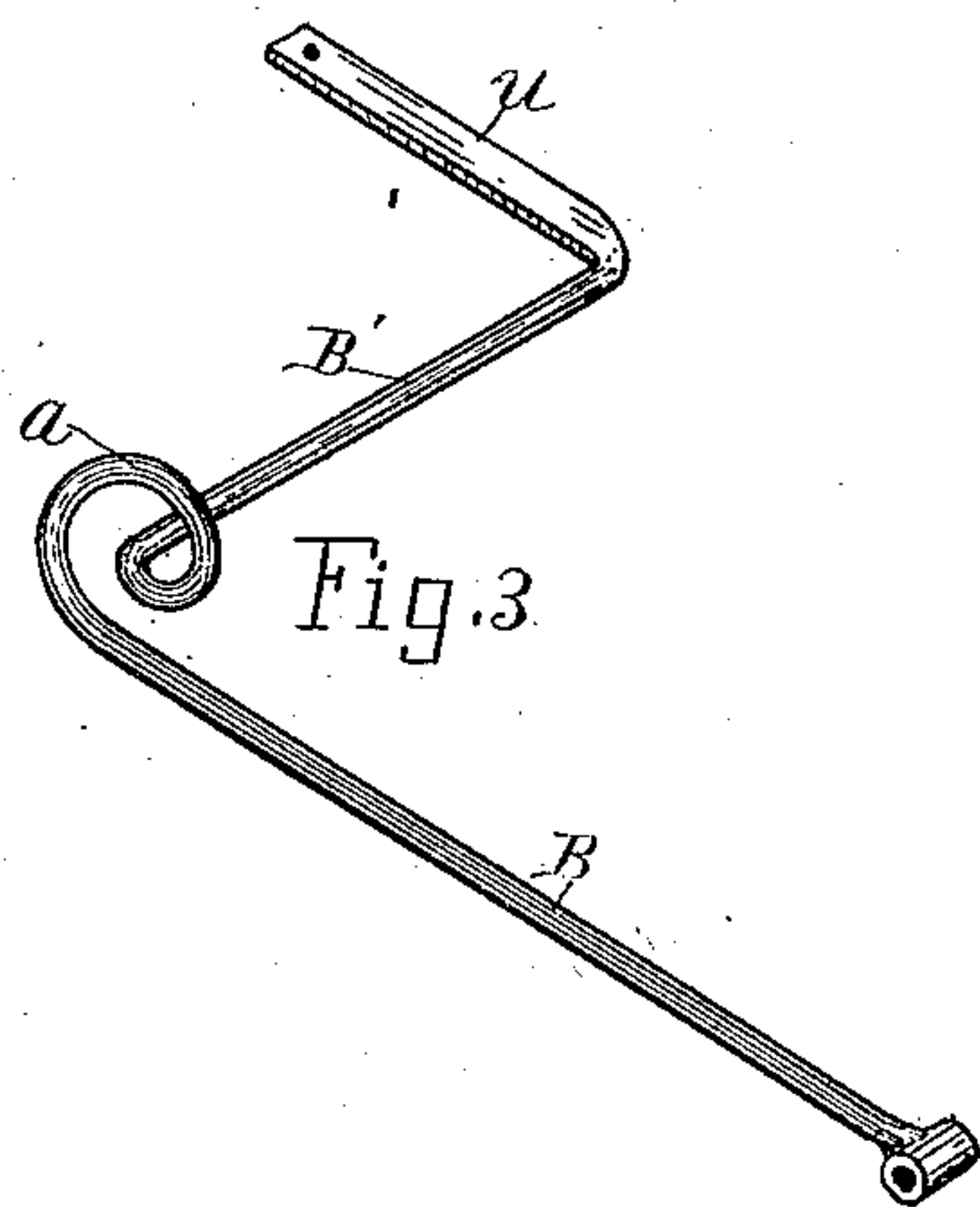
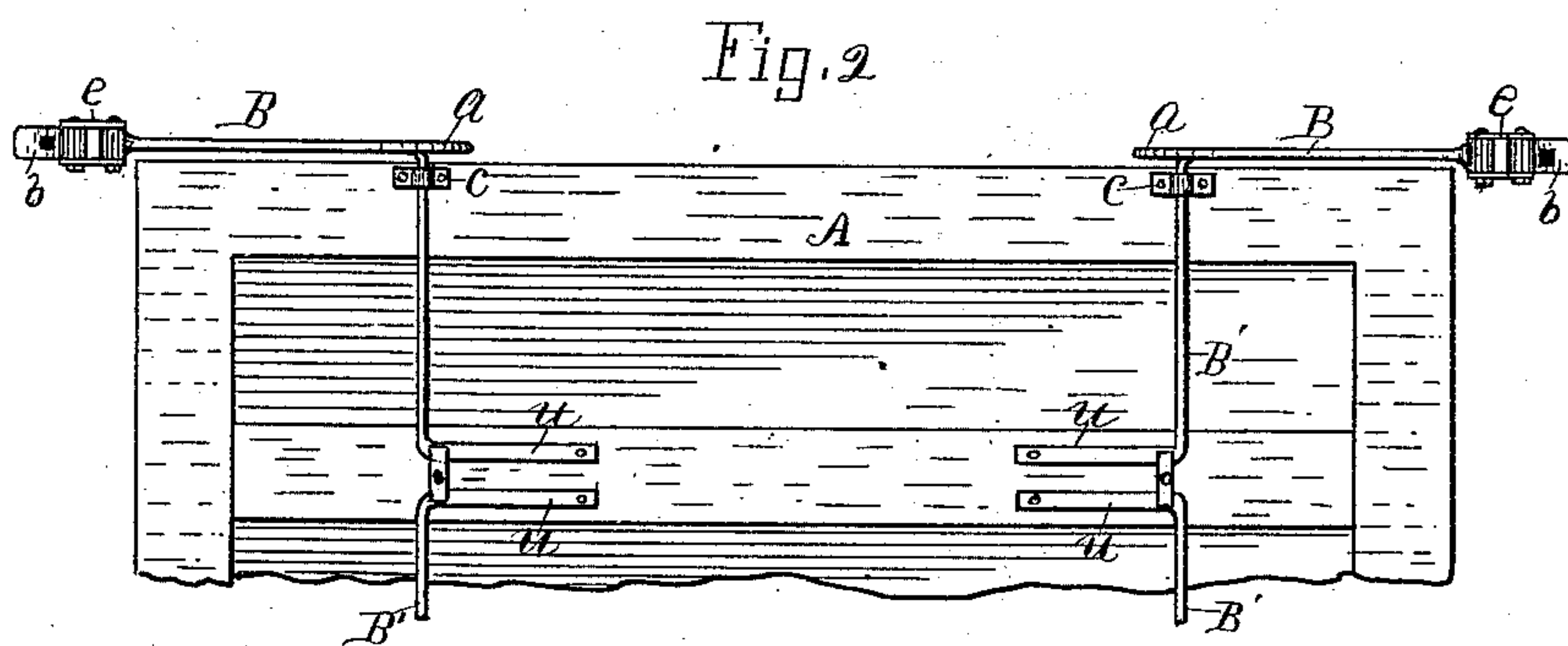
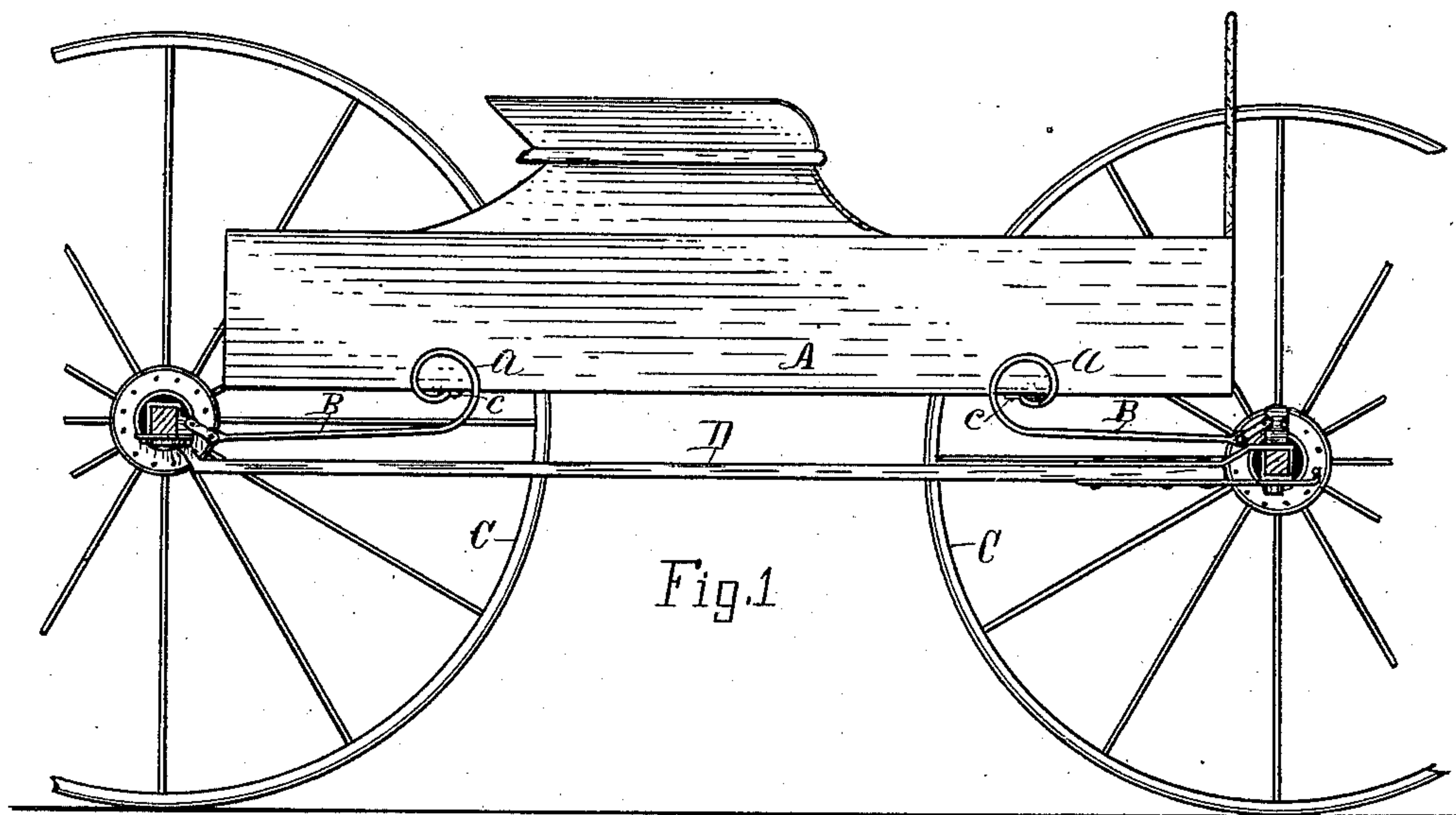


(No Model.)

N. A. NEWTON.  
CARRIAGE SPRING.

No. 351,708.

Patented Oct. 26, 1886.



Witnesses.

*John C. Perkins*  
*J. C. Perkins*

Inventor.

*Nelson A. Newton*

# UNITED STATES PATENT OFFICE.

NELSON A. NEWTON, OF KALAMAZOO, MICHIGAN.

## CARRIAGE-SPRING.

SPECIFICATION forming part of Letters Patent No. 351,708, dated October 26, 1886.

Application filed August 7, 1886. Serial No. 210,263. (No model.)

*To all whom it may concern:*

Be it known that I, NELSON A. NEWTON, of the city and county of Kalamazoo, and State of Michigan, blacksmith and carriage manufacturer, have invented a Coiled and Torsion Carriage-Spring of Efficient Action and Simple Construction, a full, clear, and exact description of which is herein set forth, reference being had to the annexed drawings, as a part  
5 of the specification, and to the letters and figures of reference thereon.

Figure 1 represents the buggy or carriage in its natural position with springs attached.

Fig. 2 represents the box or body of buggy  
15 or carriage in an inverted position with springs, shackles, and attachments.

Fig. 3 represents the spring on which this petition is based, and consists of the flattened portion (when attached to the body of car-  
20 riage) *u*; *B B'*, the straight and round portions

of the spring, and *a* the coil in said spring, which I claim has a double action of torsion and coil combined in one piece, the torsion existing in the straight part *B'* on under side of body, the outward end of which is allowed  
25 to move freely in the boxes *c c*, as represented in Fig. 2, for all of which I claim simplicity in construction and efficiency in action.

*e-e* represent the shackles by which the springs (of which there are four—one at each  
30 corner) are attached to the bar or axle, or spring *B B*, in front and rear.

I claim as my invention—

The spring *B*, bent so as to form the coil-spring *a*, the torsion spring *B'*, and the arm  
35 *u*, for attachment to the wagon-body.

NELSON A. NEWTON.

In presence of—

J. H. BOSTWICK,  
MARY A. NEWTON.