

(No Model.)

2 Sheets—Sheet 1.

J. OBRIG.  
ORNAMENTAL CHAIN.

No. 324,582.

Patented Aug. 18, 1885.

Fig. 1.

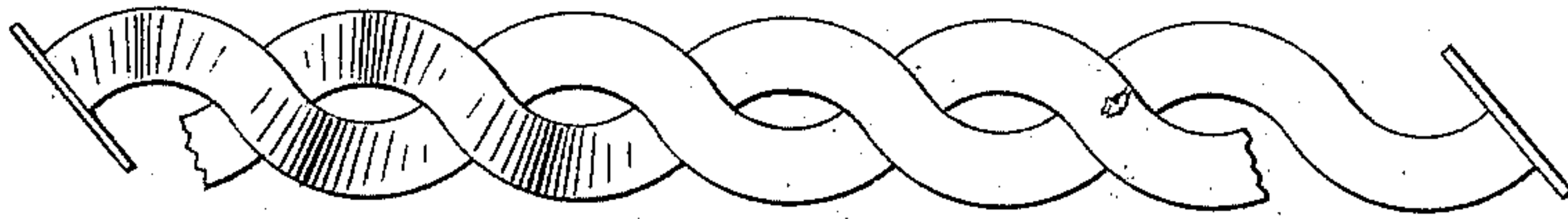


Fig. 2.

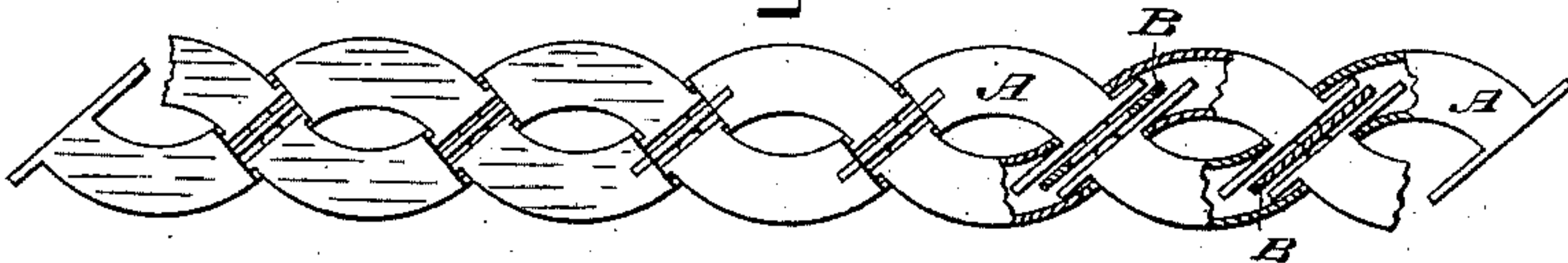


Fig. 3.

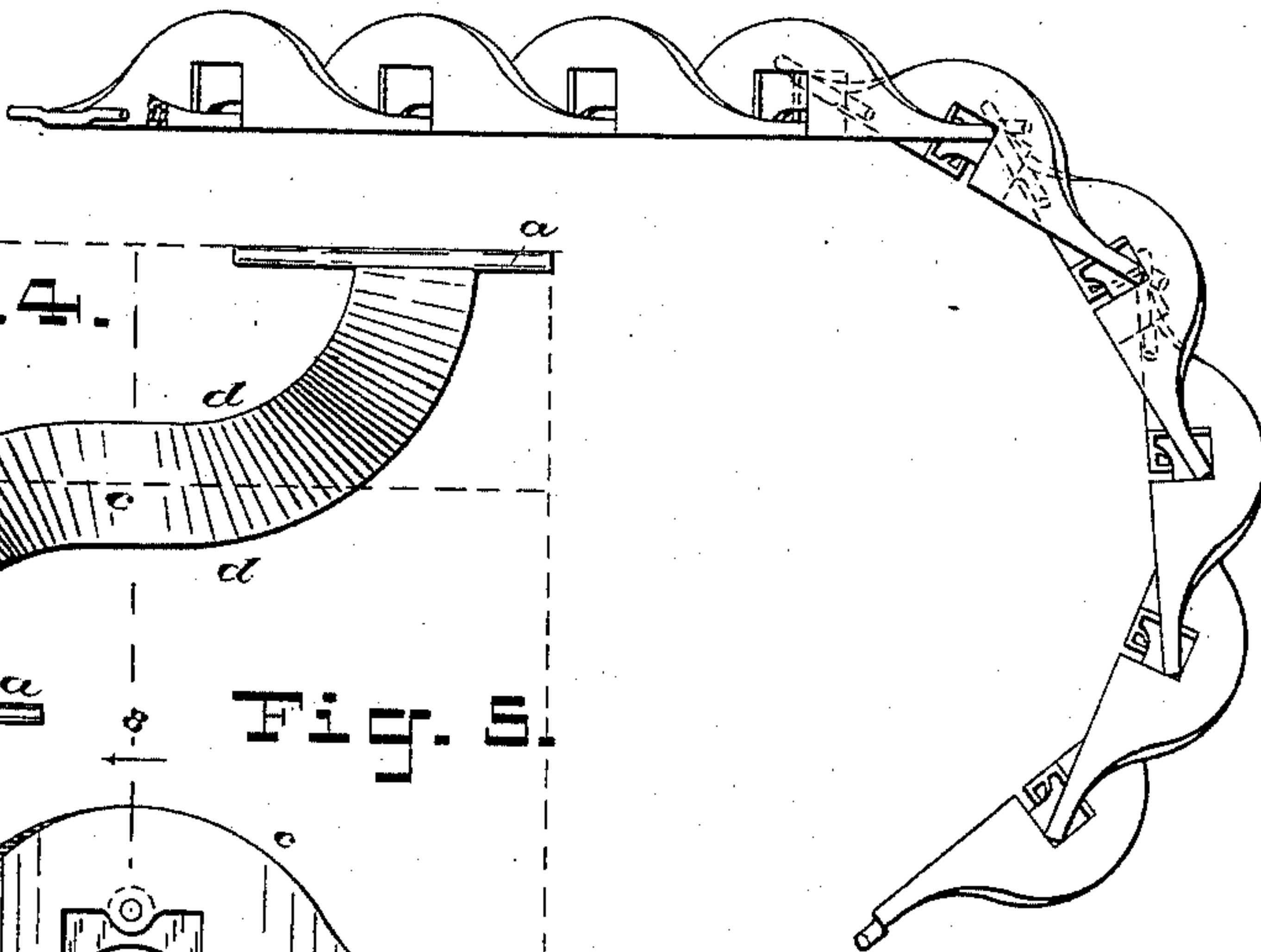


Fig. 4.

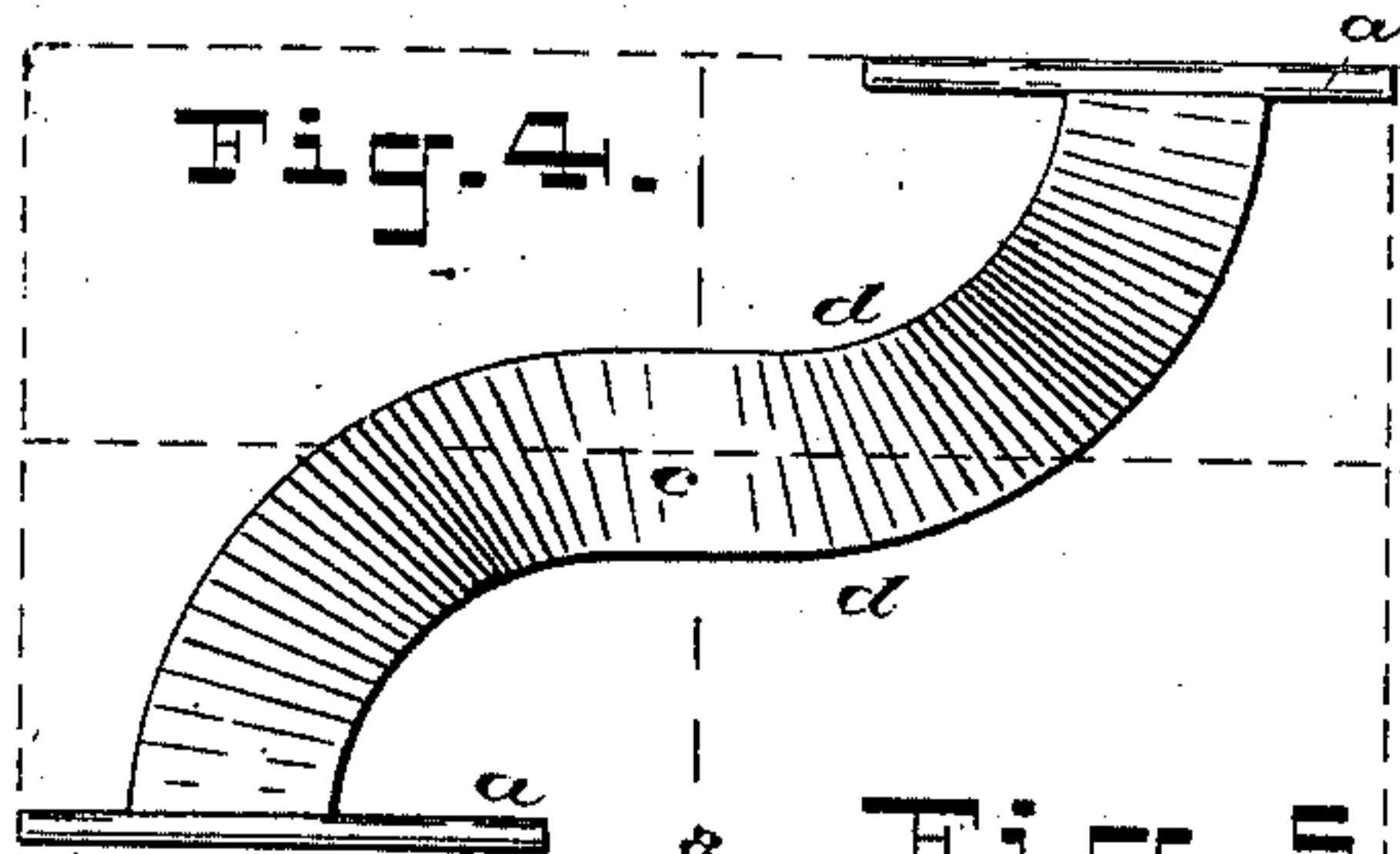


Fig. 5.

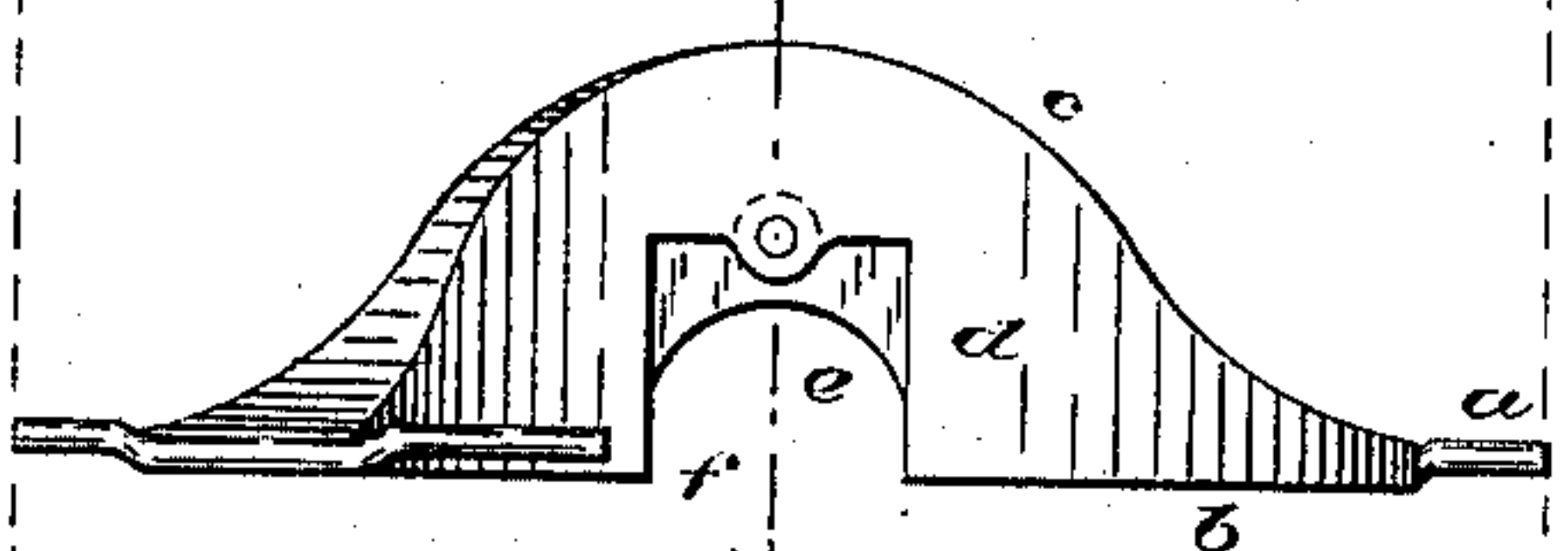


Fig. 6.

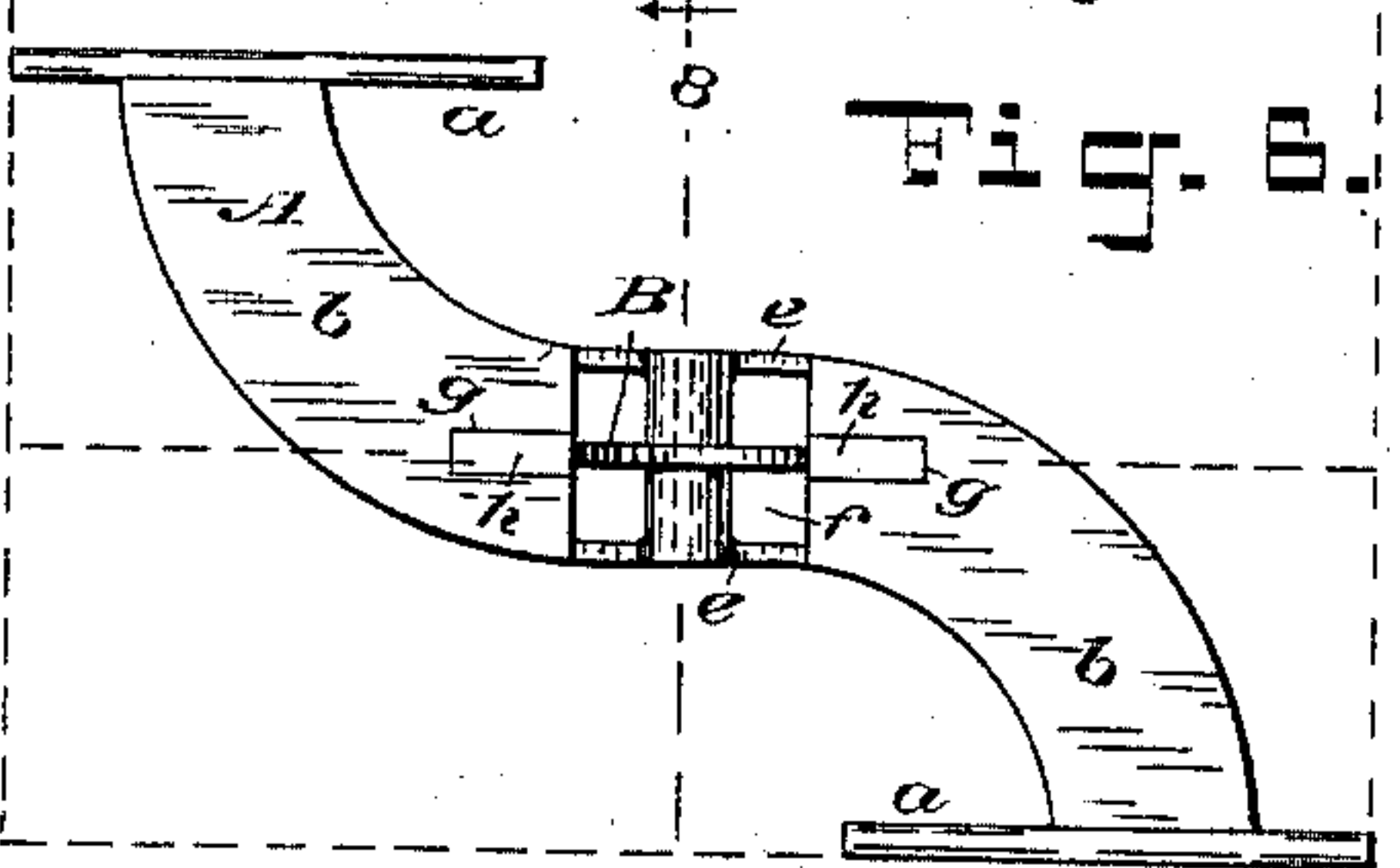
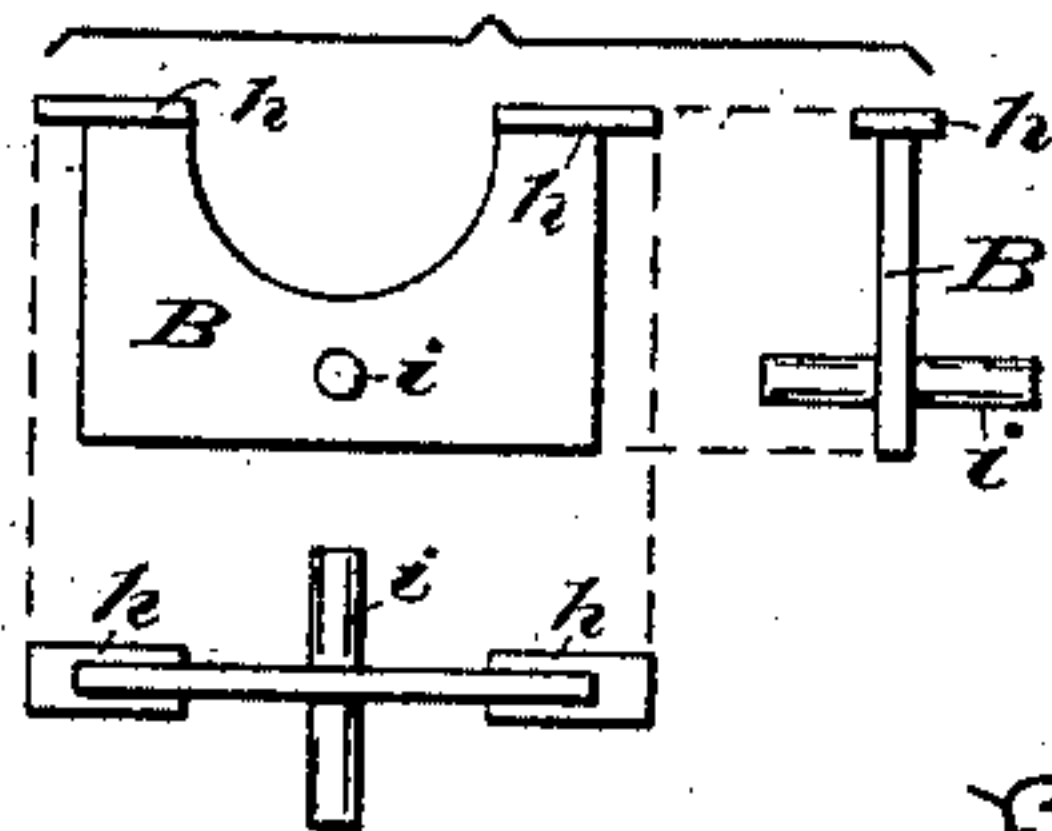


Fig. 7.



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INVENTOR:

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By his Attorneys,

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2 Sheets—Sheet 2.

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Fig. 10.

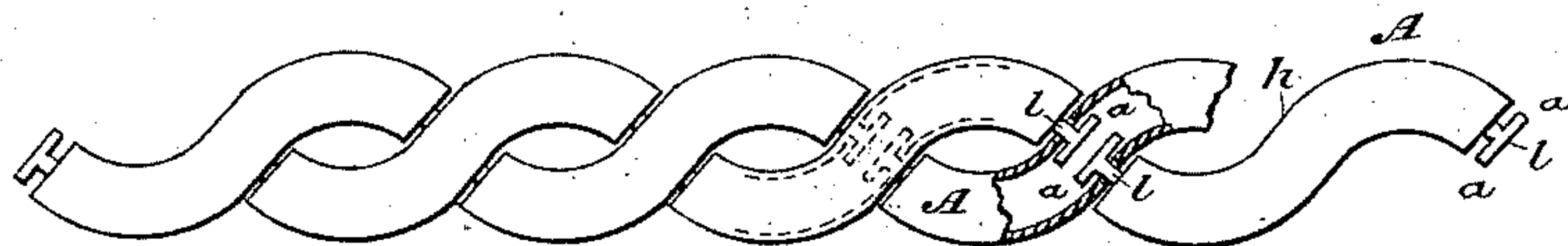


Fig. 11.

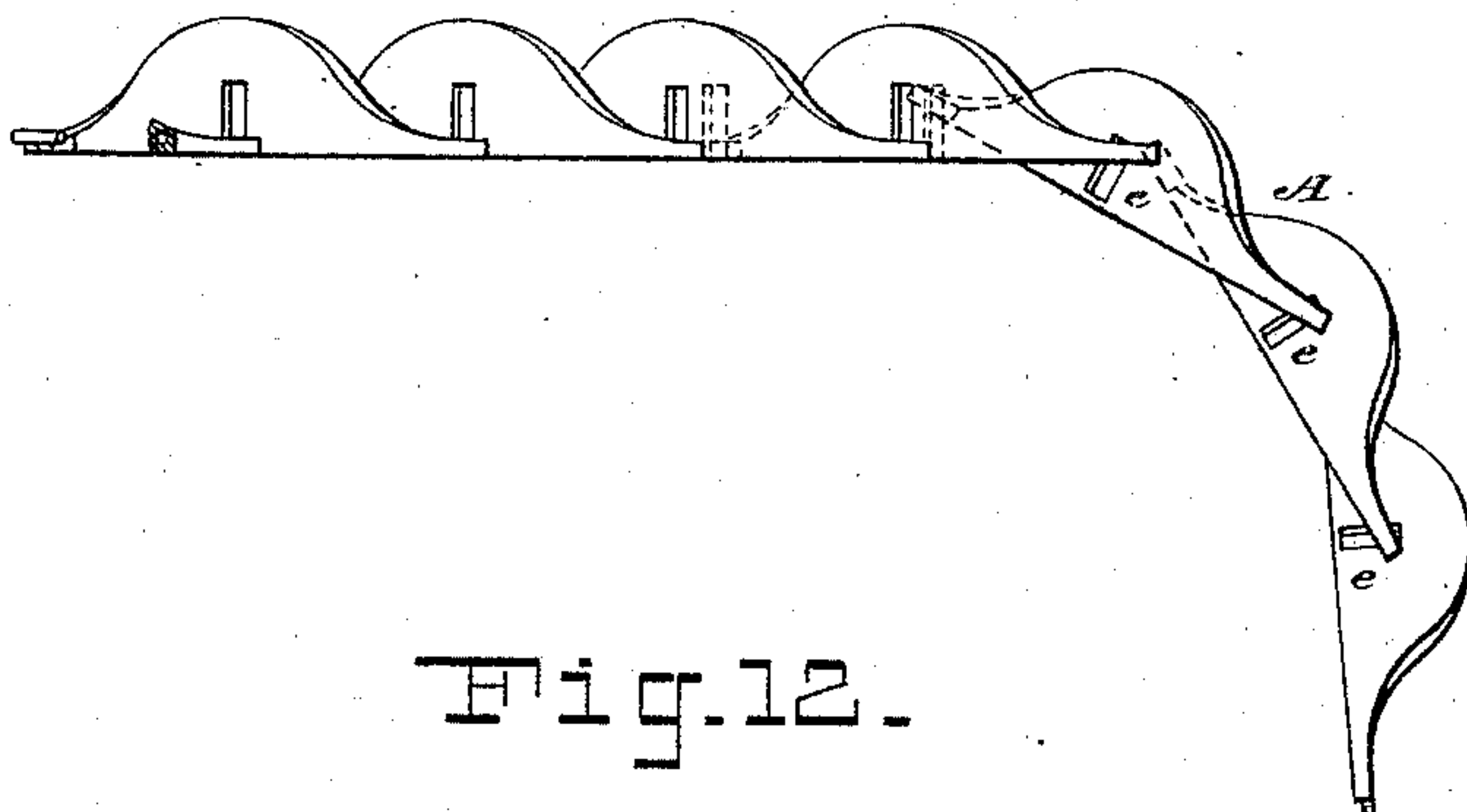
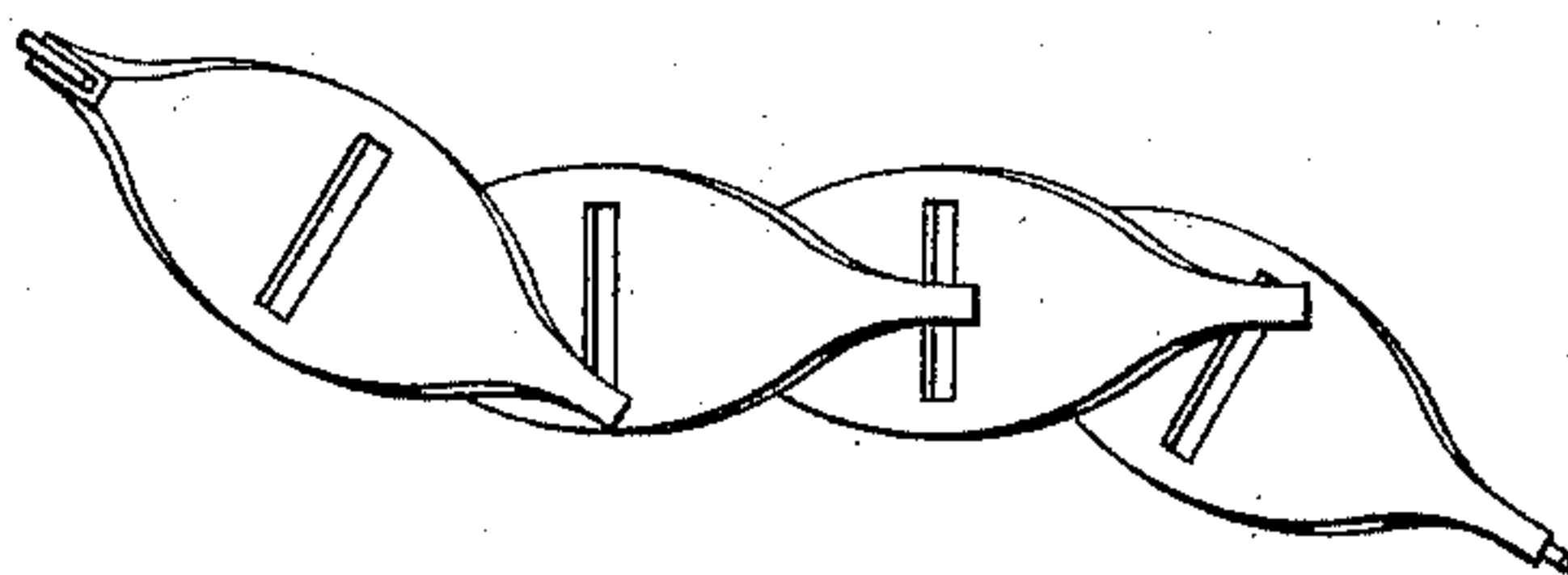


Fig. 12.



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# UNITED STATES PATENT OFFICE.

JOHN OBRIG, OF NEWARK, NEW JERSEY, ASSIGNOR TO A. J. HEDGES & CO., OF NEW YORK, N. Y.

## ORNAMENTAL CHAIN.

SPECIFICATION forming part of Letters Patent No. 324,582, dated August 18, 1885.

Application filed March 27, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN OBRIG, a citizen of the United States, residing in Newark, in the county of Essex and State of New Jersey, have  
5 invented certain new and useful Improvements in Ornamental Chains, of which the following is a specification.

This invention relates to ornamental chains designed for use as bracelets, neck-chains,  
10 dog-collars, and for other similar purposes.

The principal object of the invention is to produce a chain of cheap and simple construction which shall present the appearance of two bars or ribbons loosely twisted together, each  
15 crossing alternately over and under the other.

Figure 1 of the accompanying drawings is a plan view of the chain. Fig. 2 is an inverted plan of the same, showing the preferred construction. Fig. 3 is a side elevation thereof,  
20 and Figs. 4 to 9 are enlarged detail views, Figs. 4, 5, and 6 showing one of the links in plan, elevation, and bottom plan, respectively, Fig. 7 showing it in end elevation, and Fig. 8 showing it in transverse section, while Fig.  
25 9 includes three views of one of the internal parts.

The remaining figures illustrate modifications.

This chain is of that class wherein each link  
30 is formed with a pivot-pin or equivalent projection, which enters a slot in the next adjoining link, in which slot it has sufficient freedom of play to give the desired amount of flexibility to the chain.

Fig. 1 illustrates the general appearance of the top of the chain when laid out flat. Each link A has the form of a reverse curve, as best shown in Fig. 4, and on its ends are formed or attached projecting pivot-pins *a a*. The  
40 links are each formed flat on their under sides, *b*, and curved on their upper sides, *c*, as best shown in Figs. 5 and 7, their side walls, *d d*, standing perpendicularly to the plane of their flat under surfaces. This shape, however,  
45 forms no essential part of my invention, being merely the particular design in which I have embodied my mechanical improvements, and any other design that is adaptable to the mechanical features of my improved chain may  
50 be substituted for the one shown.

It is a peculiarity of my invention that the end of each link connects with the middle of the next.

Each link is formed at its middle with two holes or slots, *ee*, in its side walls, *d d*, arranged  
55 opposite to each other. Across the bottom *b* there is also an opening, *f*, connecting the two holes or slots *e e*. The width of the slots or openings *e f e* is slightly greater than the width of the end of the link, so that the ends of the  
60 two adjoining links on opposite sides may enter them and play freely in them. The pins or projections *a a*, extending beyond the width of the ends of the link, enter into the hollow space inside the middle link and there engage  
65 the inner surfaces of the walls of the link, thus retaining the links together by a loose and free connection.

Thus it is seen that each link receives in its middle the ends of the two adjoining links,  
70 and its ends are connected with the middles of the two adjoining links.

When the chain lies out flat, as shown at the left in Fig. 3, the ends of the links are in the bottom of the openings *e e*, and the pins *a*  
75 *a* are bearing against the bottoms *b* of the links.

At the right in Fig. 3 the chain is shown as bent to the shortest curve of which it is capable. The ends of the links are then bearing against the tops of the openings *e e*, which act  
80 as stops to prevent any further flexure. Between these opposite limits the articulation of the links is very loose, and the movement of the chain is free.

I will now describe certain details of construction which are desirable but not essential to the operativeness of my invention.

In order to provide for the insertion of the projections *a a* on one link into the interior of the middle portion of the next, I form the bottom plate *b* with notches *g g*, extending from  
90 opposite sides of the opening *f*, as clearly shown in Fig. 6. When the projections *a a* of both the adjoining links have been passed through these notches into the interior of the  
95 hollow link, then these notches are closed by the insertion of plates or pieces *h h*, as shown, which are soldered or otherwise fastened in.

It will be understood that it is in any case necessary to provide some means for the in-  
100



section of the projections *a a*, and this may be done in various ways—as, for instance, by leaving the edge of the bottom plate *b* unsoldered, turning it up enough to enter the projections *a a*, and then pressing it down and soldering it; but I prefer the method shown.

In order to prevent the ends of the two links which both enter the middle of the intermediate link from interfering with each other and becoming entangled, and perhaps broken, I divide the middle of each link by a partition, B. (Shown removed in Fig. 9.) This partition stands as shown in the right-hand portion of Fig. 2, and keeps the opposite ends of the entering links apart. To it are fixed the two plates *h h*, which enter and fill the notches *g g*, which thus serve to keep the partition in place laterally, and it is secured in the link by means of a pin, *i*, which is passed through a hole in it, and also through two tubes, *j j*, forming part of the link, (Fig. 8,) and is riveted down on its ends.

I prefer to solder the plates *h h* and pins *i* on all the links forming a chain or bracelet except three, and on these I simply rivet down the pin *i*, thus leaving it so that it may be forced out and the partitions B B in these three links removed. This may be done whenever it is desired to lengthen or shorten the chain, as it thus admits of separating these links and either leaving out the middle one of the three to shorten the chain or inserting one or more links to lengthen it. This is an important advantage. In this respect it will be seen that the function of the partition and pin is merely as a fastening for the plates *h h*, to enable them to be removed or replaced.

I will now describe the modification shown in Figs. 10 and 11.

Fig. 10 is an inverted plan, and Fig. 11 is a side elevation, of the chain. This differs from that already described, in that the ends of the links do not enter the middle of the adjoining links, but abut against their sides. The pivot-pins or projections *a a* are not attached directly to the ends of the links, but are joined thereto through the medium of a short slender arm, *l*, and the slots *e e* are very narrow, being only wide enough to freely admit this arm *l*, all of which is best shown in Fig. 10, where one of the links is partly in section. This construction is subject to the disadvantage that the abutting end of one link is liable to chafe the middle portion of the next, thus leaving a mark of wear thereon. The projections *a a* are entered through a slot, which is closed by soldering into it a plate, *h*.

It will be observed that each link of my improved chain is, in fact, a lever fulcrumed at

its middle to the ends of the adjoining links by slotted fulcra, and likewise joined at its ends to the middles of the adjoining links.

In case it should be desired to make a chain that would bend to either side of a straight line, the links, instead of being made with a flat bottom, *b*, would be curved on the bottom as well as on the top, as shown in Fig. 12, in order that the slots *e e* might be extended below the line of the pivots. This involves no departure from my invention.

It is not essential that the links be thinner at their ends than at their middles, nor that they shall be of curved form, nor that the ends of each link shall abut against the middles of the adjoining links endwise, as shown, since they might abut sidewise to like effect.

I claim as my invention—

1. A chain wherein each link is connected at its ends to the middles of the adjoining links and the latter are connected at their ends to its middle, substantially as set forth.

2. A chain consisting of hollow links, each formed with projections on its ends, and with slots in its middle portion adapted to receive corresponding projections on the ends of the adjoining links, and each link connected at its end to the middles of the two adjoining links, and connected at its middle to the ends of the adjoining links, substantially as set forth.

3. A chain consisting of hollow links, each formed with projections on its ends, and with slots in its opposite sides at its middle portion to receive corresponding projections on the ends of the adjoining links, and with a partition fixed in it between said slots, for the purposes specified.

4. A chain consisting of hollow links, each formed with lateral projections *a a* on its ends, and with a slot or opening, *e*, on each side at its middle, of sufficient width to admit the end, and each link connected at its ends to the middles of the two adjoining links, and connected at its middle to the ends of the adjoining links, substantially as specified.

5. A chain consisting of hollow links, each formed with lateral projections on its ends and with slots in its sides, and with supplementary slots *g g* to admit said end projections, and plates *h h*, closing the slots *g g*, and fastening device, substantially as described, for retaining said plates in place in said slots.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN OBRIG.

Witnesses:

ARTHUR C. FRASER,  
GEORGE H. FRASER.