

(No Model.)

2 Sheets—Sheet 1.

M. E. LYON.  
COMPOSING STICK.

No. 468,504.

Patented Feb. 9, 1892.

Fig. 1.

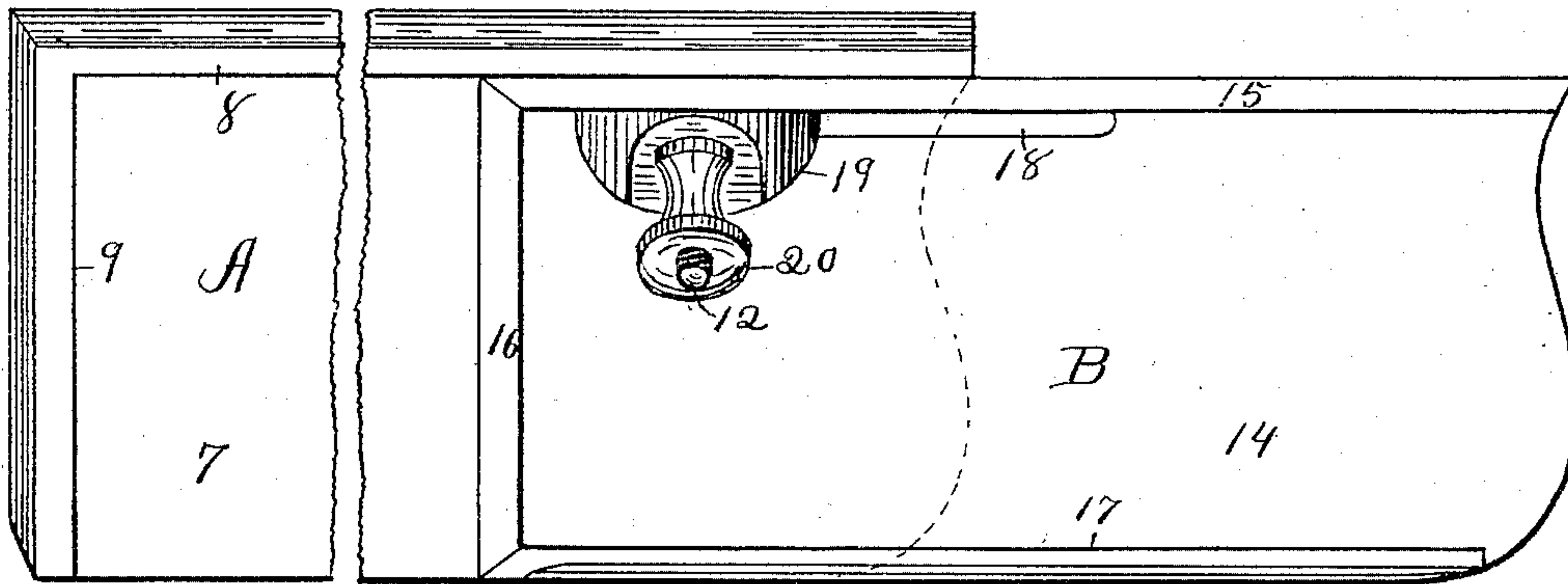


Fig. 2.

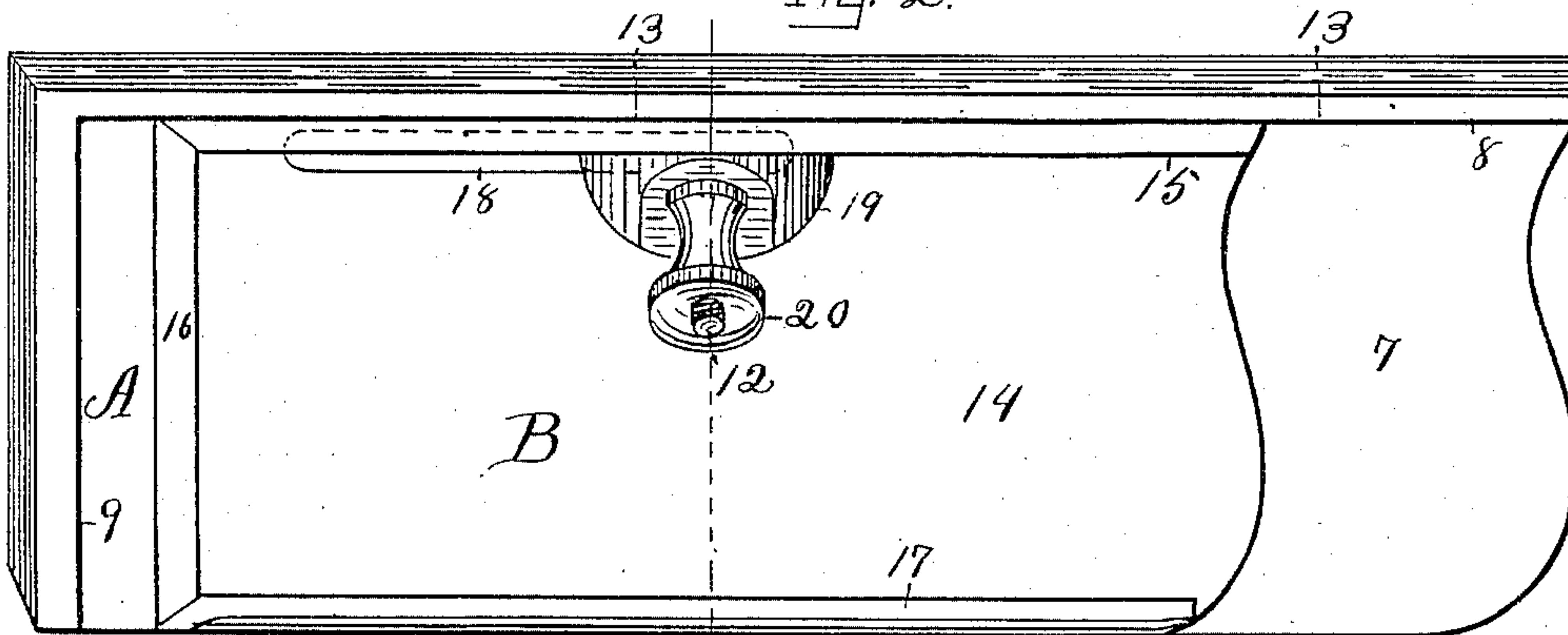
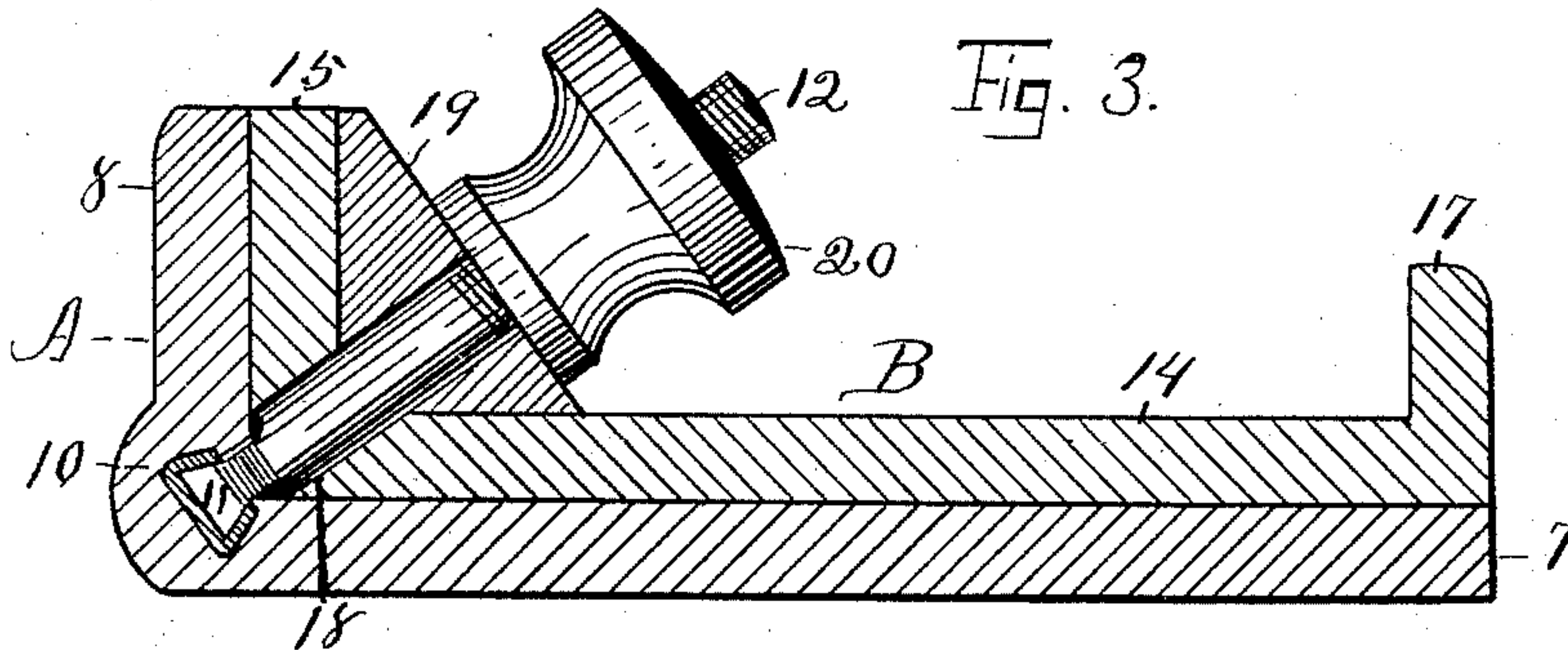


Fig. 3.



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By James Shepard  
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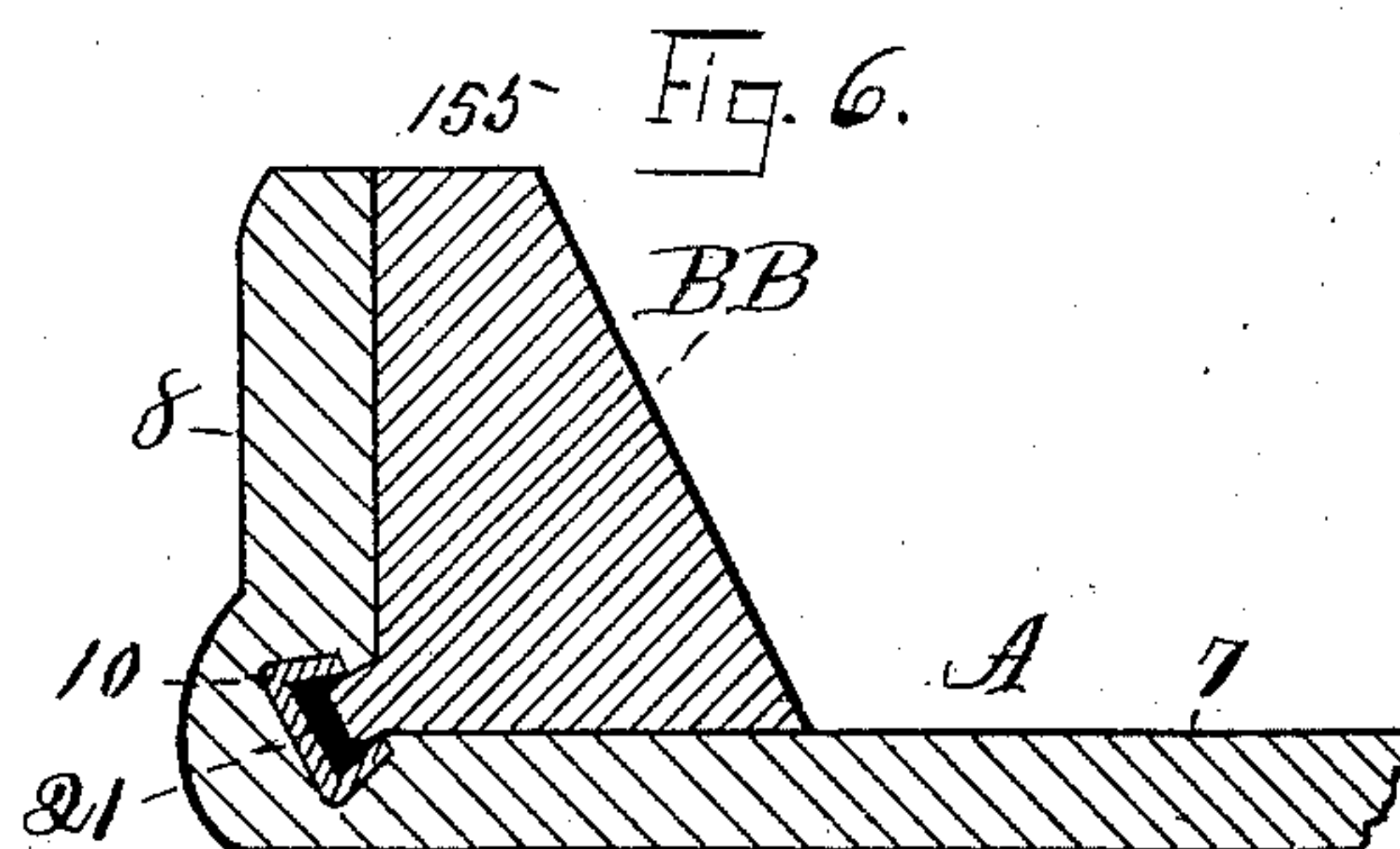
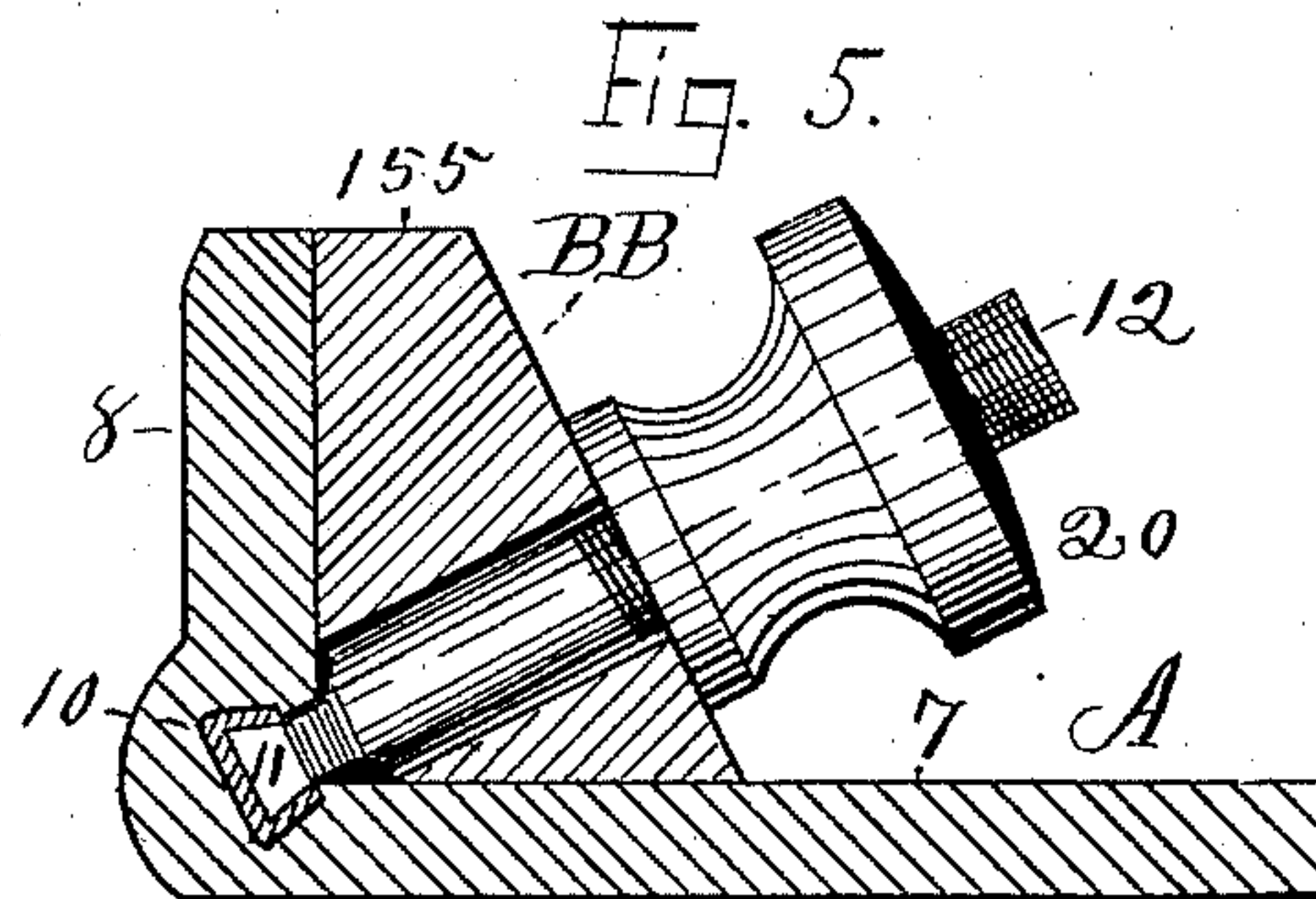
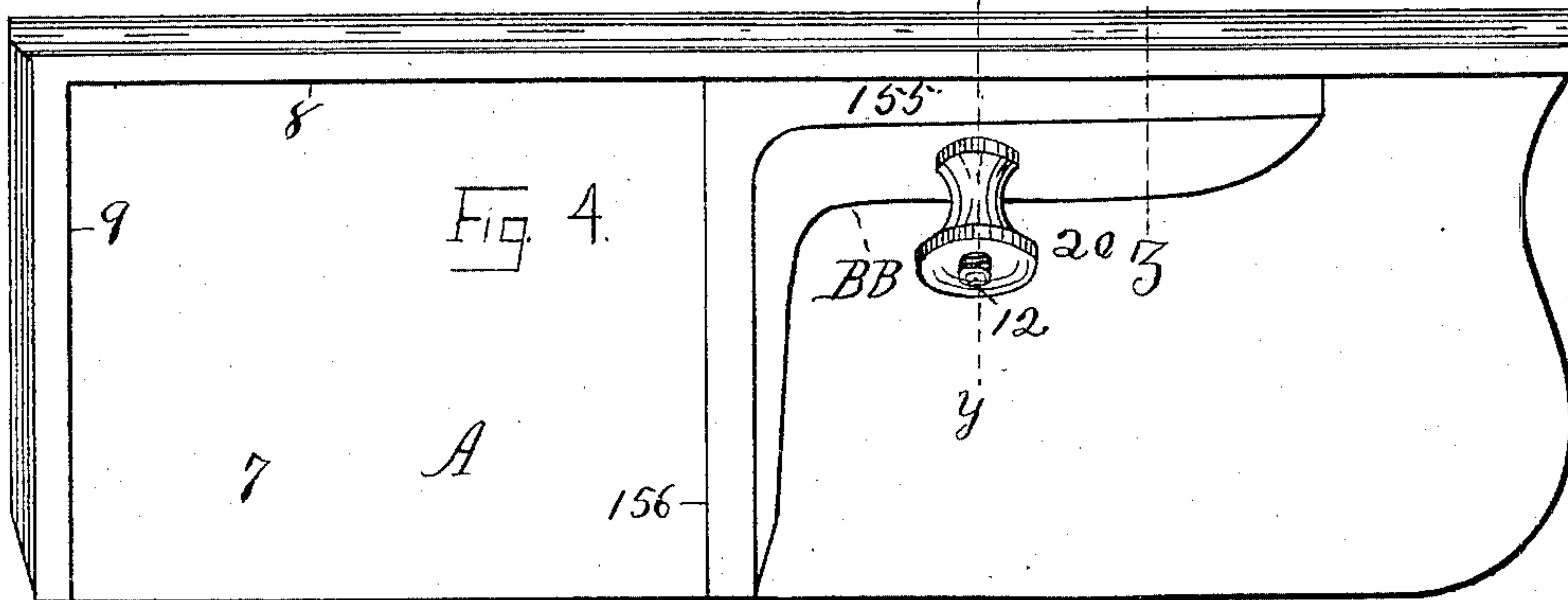
(No Model.)

2 Sheets—Sheet 2.

M. E. LYON.  
COMPOSING STICK.

No. 468,504.

Patented Feb. 9, 1892.



Witnesses.  
Hilmer Swenson  
W. M. Holbrook

Inventor.  
Marcus E. Lyon  
By James Shepard  
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# UNITED STATES PATENT OFFICE.

MARCUS E. LYON, OF MIDDLETOWN, CONNECTICUT, ASSIGNOR TO WILLIAM H. CHAPMAN, GEORGE D. CHAPMAN, AND E. HENRY BARNES, OF SAME PLACE.

## COMPOSING-STICK.

SPECIFICATION forming part of Letters Patent No. 468,504, dated February 9, 1892.

Application filed July 15, 1891. Serial No. 399,664. (No model.)

*To all whom it may concern:*

Be it known that I, MARCUS E. LYON, a citizen of the United States, residing at Middletown, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Composing-Sticks, of which the following is a specification.

My invention relates to improvements in composing-sticks; and some of the objects of my improvement are to make said sticks mainly of hard rubber, to utilize the extended knee for lengthening the stick, to firmly pull the knee down against both the back and bottom of the stick-body, and, in general, to improve the construction.

In the accompanying drawings, Figure 1 is a plan view of my stick with the knee extended, a part of the body of the stick being broken out. Fig. 2 is a plan view of the same with the knee adjusted to nearly the opposite extreme from the position shown in Fig. 1. Fig. 3 is an enlarged transverse section of the same on the line  $xx$  of Fig. 1. Fig. 4 is a plan view of my stick with the ordinary form of knee. Fig. 5 is an enlarged section of a portion of the same on the line  $y$ , Fig. 4; and Fig. 6 is a section on the line 3 of Fig. 4.

I make my stick mainly of hard rubber, the bottom 7, back 8, and end 9 of the body part A having the general form of an ordinary stick. At the inside corner of the back and bottom and mainly above the bottom I form a slot or groove that faces obliquely upward and is provided with overhanging side walls that constitute longitudinal ways 10 to receive, hold, and guide a correspondingly-shaped head 11 of the clamping rod or bolt 12.

When the stick is made of hard rubber, I prefer to make the ways 10 of a separately-formed strip of metal to be set in the mold and vulcanized in, as shown in Figs. 3, 5, and 6, and in order to save making an enlargement in the slot for inserting the head 11 of the clamping-rod 12 said head may be slipped into said ways before setting them in the mold. The length of the ways in that form of my stick illustrated in Figs. 1, 2, and 3 is indicated by the broken lines 13 in Fig. 2.

The knee B, Figs. 1, 2, and 3, is provided with a bottom or body 14, a back flange 15, an end flange 16 at right angles thereto, and a

front handle-flange 17. Said knee B is also provided with a longitudinal slot or opening 18, extending obliquely through its rear corner, the general contour and length of the slot being indicated by combined full and broken lines in Fig. 2. The clamping-rod extends through this oblique slot in the knee, and is provided with a washer-block 19 and a clamping device for holding on said rod—as, for instance, a nut 20. The front handle-flange 17 on the knee always forms a convenient and easy rest for the compositor's hand in holding the stick, and when it is extended, as shown in Fig. 1, it not only serves as a handle, but also in effect lengthens the stick just the amount of its projection. In adjusting the knee to the opposite end of the stick, as shown in Fig. 2, the clamping-nut is loosened, the head 11 of the rod 12 moved along in its ways, and the slotted knee slipped along on said rod. The nut is then tightened to pull the knee obliquely downward against both the bottom and the back of the stick, while at the same time there is no projection to be in the way at the outer edges. By slotting both the body part and the knee I am enabled to make the slot and ways in the body part much shorter.

In Figs. 4, 5, and 6 I have shown the ordinary form of knee B B, having angle-arms to form the back flange 155 and end flange 156. The back flange is beveled off to form a proper seat for the nut 20, and the opening that extends obliquely through its rear corner is in the form of a mere perforation instead of a slot to let the clamping-rod pass obliquely through it. I prefer, also, to form a web or tongue 21, Fig. 6, at the rear lower corner of the back flange for a portion of the length and fit said tongue to the space between the ways to assist in guiding the knee. The way and the clamping-rod are the same as first described, excepting that they must be longer if the knee is to have the same range of adjustment. It is also evident that the knee B first described may be like the knee B B, simply perforated instead of slotted, provided the uses of the stick do not require so great a range of adjustment, or if the same range of adjustment is required the ways may be made longer. Shorter ways are, however, to be pre-



ferred, as they are cheaper to form and do not materially weaken the stick. By making the stick of hard rubber it is very light and durable. The ways for the clamping-bolt may  
5 be separately formed and vulcanized in, thereby forming them at small cost.

The implement is very efficient, convenient, and substantial.

I am aware that prior patents show composing-sticks having slots and ways in the back  
10 that open directly toward the front and clamping-rods which stand at a right angle to the back in one case and to the bottom in another and devices for pulling on said rods to pull  
15 the knee down on the bottom in one case and back against the back in the other, while still another patent shows a clamp in the form of a yoke that extends over the back side and  
20 also to the front over the back of the knee, where it is provided with a set-screw for forcing the knee both against the bottom and back of the body part. All of said prior art is here-

by disclaimed. By my improvement I attain all the advantages of said prior art, besides  
25 many others, while at the same time I avoid the many disadvantages of the same.

I claim as my invention—

A composing-stick consisting of the body part having bottom, back, and end, with a  
30 longitudinal slot or groove at the inside corner of the back and bottom that faces obliquely upward and whose walls form longitudinal ways, a knee fitted to said body part and provided with an opening extending ob-  
35 liquely through its rear corner, an oblique clamping-rod having its head within said ways while said rod extends through the oblique opening in said knee, and devices for pulling on said rod, substantially as described,  
40 and for the purpose specified.

MARCUS E. LYON.

Witnesses:

THEODORE B. AVERY,  
JAMES H. NEALE.