

(No Model.)

2 Sheets—Sheet 1.

A. S. WRIGHT.  
CHAIN PUMP FIXTURE.

No. 298,330.

Patented May 6, 1884.

Fig. 1.

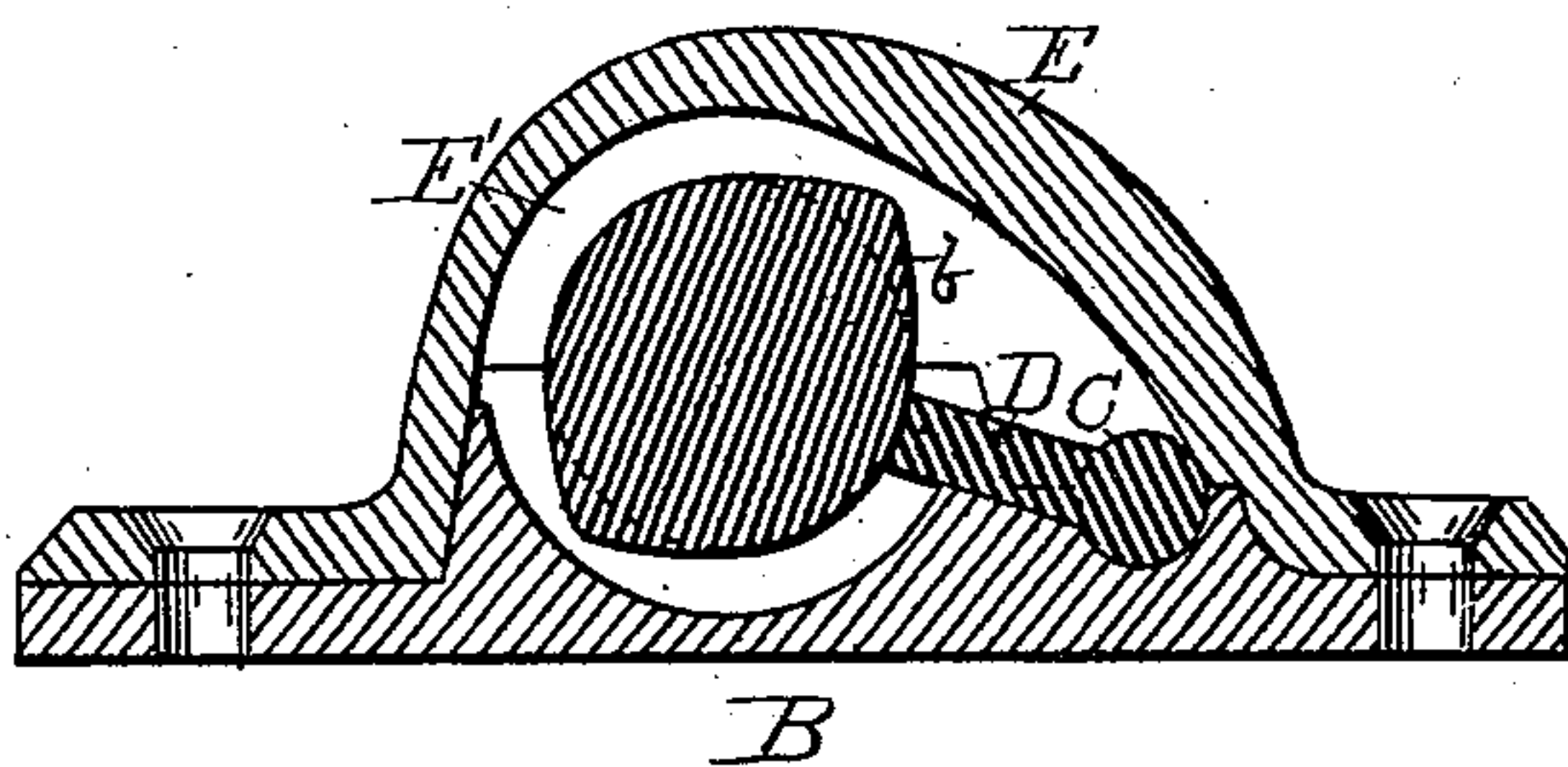


Fig. 2.

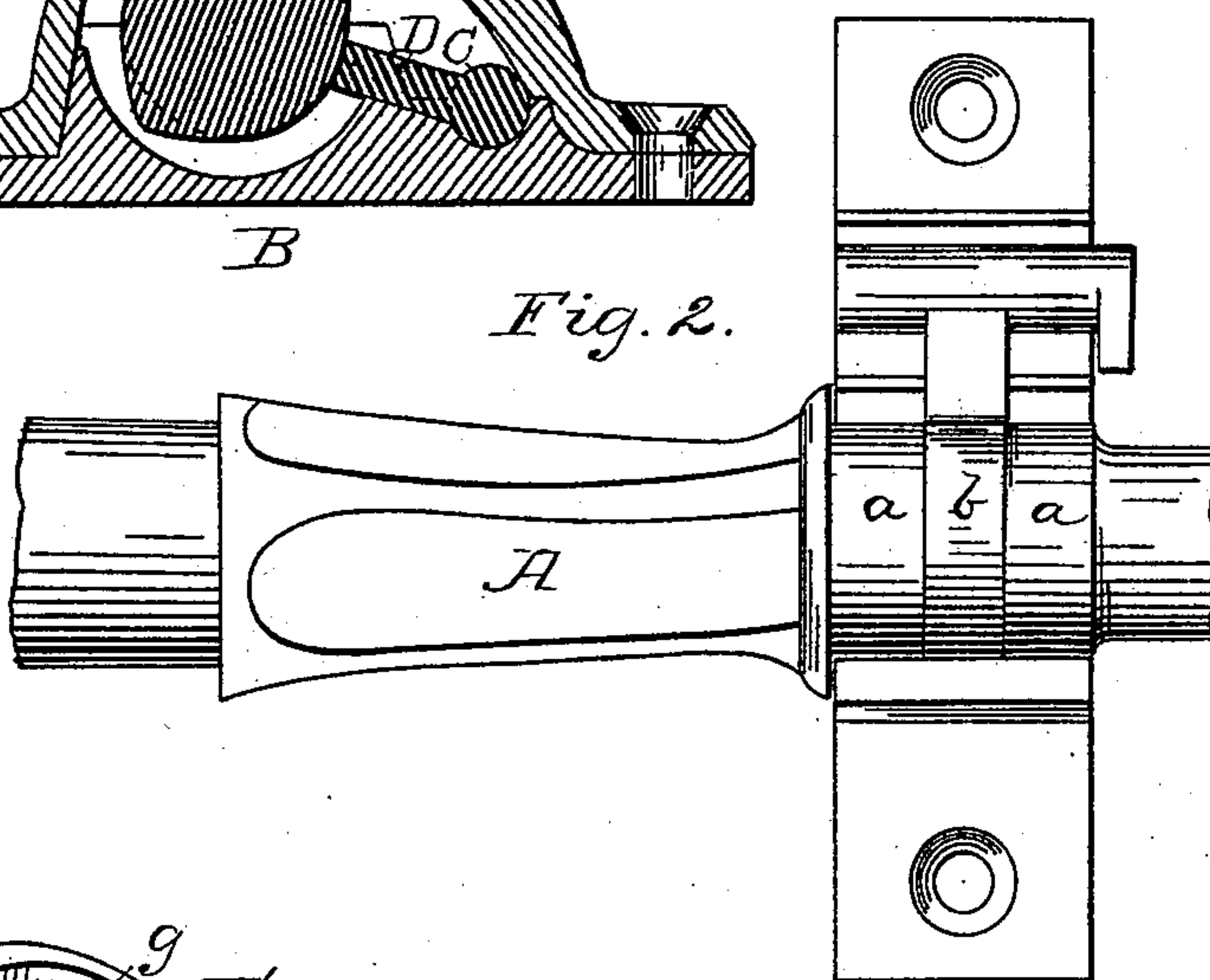


Fig. 5.

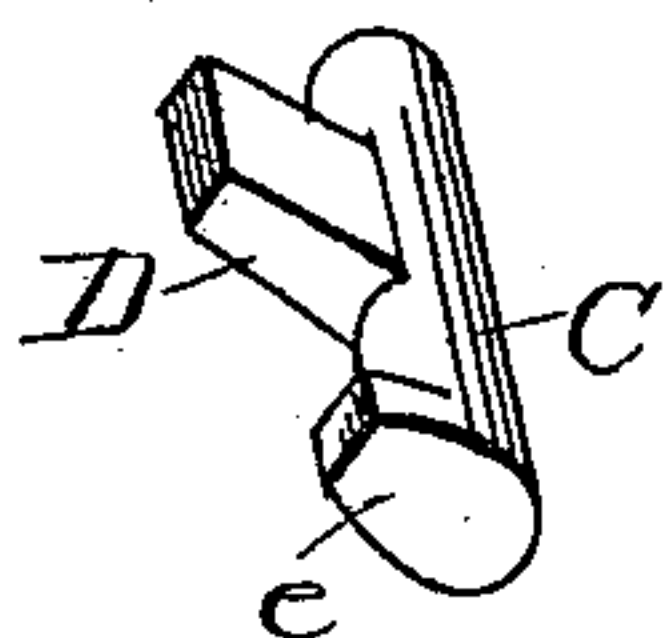


Fig. 3.

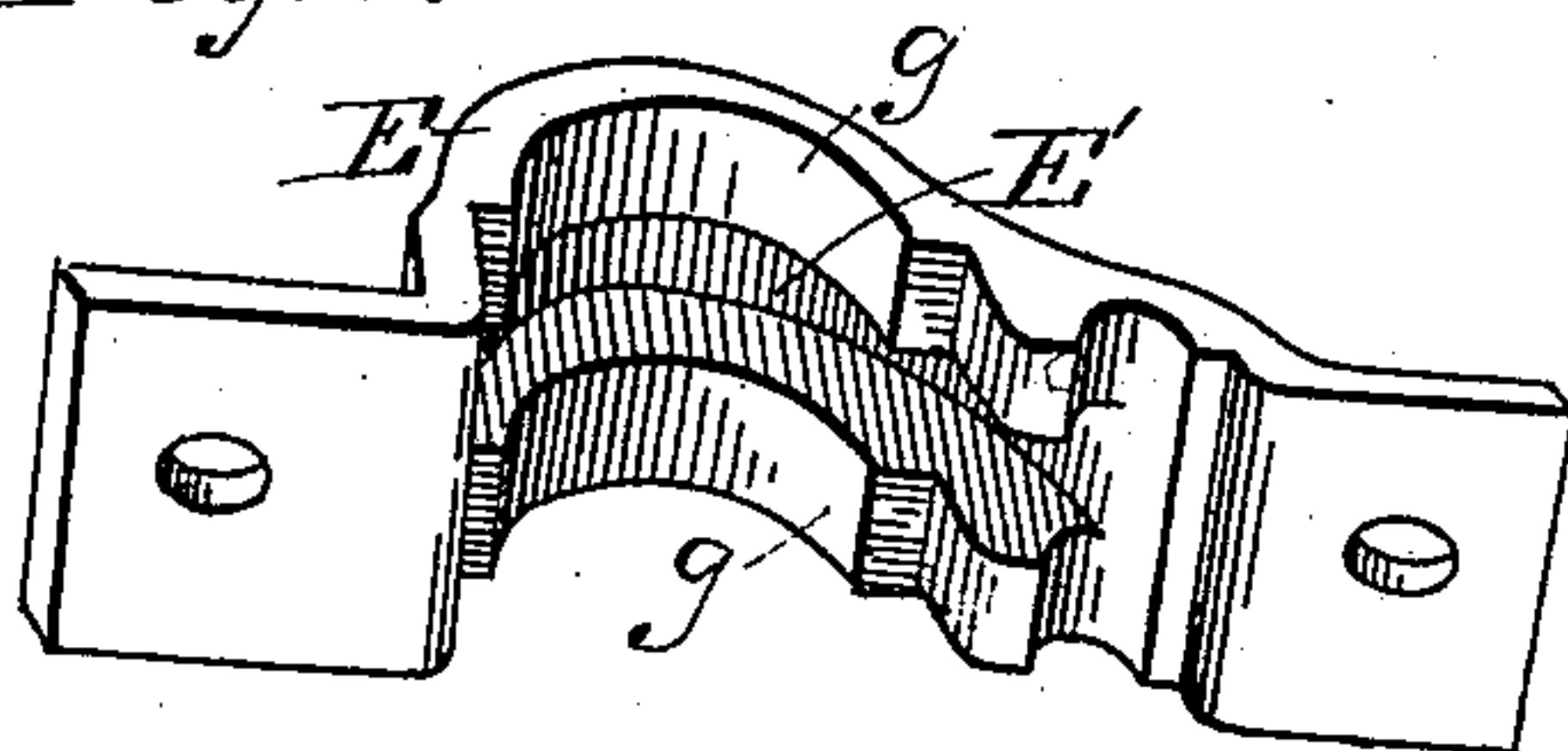
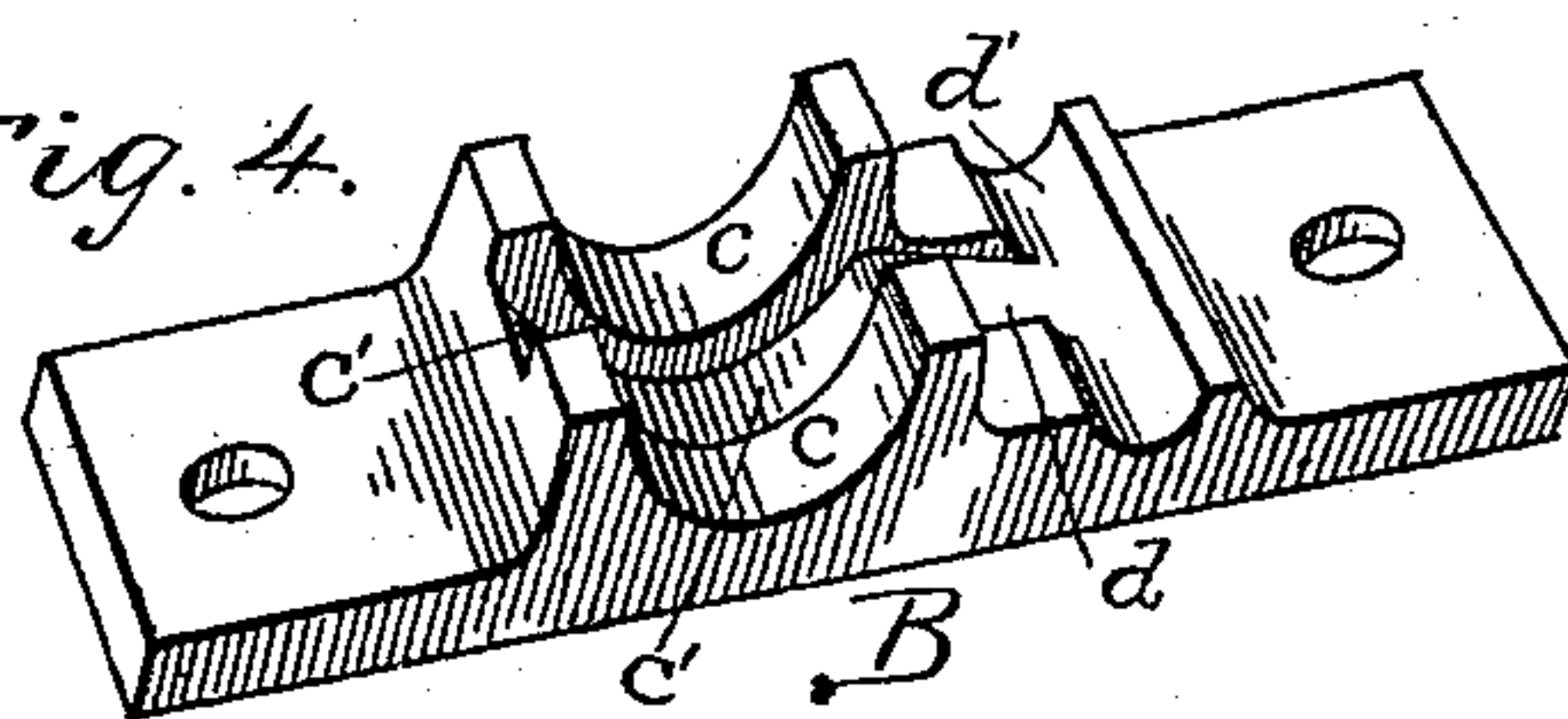


Fig. 4.



Arthur S. Wright.

INVENTOR

WITNESSES:

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ATTORNEY

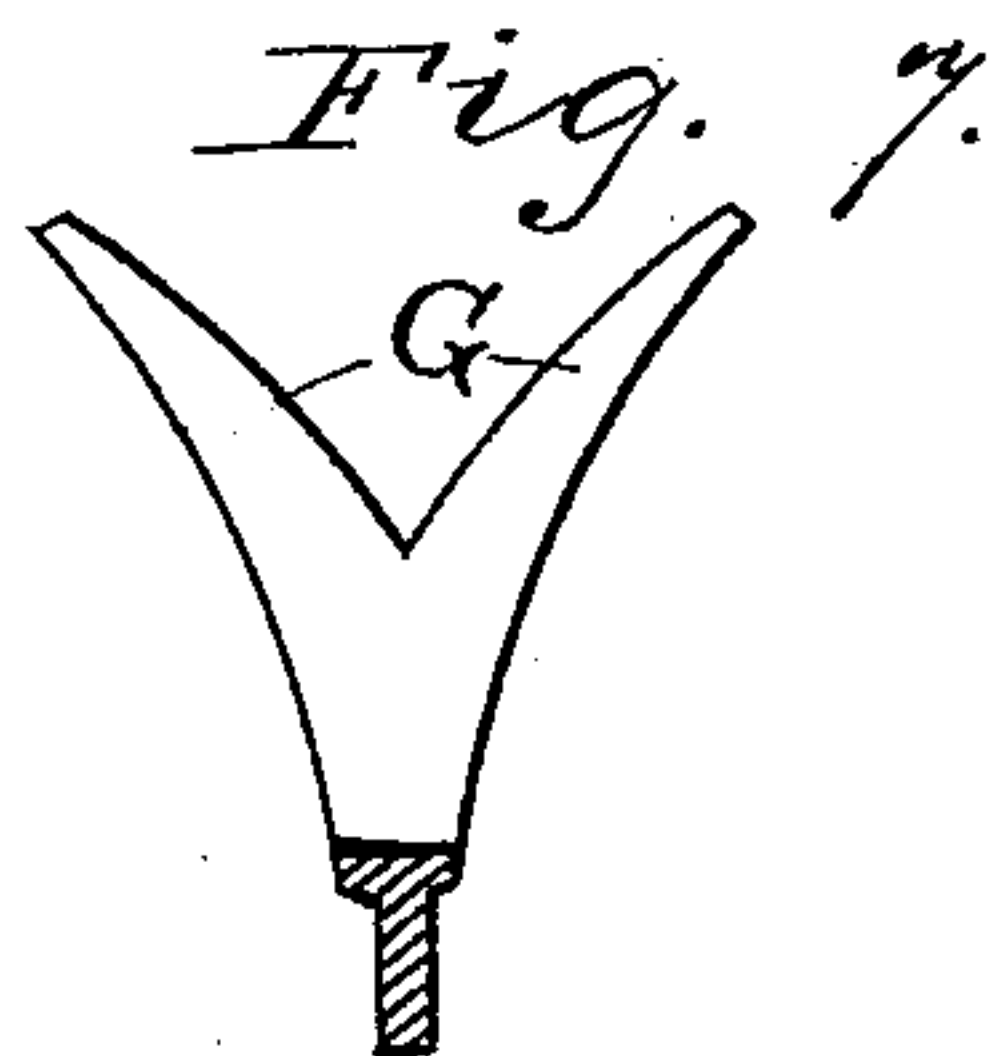
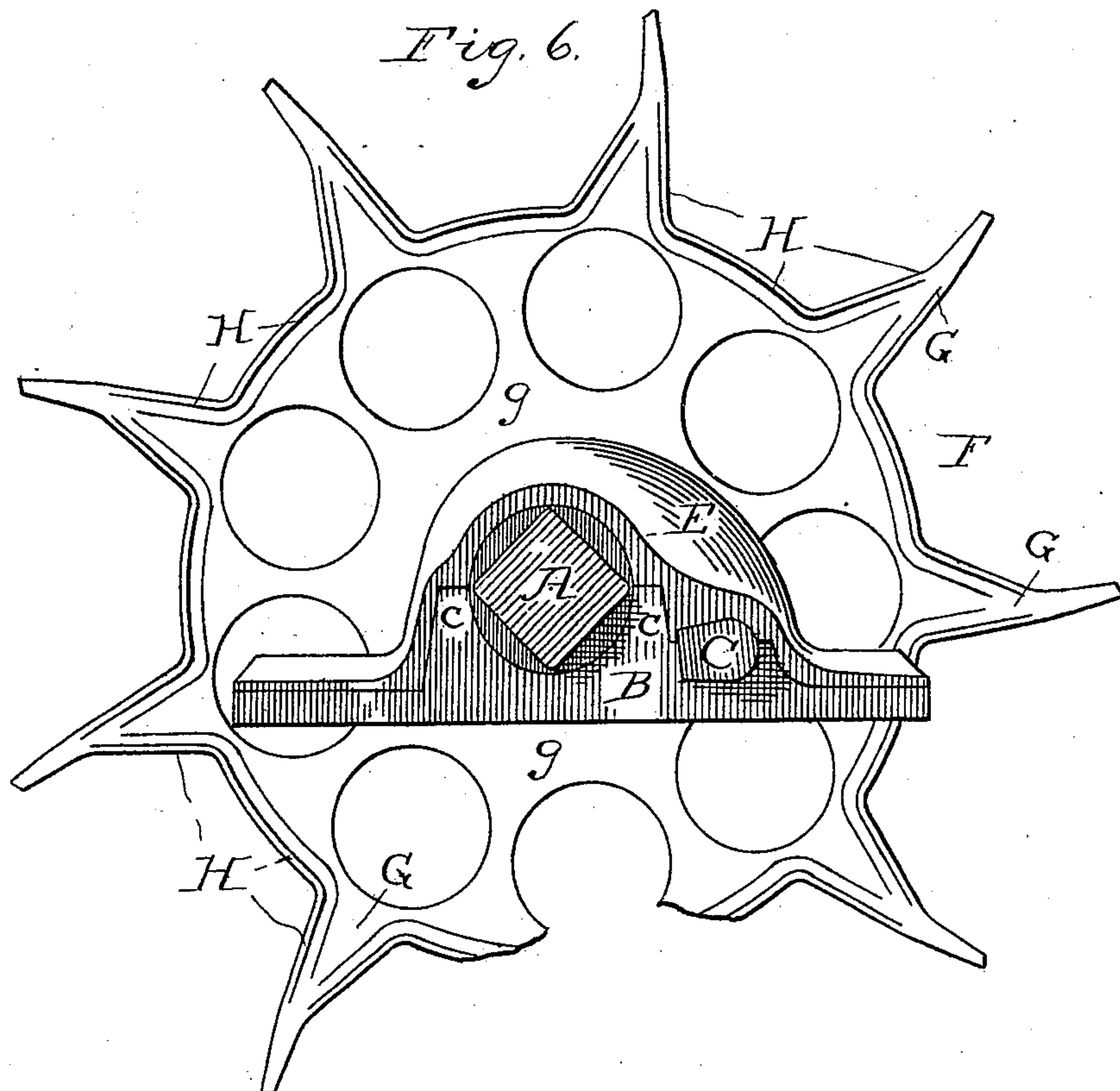
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2 Sheets—Sheet 2.

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WITNESSES:

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# UNITED STATES PATENT OFFICE.

ARTHUR S. WRIGHT, OF MOLINE, ILLINOIS.

## CHAIN-PUMP FIXTURE.

SPECIFICATION forming part of Letters Patent No. 298,330, dated May 6, 1884.

Application filed October 29, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR S. WRIGHT, of Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Chain-Pump Fixtures; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 letters of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a cheap, easily-constructed, noiseless, and perfect-acting stop motion or brake for chain-pumps, which combines the virtues of those heretofore known and used, and at the same time possesses the advantage of gradually stopping the reverse motion of said chain-pump, instead of suddenly stopping the same, thus preventing the wear and breakage consequent to the sudden strain. This I accomplish by a shaft having a cam-bearing surface suitably housed or protected, which, in conjunction with a suitable stop, will permit the shaft to revolve in the direction necessary to elevate the water, but which, when the handle is withdrawn from the handle, will prevent the reverse motion caused by the weight of the water in the buckets being elevated.

Figure 1 is a transverse vertical section of my invention. Fig. 2 is a plan view of the same with the cap of the bearing removed. Figs. 3, 4, and 5 are detail views. Fig. 6 is a side elevation of my improved bearing and sprocket-wheel, and Fig. 7 is a detail view showing one of the sprockets of my improved wheel.

In the drawings, A represents a shaft provided with my improved sprocket-wheel, as will be hereinafter described, securely fixed thereon at about its center of length between the journals, and having one of its journals, *a*, suitably housed, and provided with a cam, *b*, preferably made in one piece therewith. This cam *b* has two projecting cam-surfaces, which are placed diametrically opposite each other, and is placed about the center of length of said bearing-surface, covering about one-third the area thereof. The journal *a* of the shaft rests and revolves in the pillow B, the bearing-surface *c* of which is divided transversely by a re-

cess or channel, *c'*, corresponding in position and lateral dimensions to the cam *b*, which revolves therein. Opening longitudinally into one end of this channel *c'* is a recess, *d*, of the same lateral dimensions, which cuts through the stock of one side of the bearing-surface *c* and intersects the center of length of the bearing-surface *d'* of the pin C. The pin C is provided with a lateral projection or stud, D, which is adapted to rest in the recess *d*, and have its extremity to bear obliquely upward, as shown, against the cam *c*, at a point opposite its minor axis. On the end of said pin C, extending beyond the bearings *d'*, is a lateral projection, *e*, the use of which is to oscillate said pin, and thus the stud D, away from the surface of the cam *b*.

Placed over and resting upon the pillow B is a cap, E, which is provided with the bearing-surfaces *g g*, and a recess, *E'*, which extends from end to end of that portion of the cap covering the journal of said shaft and the cam *b* and the stud D of the pin C, and it corresponds in width and position to the channel *c* and recess *d*. At that point adjacent to the pin C and the stud D this recess is deep enough to permit the upward oscillation of the stud, and this recess *E'* in the cap of the bearings, and the recesses *c* and *d* in the pillow thereof, together form a chamber in which the cam *b* and said stud D operate to accomplish one of the most important features of my invention.

The sprocket-wheel F is placed and firmly secured at or about the center of length of the shaft A. It is provided with a suitable boss surrounding said shaft, from which extends the open metal web *f*, connecting the same with the periphery of the wheel *b* and sprocket G. The sprocket G is forked, as shown in Fig. 7. The outer edges of the arms of the sprocket G are provided with a bead, H, which is continuous from near the extremities of the arms of the same from one sprocket, along the edges of the segment of the periphery of the wheel, between the sprockets to the next preceding or following sprocket. This bead greatly enhances the strength of the sprockets, provides a strong rim for the wheel, and renders it possible to make the web of the wheel open and light without detracting either from the strength of the sprocket or the wheel generally, or from its appearance.



The operation of my new and improved fixture is as follows, to wit: So long as the shaft A is revolving in the direction necessary to elevate the buckets the projecting surfaces of the cam lifts the stud projecting from the pin, and thus escapes it. After the pin has been lifted by the projecting surface of the cam it falls to its original position, in which it would anticipate any reverse motion of the cam, caused by the weight of the water in the buckets being hoisted, and lock the same. The pillow and cap of the bearings are provided with corresponding screw-plates having suitable screw-holes, whereby they can be secured to the curb of a well.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the shaft A, having a journal provided with a cam, *b*, of an oscillating pin, C, having a stud, D, adapted to bear against the periphery of said cam and permit said shaft to revolve in one direction, but preventing a reverse motion thereof.

2. The combination, with the shaft A, having a journal provided with a cam, *b*, of an oscillating pin having a stud projecting therefrom, which bears against the periphery of said cam in such position as to permit said shaft to re-

volve but in one direction, and having a lateral projection extending from the end thereof, by means of which said pin may be oscillated and a reverse motion of said shaft obtained.

3. The combination of the shaft having a bearing-surface on which is a cam, an oscillating pin having a stud projecting therefrom, and a pillow and cap of the bearing properly recessed, so as to afford protection and permit of the operation of said cam, pin, and stud projecting therefrom within the same.

4. A sprocket-wheel for chain-pumps having forked sprockets, the outer edges of which are re-enforced by a bead which traverses the edges of the rim of said wheel between and is continuous from sprocket to sprocket of said wheel, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I hereunto affix my signature in presence of two witnesses.

ARTHUR S. WRIGHT.

Witnesses:

W. J. ENTRIKIN,

FRANK D. THOMASON.