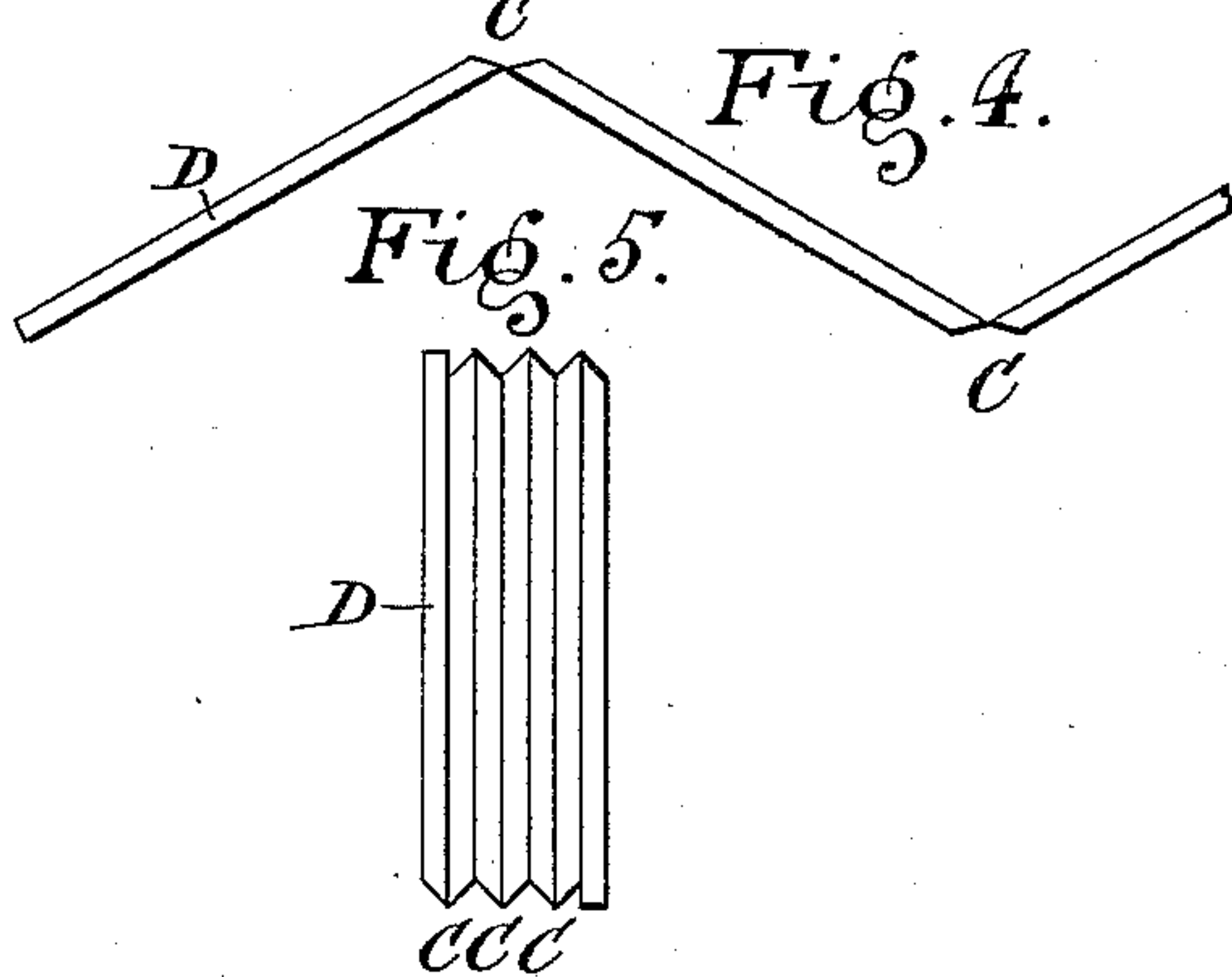
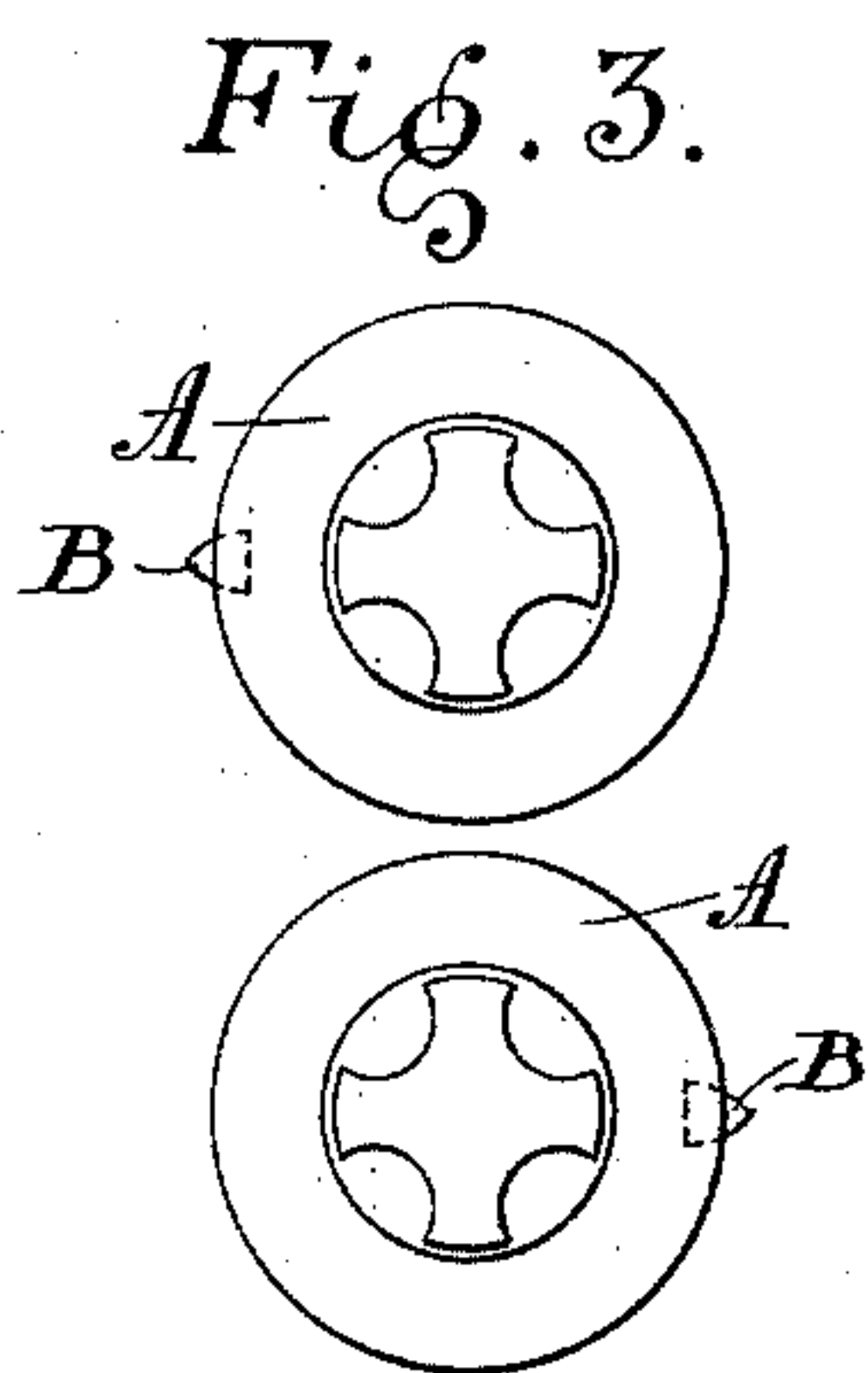
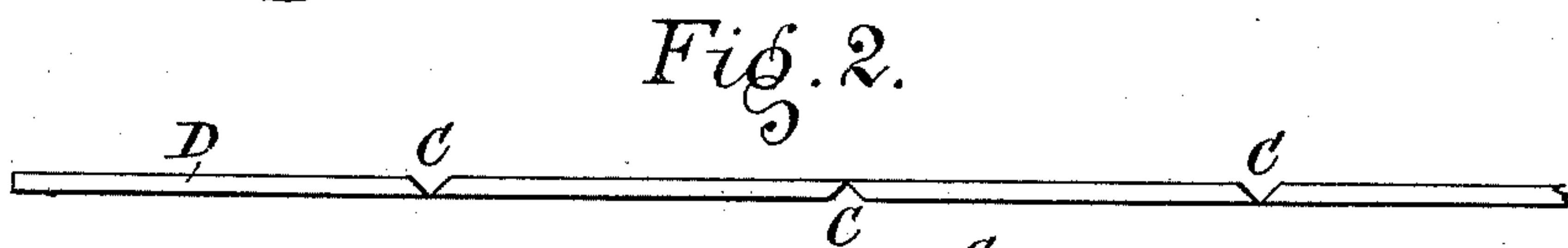
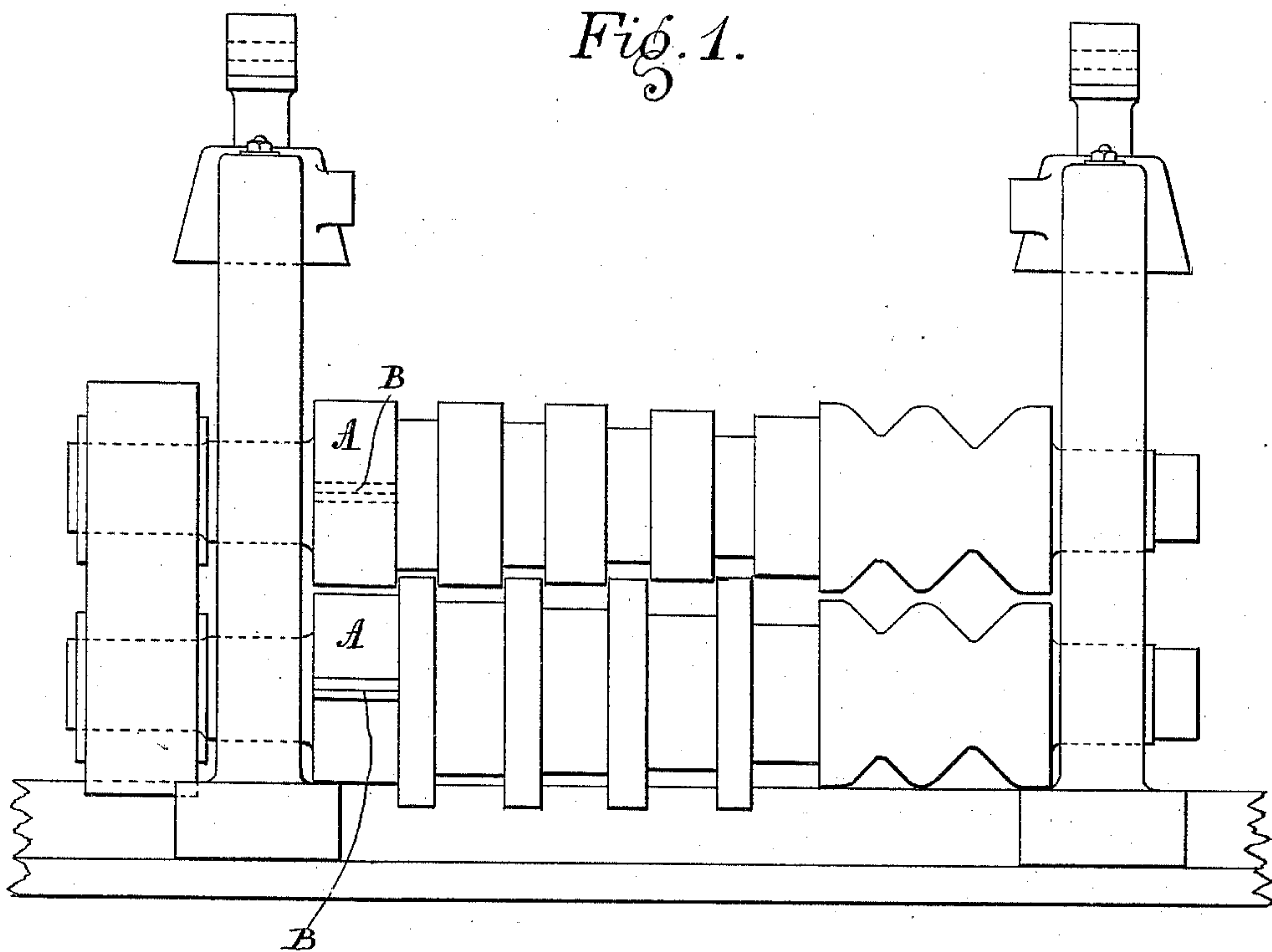


(No Model.)

R. R. GUBBINS.
PILING PUDDLE BARS.

No. 426,443.

Patented Apr. 29, 1890.



Witnesses.
Gerey. R. Jones.
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UNITED STATES PATENT OFFICE.

RICHARD R. GUBBINS, OF BELVEDERE, COUNTY OF KENT, ENGLAND.

PILING PUDDLE-BARS.

SPECIFICATION forming part of Letters Patent No. 426,443, dated April 29, 1890.

Application filed January 31, 1890. Serial No. 338,822. (No model.) Patented in England October 12, 1889, No. 16,109.

To all whom it may concern:

Be it known that I, RICHARD RUSSELL GUBBINS, a subject of the Queen of Great Britain, residing at Hourah Lodge, Belvedere, in the county of Kent, England, have invented a new and useful Improvement in Piling Wrought-Iron Puddle-Bars and the Like, (for which I have obtained a patent in Great Britain, No. 16,109, bearing date October 12, 1889,) of which the following is a specification.

My invention relates to improvements in piling or preparing the puddle-bar previous to its being reheated and rolled into finished iron; and it consists, mainly, in denting the said bar while hot in such a manner that it is nearly cut in two upon opposite sides and at regular intervals apart. The effect of thus almost cutting the bar in two on opposite sides is that it readily assumes a zigzag form and can upon applying pressure to it in the direction of its length be easily and speedily folded together to be in the form of an ordinary puddle-bar pile. If there are too many folds or layers in it, some of them may be easily removed, as they are attached to each other by a very light connection. If the pile be too small, a piece or two or more may be laid on top of the folded ones in the usual way, and thus piles of any weight may be readily made. The folded pile, it will be noted, is hot, and as it can be immediately put in the reheating-furnace it is clear that a great saving of heat follows the use of this system of working as compared with the old one. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents the front elevation of the rolls with the knives B on the top and bottom rolls A A. Fig. 2 denotes the iron bar D cut by knives at C C C. This figure is broken off at one end for want of space. Fig. 3 is the end elevation of rolls A A. Fig. 4 represents a portion of the puddle-bar in a zigzag form. Fig. 5 is the puddle-bar folded together for passing into the reheating-furnace.

In carrying out my invention I provide a pair of rolls A A, mounted in housings in line with and driven by the roughing-rolls. These I shall call the "piling-rolls" when referring to them in this specification. I make an open

"pass" between said rolls A A of such size that the puddle-bar made by the roughing-rolls can go easily through it without touching its sides, being just nipped enough to be carried through without being much elongated.

On each of the piling-rolls parallel with its axis and traversing the aforesaid pass I fix a thick edged knife B, taking care that the edge of same does not touch the surface of the other piling-roll as the pair revolve. The two knives B B are fixed in relation to each other, each on its own roll, so that when the puddle-bar is sent through the pass in the said piling-rolls A A, the knives B B very nearly cut it in two at regular intervals, but from opposite sides, as in Fig. 2. If an inclined surface is presented to its end as it leaves the rolls, so as to throw the first of the pieces into which it is almost cut to one side away from the indentation C made by the blade B aforesaid, the bending of the first piece will throw over the second the opposite way, the second will act the same way on the third, and so on to the end, the bar being folded up into a compact mass, as in Fig. 5, (ready to be reheated,) by the mere pressure of its leaving the piling-rolls. It may be, however, folded as required by tongs with very little trouble, and this may be found the most convenient way when a quantity of piles are wanted of the same weight, as when manufacturing bar-iron.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the piling-rolls A A and the knives B B, fixed on the piling-rolls for cutting almost in two the puddle-bar at regular intervals apart on opposite sides, substantially as herein described, and according to the accompanying drawings.

2. The process of folding a puddle-bar into a compact mass ready to be reheated, substantially as described, and according to Fig. 5.

3. As an article of manufacture, the folded pile, as shown in Fig. 5.

RICHARD R. GUBBINS.

Witnesses:

P. A. HEAD,
P. R. JONES.