

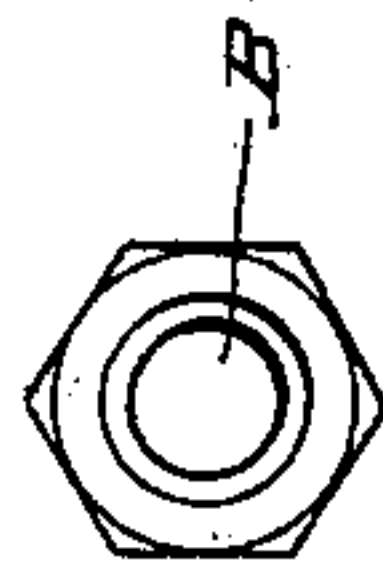
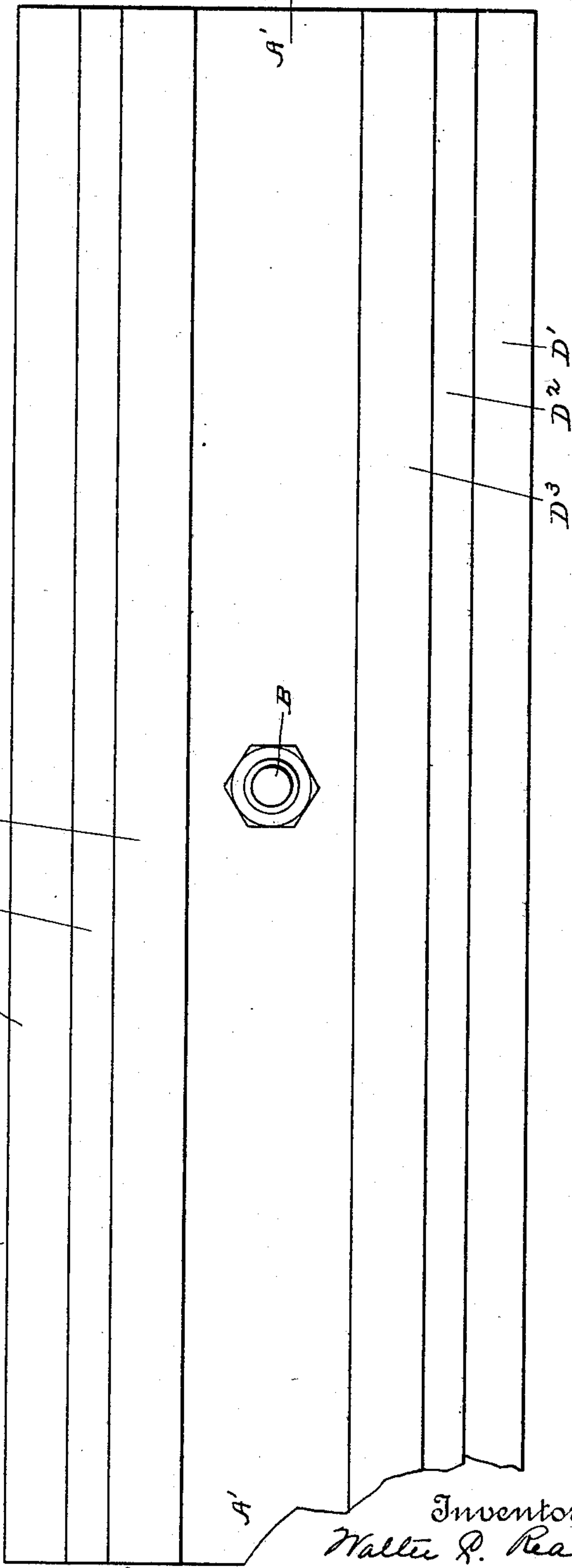
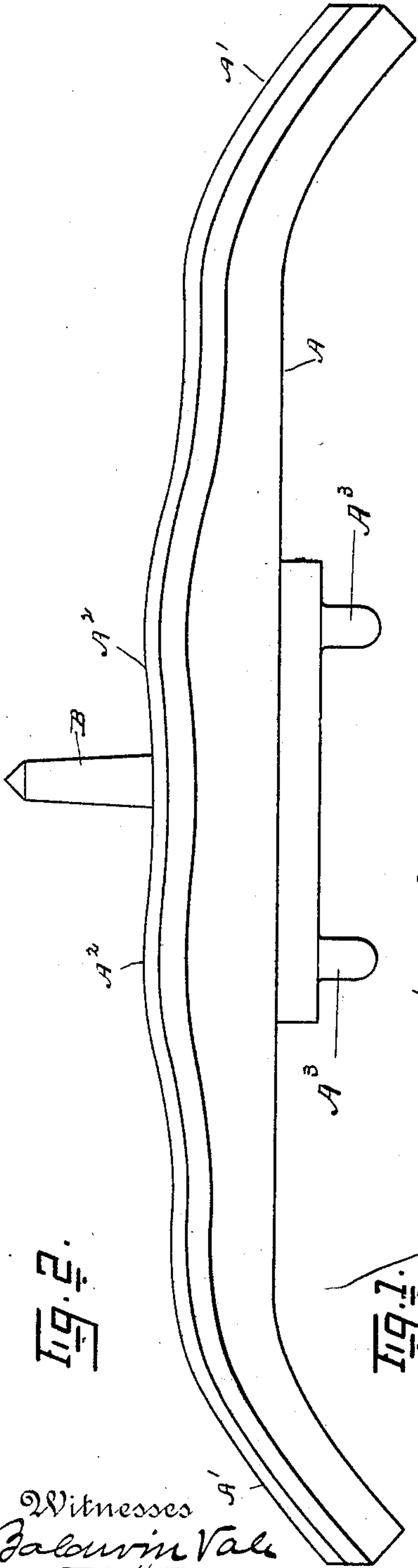
(No Model.)

2 Sheets—Sheet 1.

W. C. READ.
BRUSH MACHINE.

No. 596,716.

Patented Jan. 4, 1898.



Witnesses
Balwin Vale
Norman H. Keller

By his Attorneys

Inventor
Walter R. Read
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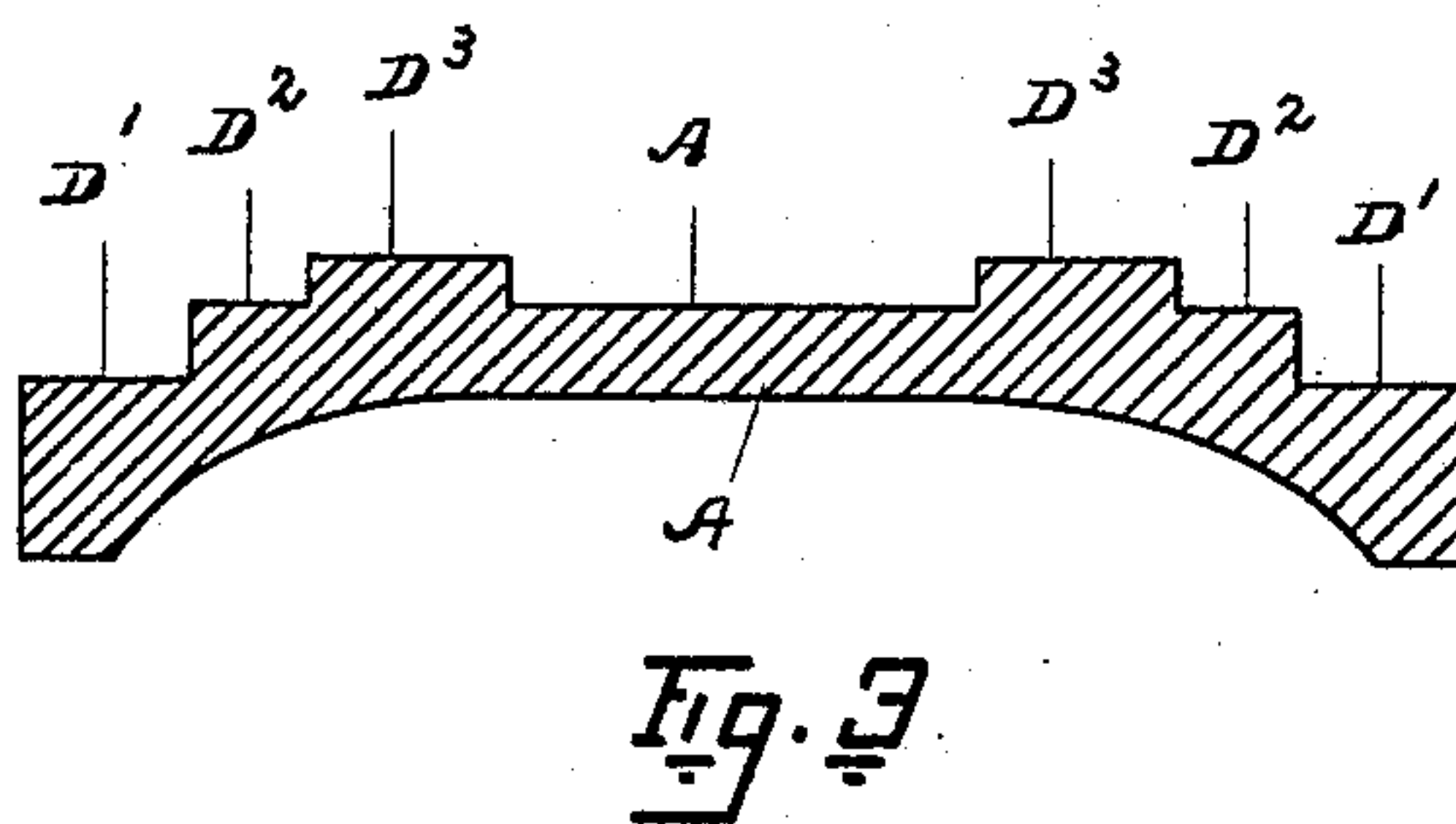
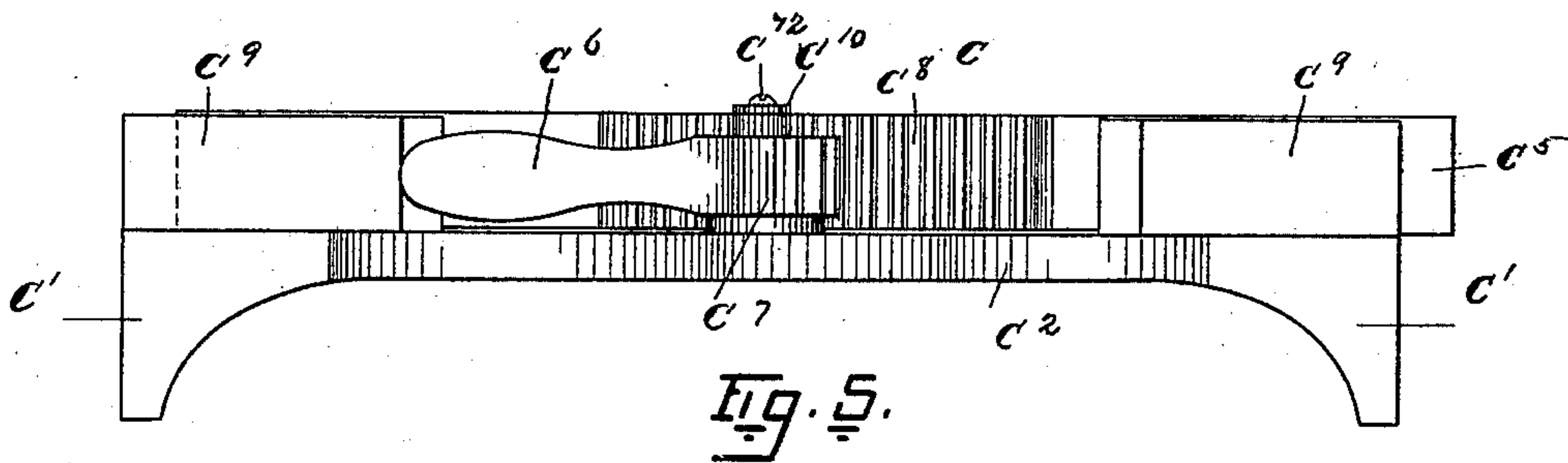
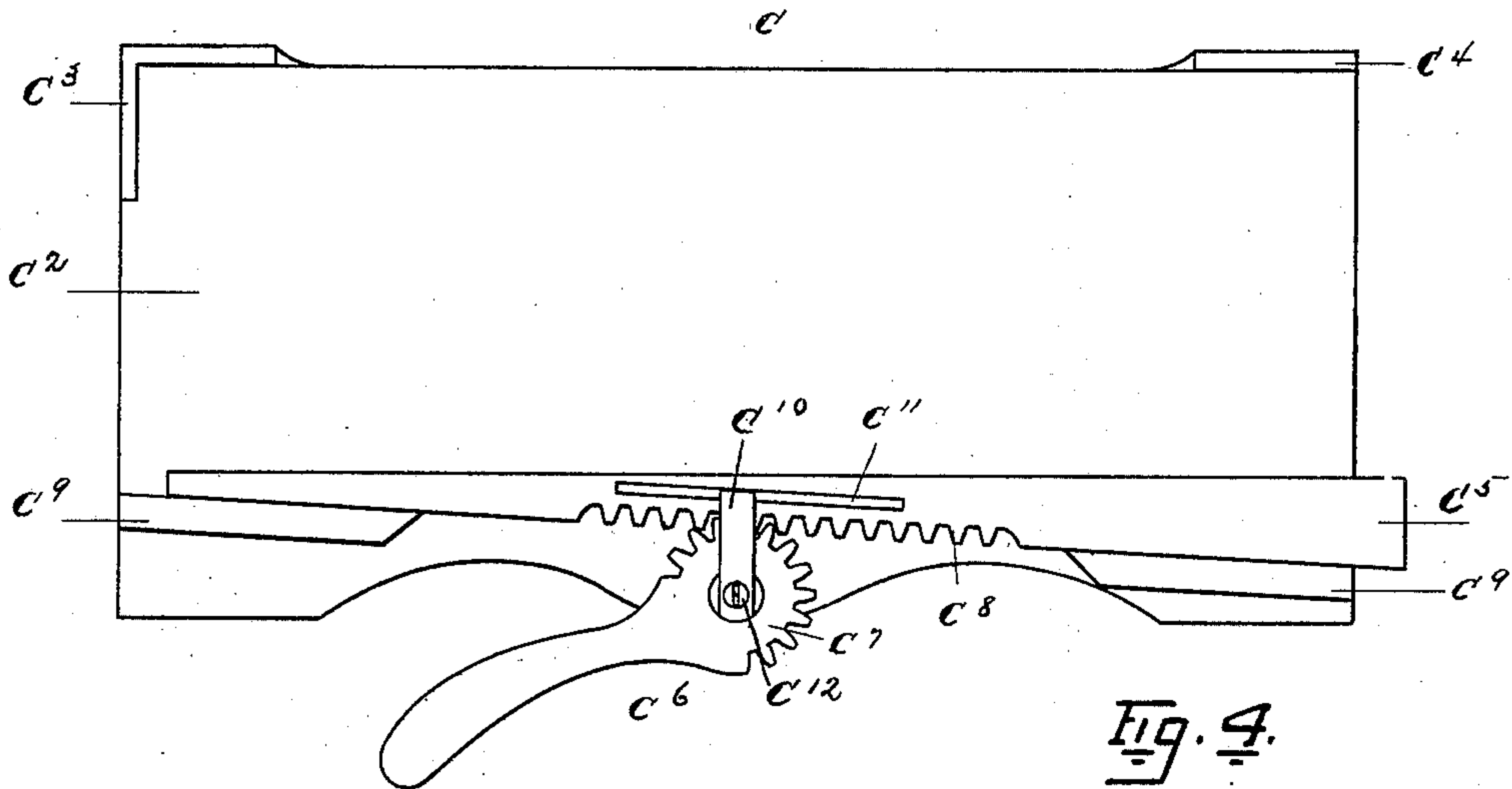
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UNITED STATES PATENT OFFICE.

WALTER C. READ, OF OAKLAND, CALIFORNIA, ASSIGNOR TO THE CLINCH BROOM MANUFACTURING COMPANY, OF SAN FRANCISCO, CALIFORNIA.

BRUSH-MACHINE.

SPECIFICATION forming part of Letters Patent No. 596,716, dated January 4, 1898.

Application filed May 27, 1897. Serial No. 638,460. (No model.)

To all whom it may concern:

Be it known that I, WALTER C. READ, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Machines for Making Brushes; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

This invention relates to improvements in machines for making brushes, and more particularly relates to the table and block-holding device which holds the backs of the brushes upon the table.

In the drawings, Figure 1 is a plan view of the table. Fig. 2 is a side elevation of the same. Fig. 3 is a cross-section of the same. Fig. 4 is a plan view of the block-holding device, and Fig. 5 is a side elevation of the same.

This invention is particularly designed to give to the completed brush the spread of the usual hand-made brush, in which tufts are put into the back at an inclination so as to spread the ends of the tufts.

With this object in view the invention consists in providing a stationary table upon which the block-holding device is rested. The block-holding device is provided with registering devices, so that the tufts will be placed in the proper perforations with which the block is provided to receive them.

The table and block-holding device constructed in accordance with this invention are shown in the drawings, in which the letter A is used to designate the table. The table is elongated, as shown in plan view, Fig. 1, and it is formed with the curved surface extending lengthwise, as shown in Fig. 2. In the center of this table and extended from the upper side thereof is a pin B, the end of which it is designed to fit within depressions formed in the under side of the holding device C, which serves as a templet to guide the operation of the machine. The table A is something more than twice the length of the holding device C, so that when the holding device is thrown to the extreme positions to permit the end holes of the block to come under the

machine for inserting the tufts the outer end of the holding device will rest upon the end of the table A. The outer or extreme ends of the table A are given the curves A' A'. These curves permit the legs C' of the holding device to be depressed, while the end perforations of the block resting over the registering pin B are inclined, and as the position of the block is changed longitudinally the angle of the inclination is gradually increased or diminished as the block is moved to or from the ends A' A', according to the curve of the surface of the table at these ends. In being thus shifted it is evident that the tufts of the brush are given a gradual spread or inclination from the upper surface of the block to the outer ends. This produces in the finished brush a gradual rounded or spread end, permitting the brush to have an enlarged operating-surface for the ends of the tufts. The raised central portion A² of the table is provided to receive the legs of the block-holding device at the end of the block being operated upon while the other legs are depressed, it being designed that at every point in its position upon this table the block-holding device shall rest all four of its legs firmly upon the table A when the registering pin B is set within any of the depressions in the under side of the block-holding device.

While a table provided longitudinally with the curved surface above described would operate to produce a finished brush in which the end tufts would be spread longitudinally, it would not, however, spread the tufts along the sides of the block or back. It is to produce this latter effect that the table is provided with the narrow surfaces or steps D' D² D³. On these steps are provided the same contour on the upper surface as that above described with reference to the table A, of which they form a part. In its level position the legs of the block-holding device C rest upon the intermediate steps D² D², while as it is shifted from side to side across the table the legs successively are on the step D³ on the one side of the block-holding device and on the step D' on the other side of the block-holding device. In this position the perforations to receive the tufts are presented at an

incline to the surface of the block or back of the brush, and the tufts are caused thereby to produce a spreaded appearance when attached to the block or back.

5 The table A may be provided with any number of the steps, according as the width of the brush is desired, and the spread of the tufts of the same are regulated; also the number of steps may be diminished so as to
10 produce the spread effect of the tufts in the outer first or second line of the tufts along the side of the brush.

The block-holding device C, before referred to, is constructed of metal as light as possible.
15 It consists of the bottom C², the under side of which, as before stated, is provided with a series of perforations to form a templet for the registering of the perforations in the block with the machine for manufacturing the
20 brush, which is described in a former application, filed the 6th day of August, 1896, and bearing Serial No. 601,908. At each corner of this block-holding device it is provided with legs C¹ and at the two outer upper cor-
25 ners with the raised flanges C³ C⁴. The former of these upper flanges is that by which each of the blocks is set, being used as a guide for placing the blocks within the holding device. When the block rests firmly in
30 the corner formed by the flange C³, all of the perforations in the block must register with the depressions in the under side of the holding device by reason of the fact that the blocks have been bored while held in the holding
35 device and on the table A. The blocks are held rigidly in the holding device C by means of the wedge C⁵, which is thrown forward and backward by the lever C⁶. The lever C⁶ is pivotally mounted on the bottom C² of the
40 holding device and is provided with a segmental toothed end C⁷, which meshes with the short rack C⁸, formed on the back of the wedge C⁵. By means of this engagement the wedge is shifted longitudinally. The inner
45 surface of the wedge C⁵ is maintained at all times parallel to the line drawn between the inner surface of the flanges C³ C⁴, while the outer surface of the wedge C⁵ is parallel with the flanges C⁹, which latter are set at an
50 angle to the line drawn between the flanges C³ C⁴. The effect of this is evident that when the wedge is thrown forward it rides upon the flanges C⁹ and is thereby extended forward into the space between the flanges C⁹ and C³
55 C⁴, shortening the distance between the same

and clamping firmly the back of the block, which is raised on the bottom C² between them. The reverse operation of the lever C⁶ has the reverse effect, which is to withdraw the wedge C⁵ from contact with the block and
60 permit the same to be withdrawn from the holding device. The wedge is maintained in position against the flanges C⁹ by a clip C¹⁰, which is stationarily mounted on the pivot of the lever C⁶ and the end of which is bent
65 downward to extend into a groove or slot C¹¹, formed in the upper surface of the wedge C⁵. The clip C¹⁰ is secured in position by a set-screw, so that at any time the wedge may be
70 advanced or receded in its normal position by releasing the set-screw C¹² and moving the clip C¹⁰ and readjusting the wedge lengthwise, so that its first engagement with the segment
75 C⁷ will be in a different position, either further advanced or receded. By this means provision is made for the handling of blocks of various widths.

The table A, upon which this holding device is operated, is set out from the machine stationarily on brackets A³ A³, though any other
80 stationary holding construction may be substituted therefor.

Having thus described this invention, it is claimed—

1. In a brush-making machine a block-
85 holding device provided with suitable legs or rests extended from the under side thereof, in combination with a stationary table the upper surface of which is curved longitudinally to produce in the said holding device
90 different angles when resting on different portions of the table and being further provided along the sides with steps corresponding on both sides and being separated the width of the legs of the said holding device, substan-
95 tially as described.

2. In a brush-making machine a block-holding device consisting in the combination of a suitable frame provided with legs extended from the bottom thereof, a movable
100 wedge-shaped side provided on back with a rack-bar, and a lever having at the pivoted end thereof segmental-toothed gear to engage the said rack-bar, substantially as described.

In testimony whereof I have hereunto set
105 my hand this 12th day of May, 1897.

WALTER C. READ.

Witnesses:

BALDWIN VALE,
NORMAN MCKELLAR.