

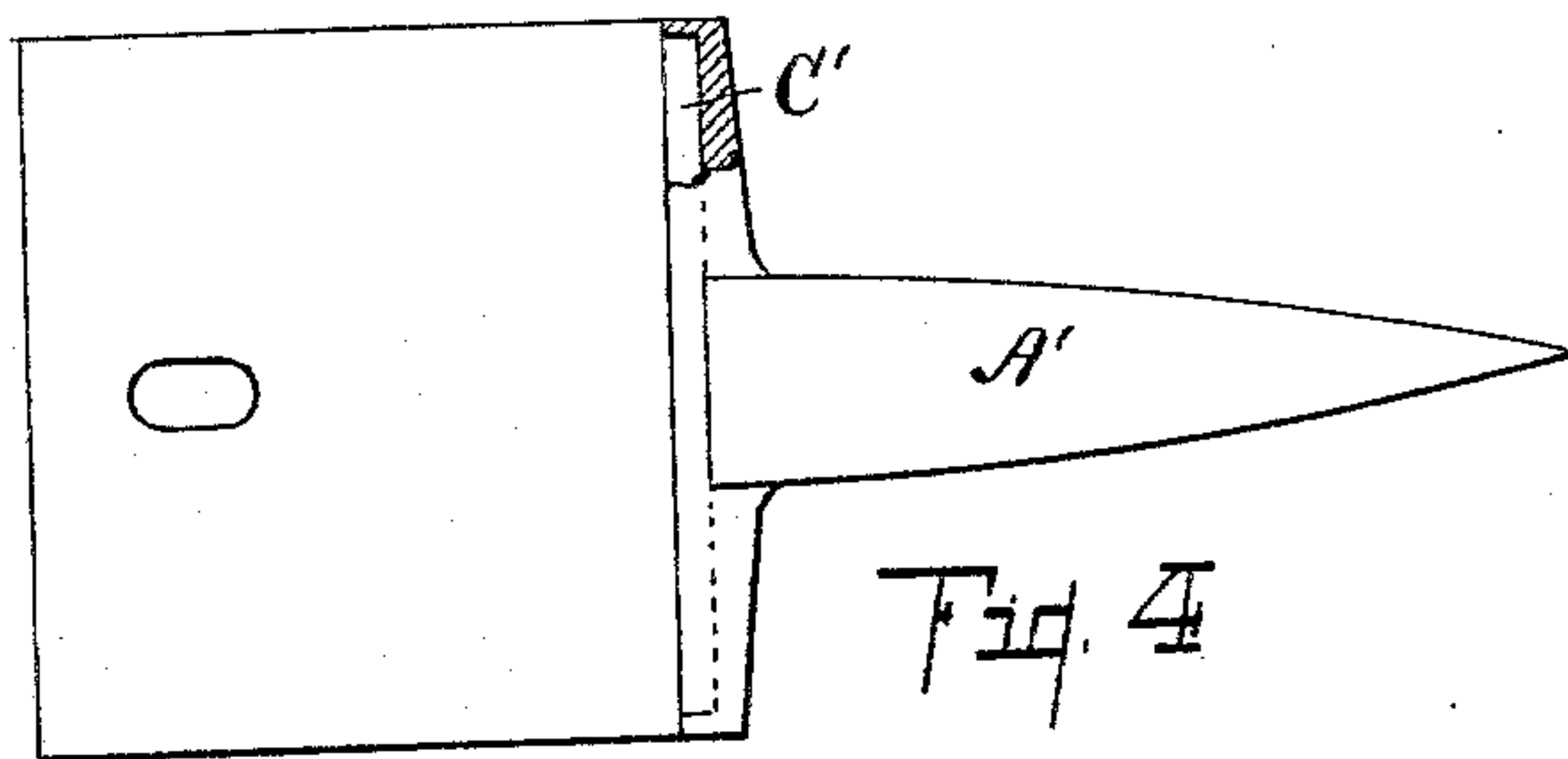
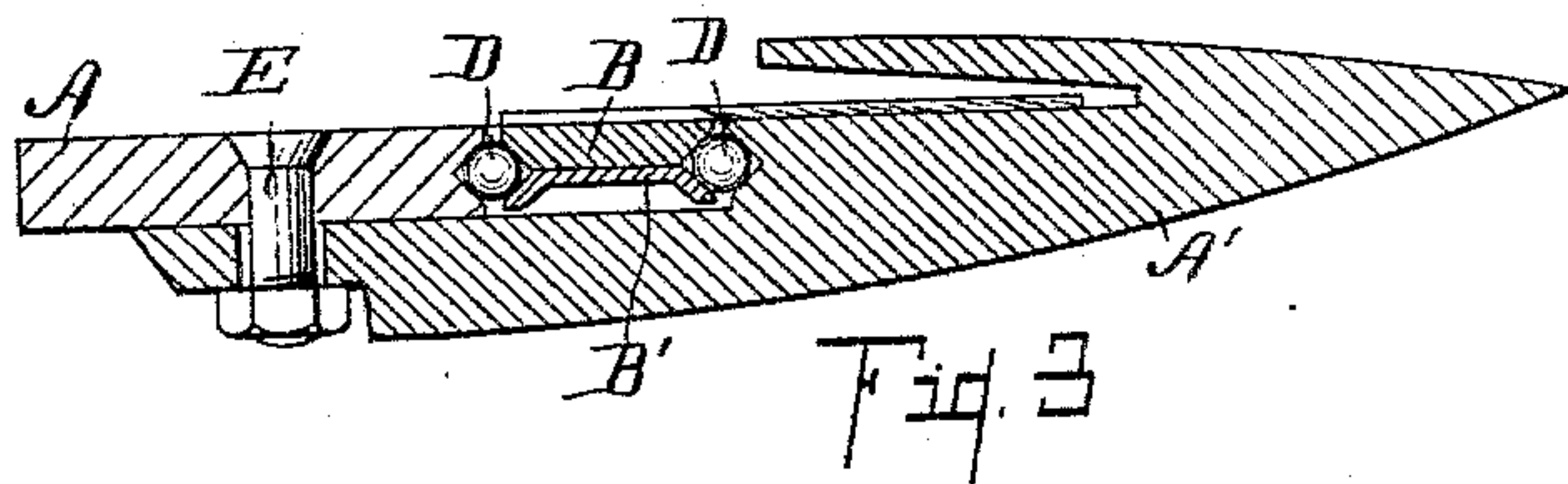
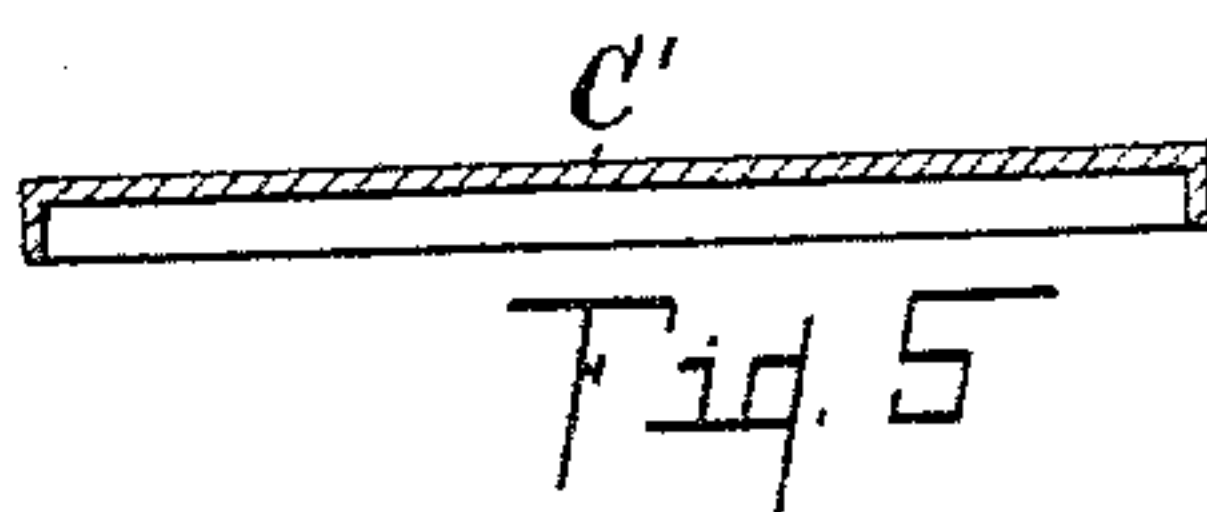
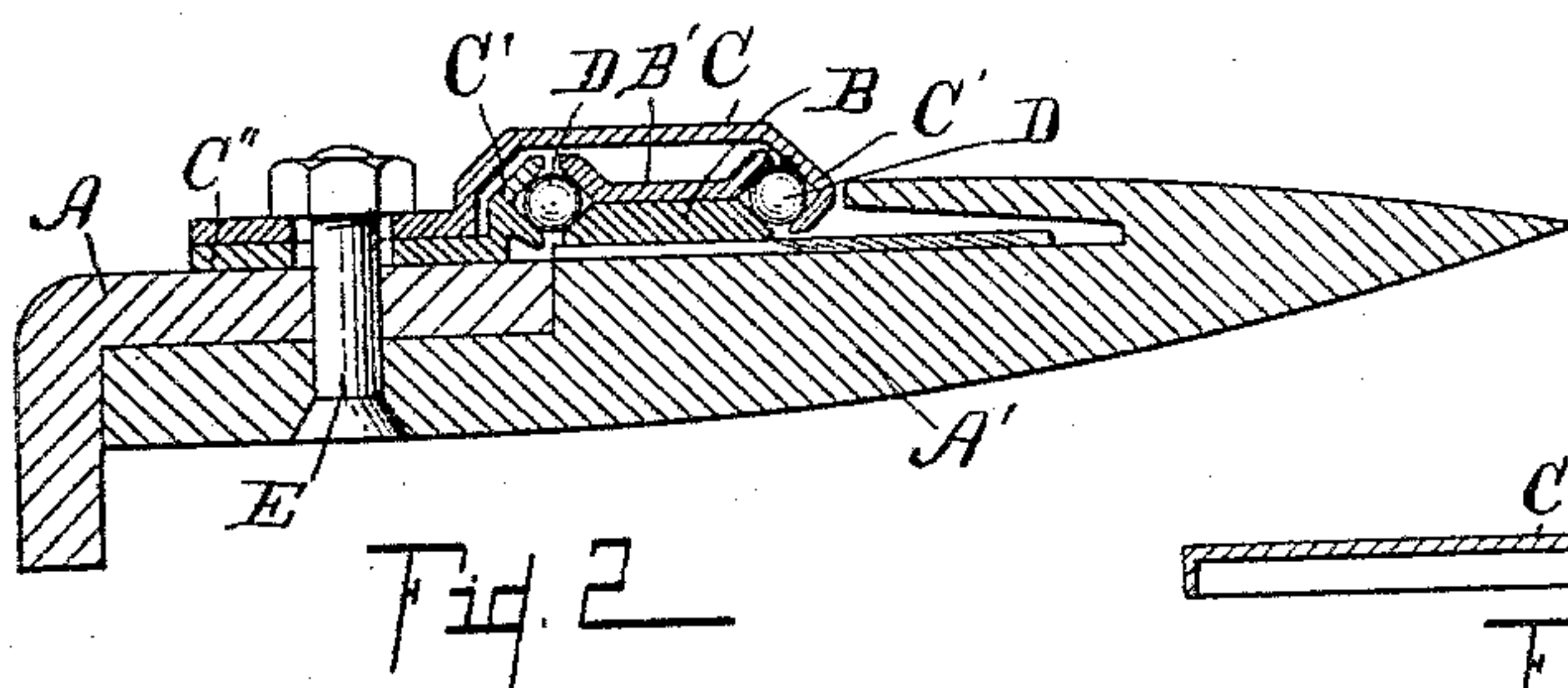
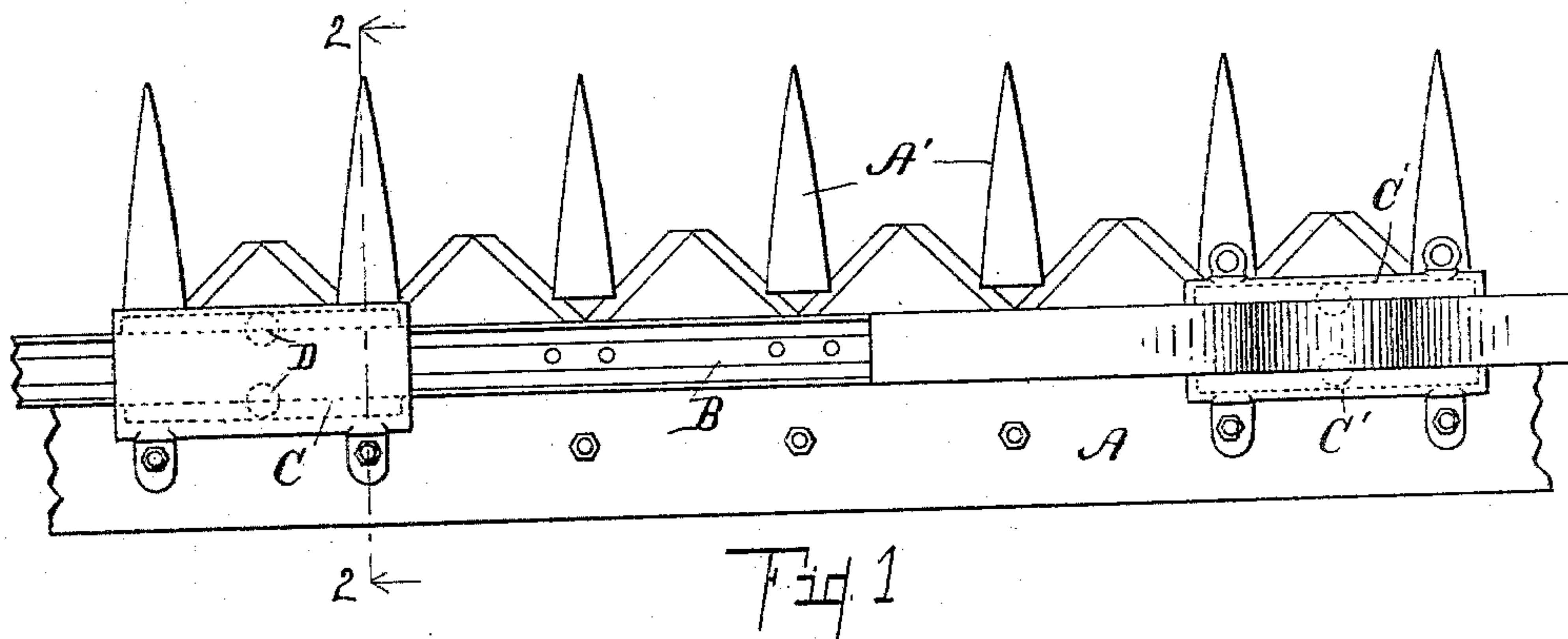
(No Model.)

S. DOUGLASS.

CUTTING MECHANISM FOR HARVESTERS OR MOWERS.

No. 597,400.

Patented Jan. 18, 1898.



Witnesses:

Walter S. Wood  
Vern E. Chappell.

Inventor,

Samuel Douglass  
By Fred L. Chappell  
Att'y.



# UNITED STATES PATENT OFFICE.

SAMUEL DOUGLASS, OF TEXAS, MICHIGAN.

## CUTTING MECHANISM FOR HARVESTERS OR MOWERS.

SPECIFICATION forming part of Letters Patent No. 597,400, dated January 18, 1898.

Application filed July 9, 1896. Serial No. 598,530. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL DOUGLASS, a citizen of the United States, residing in the township of Texas, in the county of Kalama-  
5 zoo and State of Michigan, have invented a certain new and useful Cutting Mechanism for Harvesters or Mowers, of which the following is a specification.

My invention relates to improvements in the  
10 cutting mechanism for reaping and mowing machines. As heretofore constructed this part of a reaper or mower has been the part which has consumed the greatest amount of energy by friction. Large quantities of oil  
15 or other lubricant were applied at short intervals and were soon worn out and wasted, owing to the peculiar and necessary location of the parts. The objects of my invention are to overcome these objections and to provide a ball-bearing for the cutter-bar which shall support the same so that it will not have a sliding contact with its support; and there  
20 are still further objects, which will definitely appear in the detailed description. I accomplish these objects of my invention by the devices and means described in the following specification and illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of a cutting  
30 mechanism for harvesters embodying the features of my invention. Fig. 2 is an enlarged sectional view on line 2 2 of Fig. 1, looking in the direction of the little arrows at the end of the section-line. Fig. 3 is a similar sectional  
35 view of the structure as applied to a mowing-machine. Fig. 4 is a plan view of one of the guard-fingers of the mower, a portion being sectioned to show the location of the ball-races and end stop. Fig. 5 is a longitudinal  
40 section through one of the ball-races in Figs. 1 and 2, showing the end stop.

Similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the draw-  
45 ings, A represents the guard-bar. A' are the guard-fingers, which are secured thereto in any well-known manner.

B is the cutter-bar, to which the cutter-sec-  
50 tions are secured in any suitable manner. The front and back of the cutter-bar is beveled. Extending along the same is an auxiliary bar B', which serves as a reinforcement

for it and which has its front and rear edges turned away from the beveled portion and forms grooves for ball-races. Toward the  
55 outer end of the bar is supported clip C, which extends over the cutter-bar and has the ball-race C' formed on the inside of its outer end, which closes down over and corresponds with the ball-race formed on the front of the cut-  
60 ter-bar. A plate C'' is also located underneath the clip C and has a ball-race C' formed upon it that corresponds with the ball-race on the rear side of the cutter-bar. Suitable stops  
65 are at the end of the ball-races, as indicated in Figs. 4 and 5, to prevent the escape of the balls. The ball-races may be supported, as indicated to the right-hand end of Fig. 1, by a plate to each side like the plate C''. (Shown  
70 in Fig. 2.) The bolt-holes through the plate and clip are slightly elongated to permit of an adjustment of the ball-races so that the cutter-bar shall be properly supported and guided.

Fig. 2 indicates the construction in use  
75 upon reapers and harvesters. In Figs. 3 and 4 I show the cutter-bar form for use in the usual mowing-machine in which the sections are on top. The ball-races are here formed  
80 in the front edge of the guard-bar to correspond to the ball-races on the rear of the cutter-bar and in the back side of the guard-sections to correspond to the ball-races in the front of the cutter-bar, and the balls D therein are prevented from escaping by suitable stops  
85 at the end, as indicated in Fig. 4. It will be seen from this that the cutter-bar has no rubbing or sliding contact with the guard-bar or the guard-fingers, that the same has a perfect ball-bearing so located that it is substan-  
90 tially protected, and that the ball-races are sufficiently open on their under side to permit of the immediate escape of sand or grit that may possibly work into the same.

I am aware that the structure I have shown  
95 can be considerably varied, and I desire to state that such variations are contemplated by me in the production of my device and would not constitute a departure from my invention. The cutter-bar might be made of a  
100 single piece, with the ball-races grooved therein, or separate and distinct bearings for ball-races could be easily provided in the same. The adjustment of the ball-races for the balls



could be secured in other ways. I will state, however, that my experience indicates that the form I have shown possesses great merit and is superior to any other on account of its simplicity and efficacy.

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

1. In a cutting mechanism for mowers and harvesters, the combination of the guard-bars A; the guard-fingers A', secured thereto in the usual way; a cutter-bar made up of a bar B, beveled on each side, and an auxiliary bar B', with its outer edges turned opposite the beveled portion to form grooves for ball-races to the front and rear of said cutter-bar; clip C, over said cutter-bar with ball-race C', corresponding to the ball-race on the front of the cutter-bar; a plate C'', with a ball-race C', to the front to correspond to the ball-races on the rear of the cutter-bar held in place by a bolt through a slotted hole; and antifric-

tion balls D, in said ball-races all coacting substantially as described for the purpose specified.

2. In a cutting mechanism for harvesters and mowers the combination of the guard-bar and guards; the cutter-bar with ball-races formed to the front and rear sides thereof consisting of grooves opening to the front and rear; ball-races supported on the guard-bar to correspond to the ball-races on the cutter-bar and facing opposite thereto; and antifric-tion-balls D, in said ball-races engaging in the same to support and guide the cutter-bar coacting as specified.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

SAMUEL DOUGLASS. [L. s.]

Witnesses:

WALTER S. WOOD,  
V. E. CHAPPELL.