

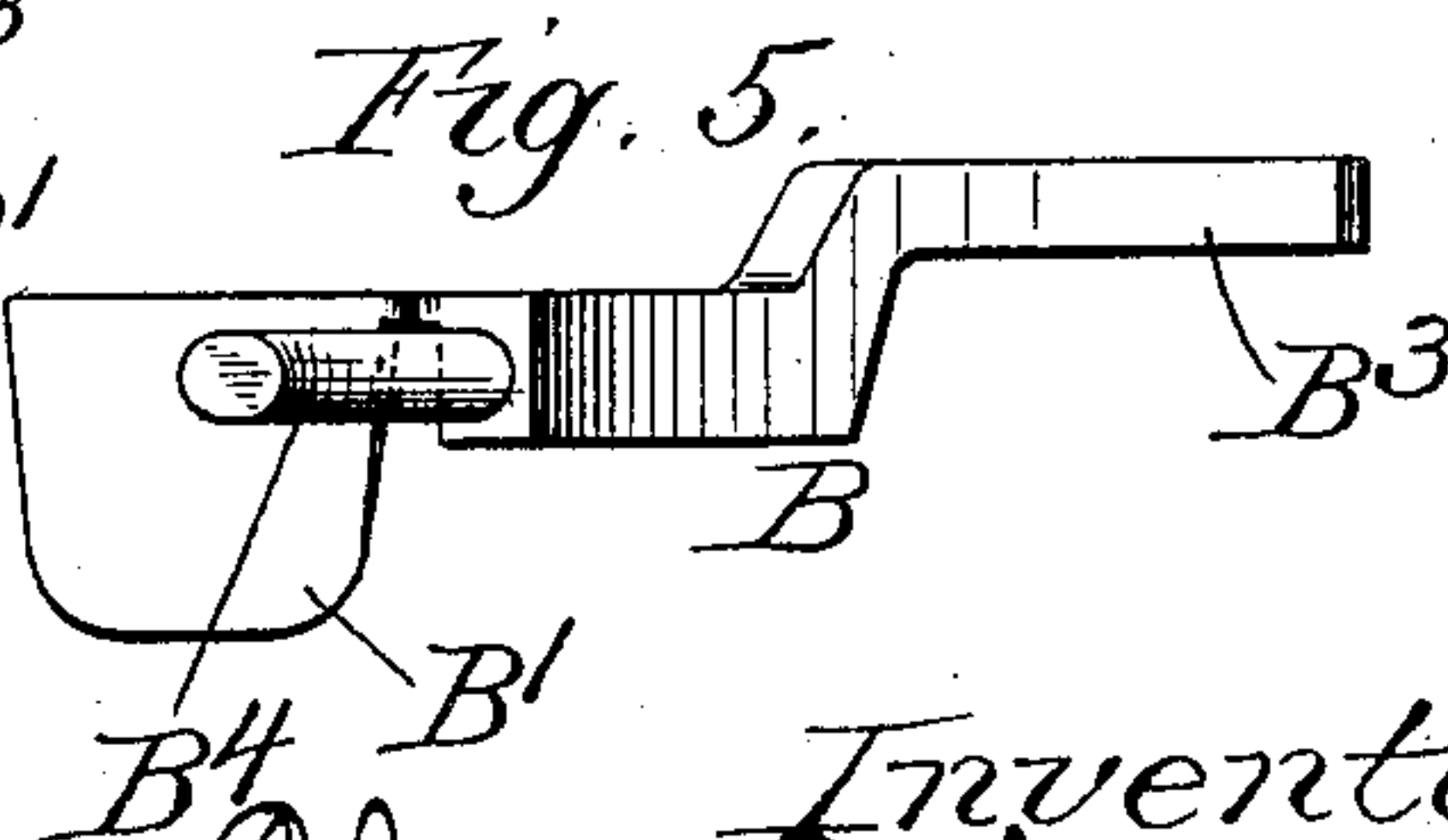
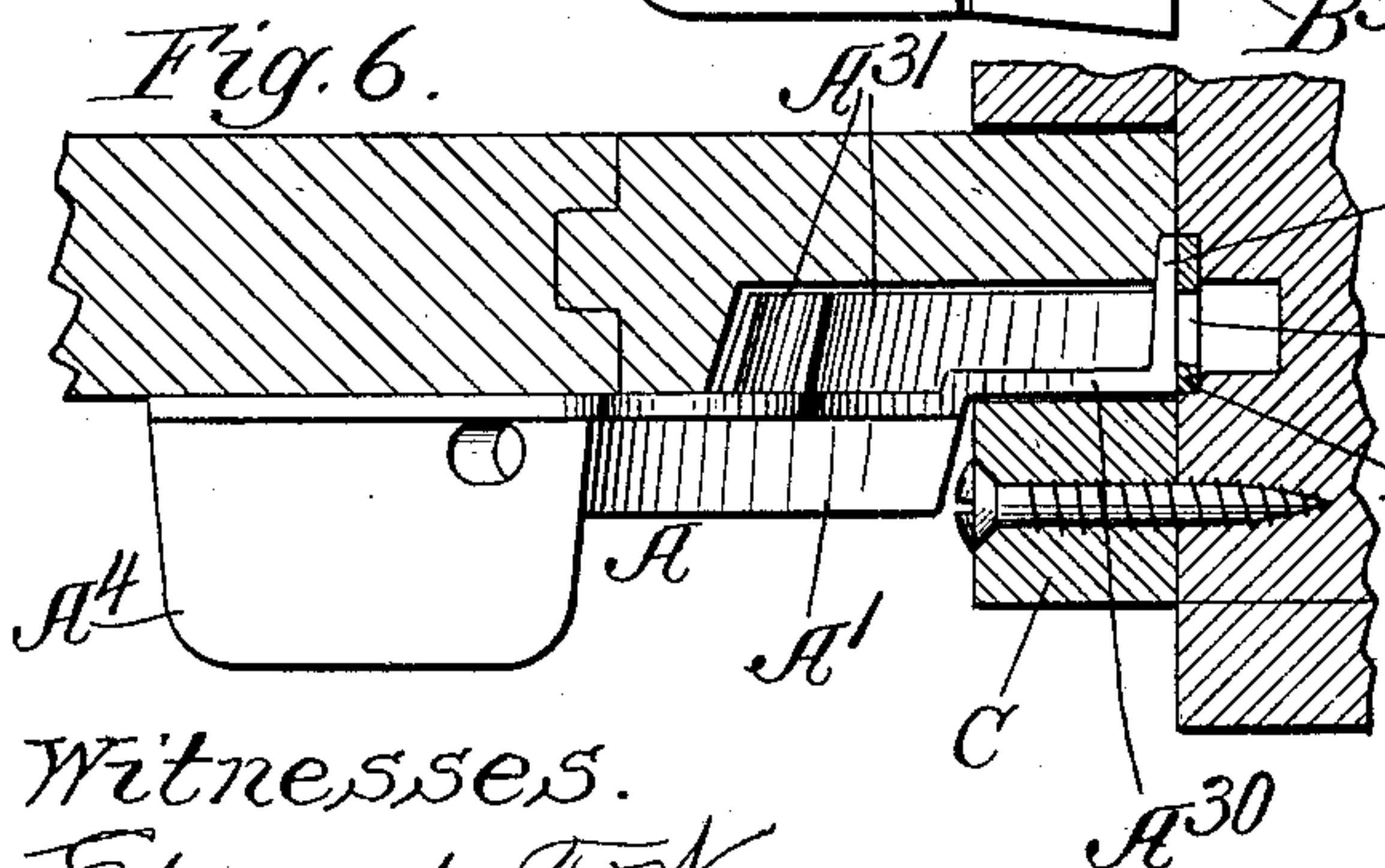
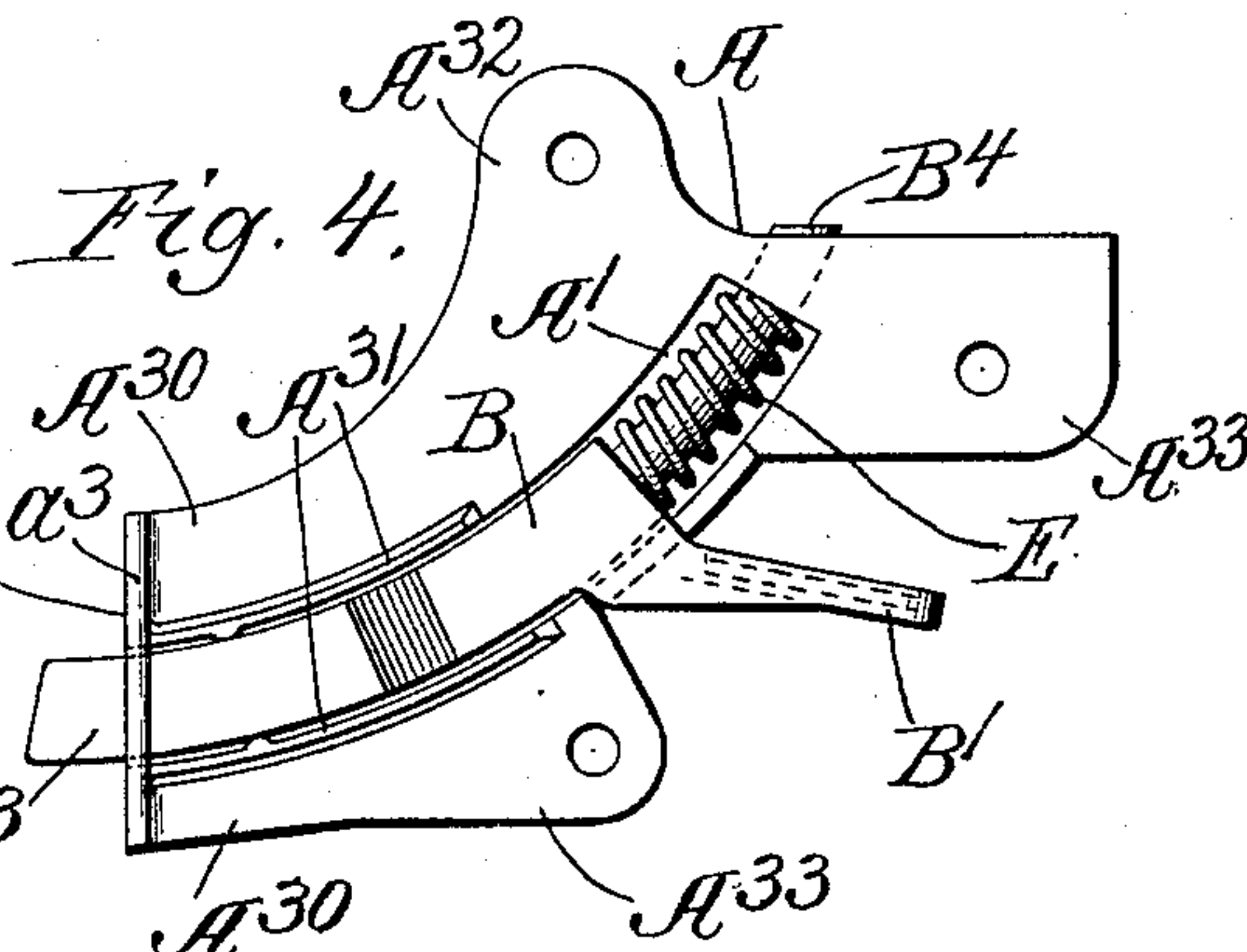
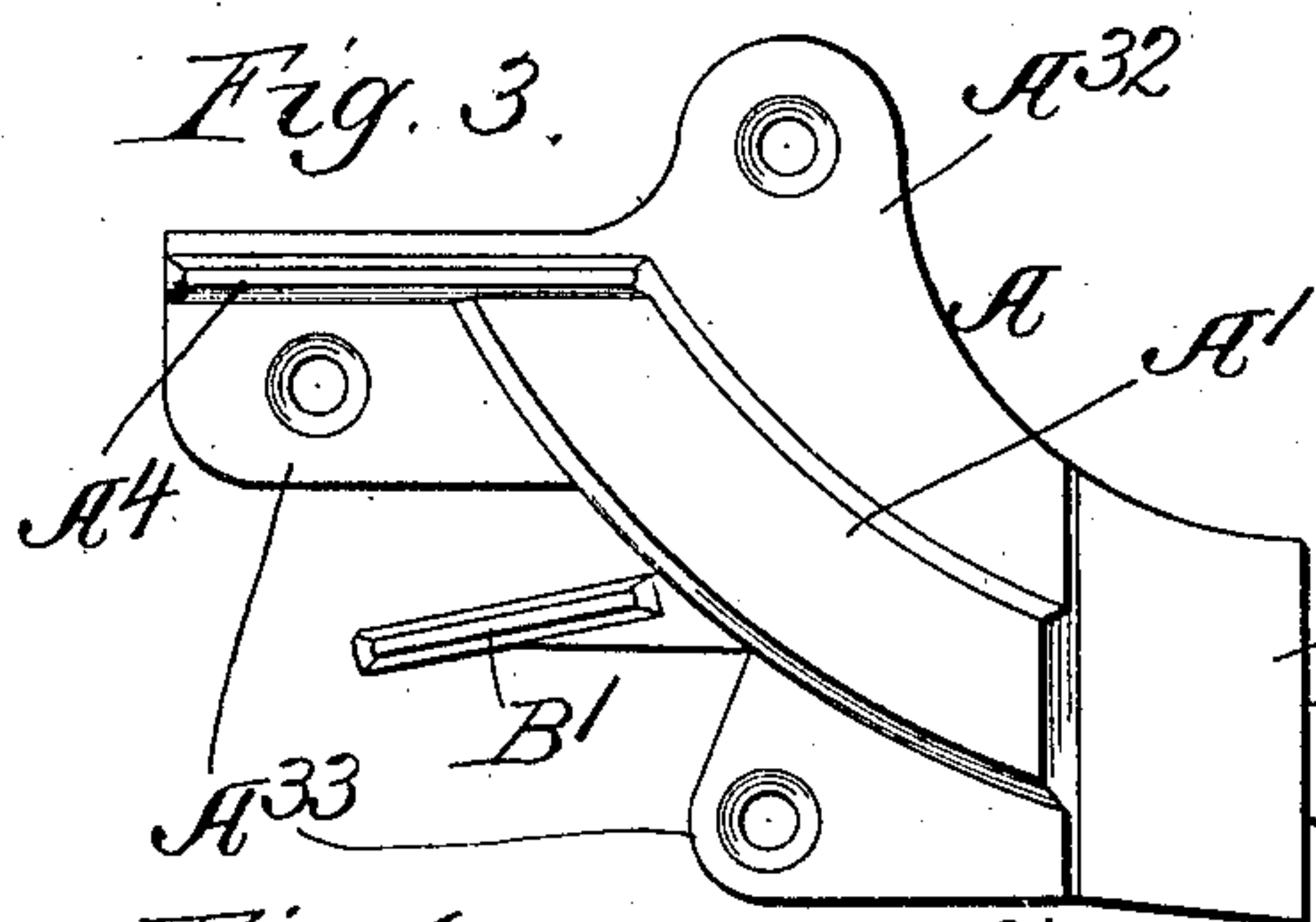
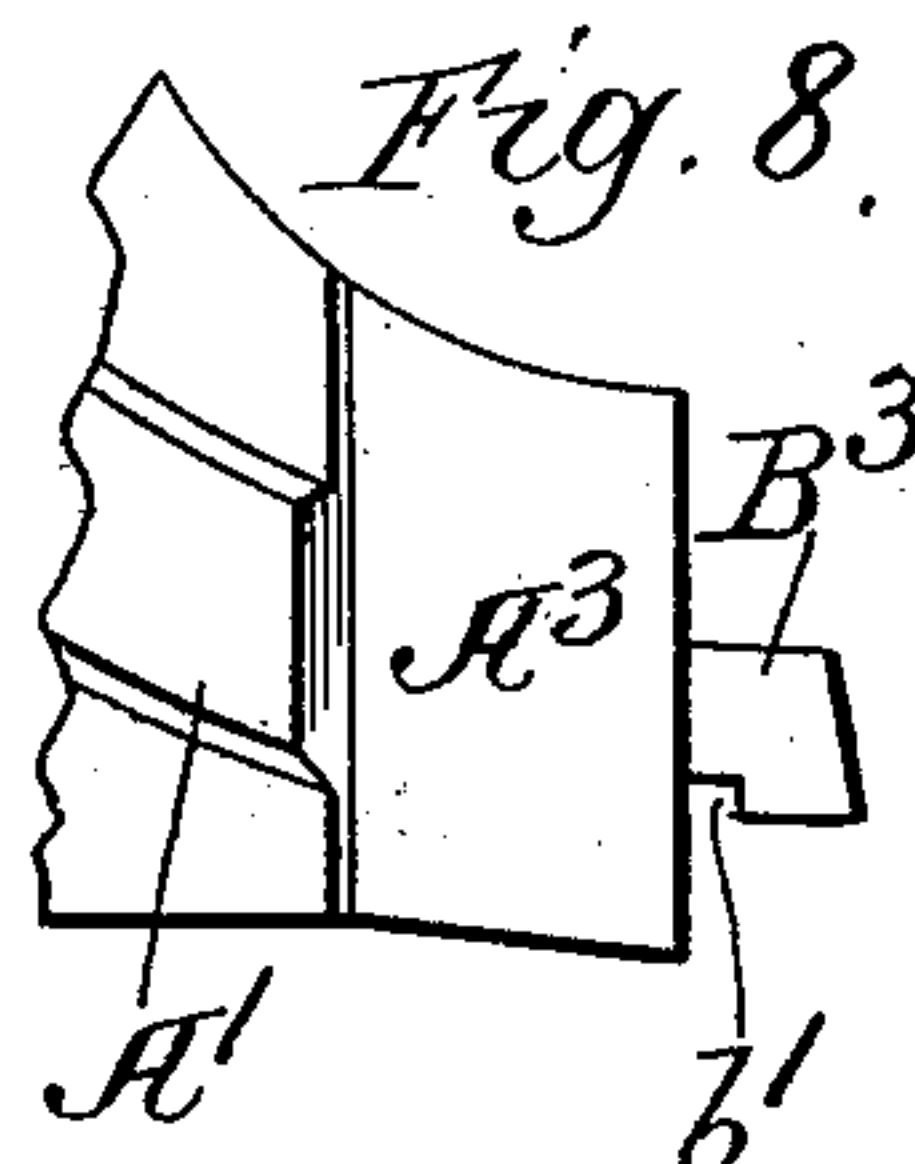
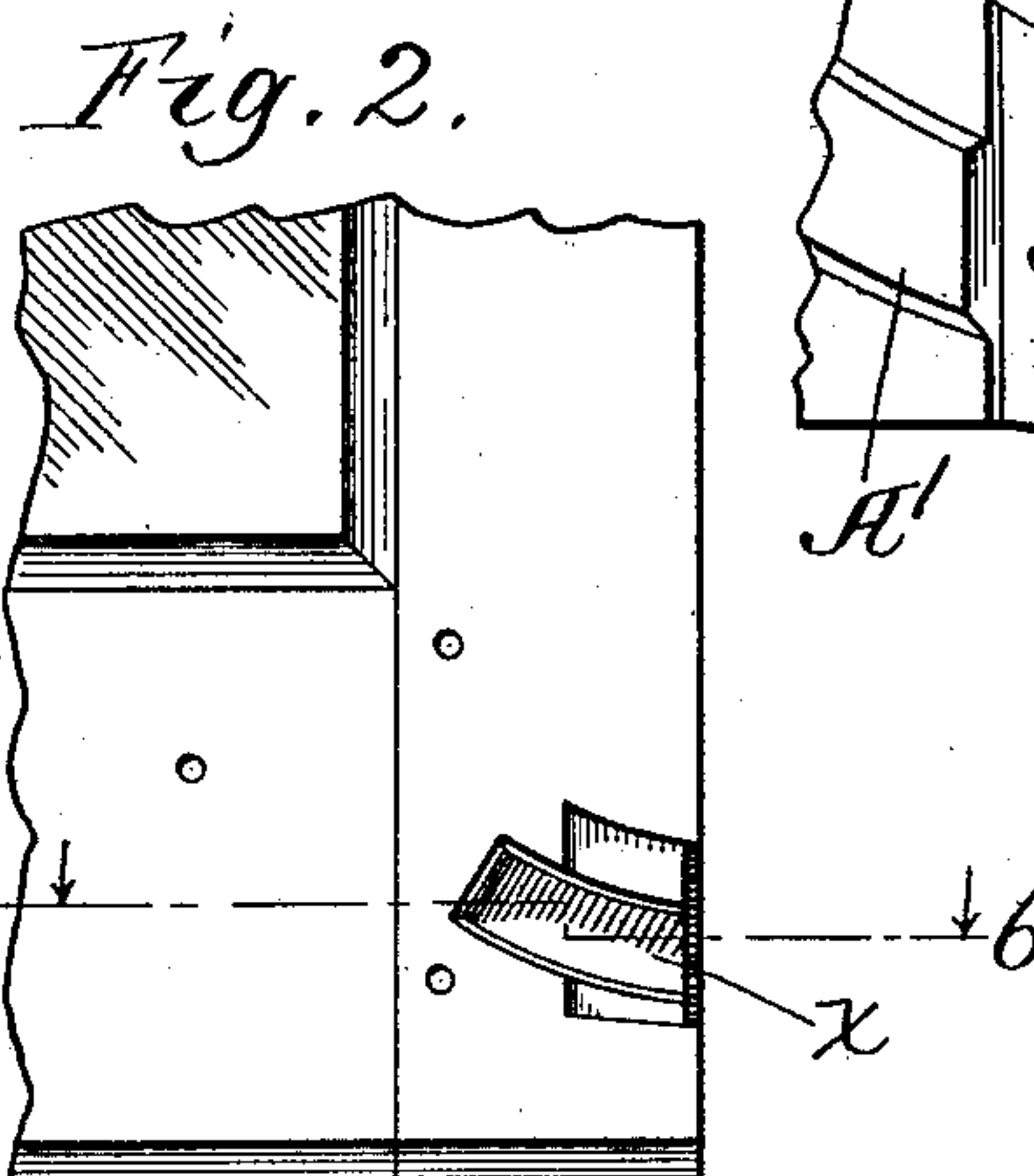
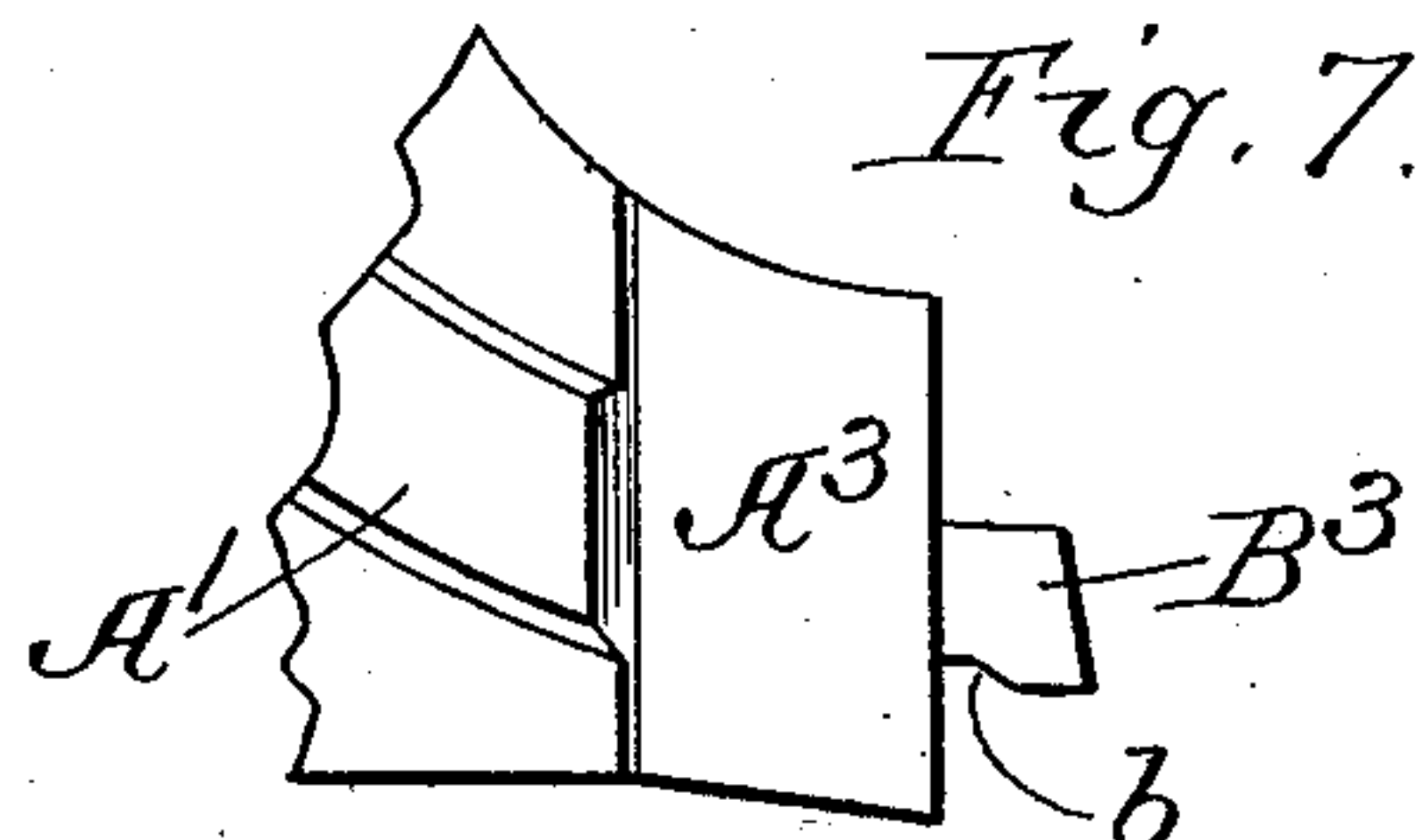
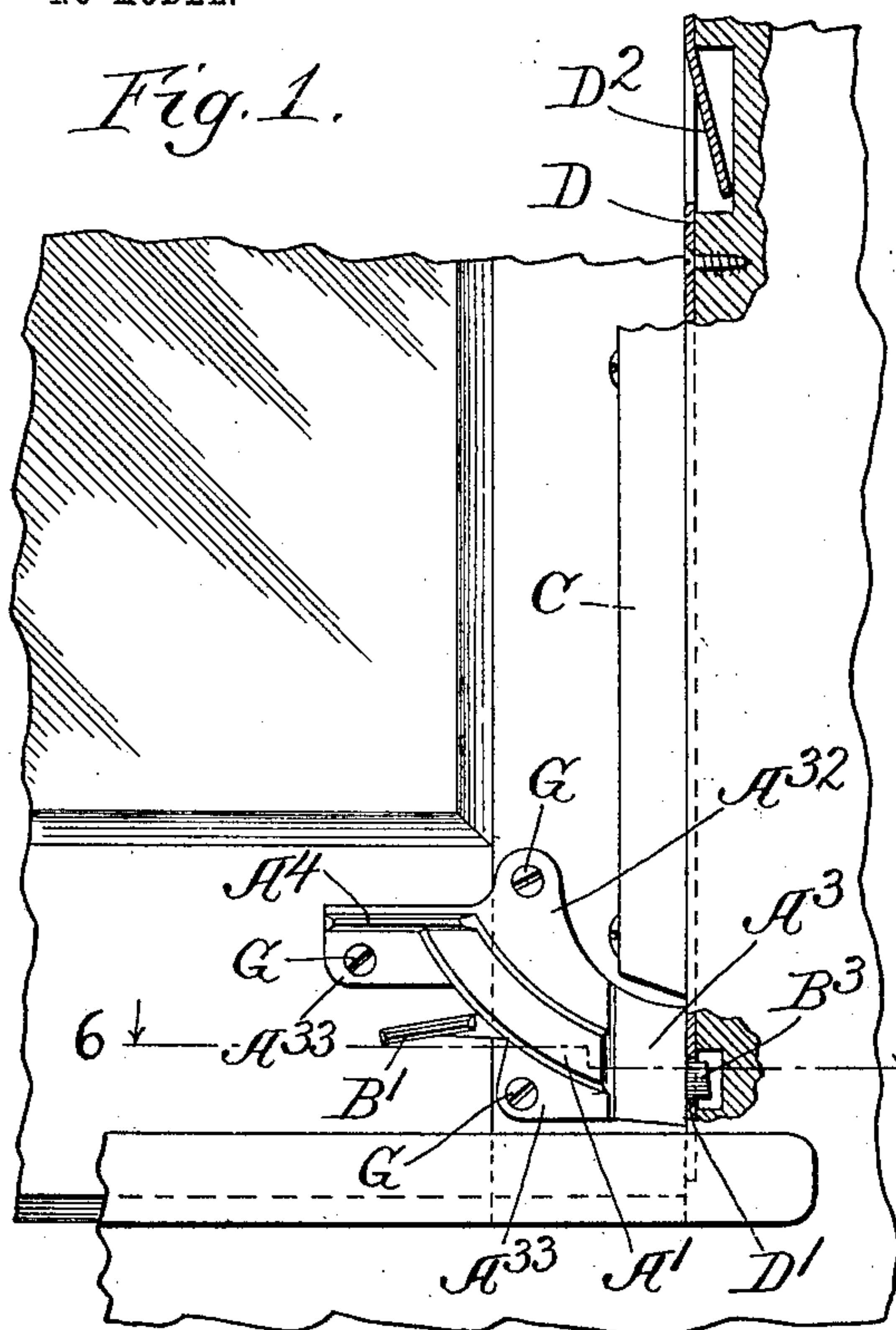
No. 763,610.

PATENTED JUNE 28, 1904.

C. JOHNSON.
SASH LOCK.

APPLICATION FILED MAR. 14, 1904.

NO MODEL.



Witnesses.
Edward T. Wray.
Fred G. Fischer

¹B⁴ ^B~~Inventor.~~
Charles Johnson
by ~~Burton~~ Burton
his Atty's.

UNITED STATES PATENT OFFICE.

CHARLES JOHNSON, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
ALFRED BENSON, OF CHICAGO, ILLINOIS.

SASH-LOCK.

SPECIFICATION forming part of Letters Patent No. 763,610, dated June 28, 1904.

Application filed March 14, 1904. Serial No. 197,986. (No model.)

To all whom it may concern:

Be it known that I, CHARLES JOHNSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Sash-Locks, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide an improved sash-lock particularly adapted for use upon car-windows. It consists of features of construction set out in the claims.

In the drawings, Figure 1 is a front elevation of my improved lock shown applied to a sash, a portion of the sash-casing and engaging plate being represented in vertical section. Fig. 2 is a detail front elevation of one corner of the sash with the lock removed for the purpose of showing the amount of cutting necessary for applying the lock to the sash. Fig. 3 is a front elevation of the lock detached from the sash. Fig. 4 is a rear elevation of the same. Fig. 5 is a top plan of the bolt detached from the housing. Fig. 6 is a partly-sectional view showing the housing in top plan and the sash and casing in horizontal section as at the plane of the line 6 6 on Figs. 1 and 2. Fig. 7 is a detail elevation of a portion of the lock, showing a modified form of the terminal portion of the bolt. Fig. 8 is a similar view showing a further modification.

My improved lock is formed of two pieces besides the spring and the engaging plate.

A is a housing, and B the bolt. The bolt is in the form of a segment of a ring, with a thumb-piece or handle B' extended off from the circular portion. The housing has a segmental annular pocket A' to receive the segmental annular body of the bolt. The distinguishing feature of my invention, however, is that the bolt and housing have their segmental annular portions respectively formed with one part offset from the remainder. The terminal portion B³ of the bolt, including so much as protrudes from the housing to interlock with the engaging plate D, hereinafter described, and a length back thereof substantially equal to the width of the stop C, which

marks the depth of the channel in which the sash runs in the casing, stands in the plane of the sash, so that it is thrust out directly from the edge of the latter, and the housing has a correspondingly-situated portion A³, including the edge flange a³ and the portion A³⁰ of the forward or face flange and including the guide-flanges A³¹ A³¹, which form the guide-way in which said terminal portion of the bolt is seated and guided and which is for that purpose let into the side bar of the sash from the forward face. The left-hand or inner portion of the bolt, from which the handle or thumb-piece B' projects, is offset forwardly from said terminal portion B³ and obtains seat and guidance in a similarly forwardly-offset portion A² of the housing, said forwardly-offset portions of bolt and housing being situated entirely forward of the sash, so that the housing is mounted as to this portion by means of the flanges A³² and A³³ upon the forward surface of the sash, requiring no cutting of the latter for so mounting it, and the flange A³³ is cut away between the ends to permit the thumb-piece to protrude, and said thumb-piece or handle B' plays over the forward face of the sash, requiring no cutting of the sash to accommodate it. From the left-hand upper end of the bolt a guide-stem B⁴ extends out through the upper end of the housing, and around said stem within the housing there is coiled the spring E, reacting to thrust the bolt out for interlocking with the engaging plate D. By reference to Fig. 5 it will be seen that this construction requires the sash to be cut away only, as seen at x, Fig. 8, sufficiently to admit the lower rear portion of the housing comprising the guide-flanges A³¹ A³¹, between which the correspondingly offset portion of the bolt plays, as above described, and the edge and face flanges a³ and A³⁰, such cutting being effected in the side bar of the sash without reaching to the joint between said side bar and the lower bar, and therefore without materially weakening the corner junction of the sash. The flanges a³ and A³⁰ are let in flush with the edge and forward face of the sash, as illustrated, so that

the lock as to this portion becomes engaged behind the stop C of the casing and bears against the engaging plate D, which becomes also by this means a wearing-plate at the bottom of the channel, in which the sash runs in the casing. This engaging plate is preferably made of sheet metal having a hole D' in suitable position to be engaged with the bolt at the closed position of the sash and having at as many points above this hole as it may be thought desirable to provide for supporting the sash tongues D², struck out from the metal and cut clear therefrom at the lower end and lateral edges and not cut away at the upper end, but bent back into oblique position, as seen in Fig. 1, so that the bolt engages with the aperture thus formed and obtains positive and secure lodgment upon the lower edge of it, but is wedged back by the obliquely-hung tongue D², formed as described, so that the sash may be readily thrust up past any such aperture for engagement with the higher one.

It will be noticed that this lock is applied and removed entirely from the forward side of the sash, being secured by screws G G, for which provision is made in the flanges of the housing at positions which afford good engagement clear of the recess which is cut in the sash for the lower forward end of the housing, as described, and also clear of the joint between the side and lower bars of the sash and that while it is in this respect analogous to a rim-lock it has by virtue of the portion which is offset rearward and let into the sash and which engages behind the stop in large part also the further advantages which usually pertain to a mortise-lock. One of the advantages which pertain to a rim-lock of considerable importance in locks which are to be applied to railway-cars is that the lock is removable for repairs without dismantling the sash, it being only necessary at the utmost to remove the stop C in order to disengage the lock, leaving the sash in place. Even the inconvenience of removing the stop may be avoided by construction shown in Fig. 1, in which the stop is cut away at the lower end at a point just above the lock, so that the latter may be withdrawn from the sash upon removing the screws which secure it and without removing any portion of the sash or casing.

This lock has the advantage that it is not dependent upon the spring for throwing the bolt, because the latter will become engaged by gravity if the spring is removed or broken. The form of spring employed coiled about the stem B⁴ is one least liable to become broken; but since no warning is ever given of the breaking of the spring and it is liable to happen while the car is in service it is of considerable importance that in such case the lock is still serviceable; but since in the ab-

sence of the spring or if the spring is so far broken as to fail to operate at all for throwing the bolt out or holding it protruded the jarring of the car in running might cause the bolt when interlocked with one of the upper recesses of the engaging plate for holding the sash open to be gradually jarred back out of such engagement I sometimes make the bolts in the form shown in Fig. 7, with a beveled notch b in the lower edge, which engages with the lower edge of the aperture in the engaging plate. The slope of the notch is not sufficient to prevent the easy disengagement of the bolt by the pressure upon the thumb-piece in the usual manner.

For some purposes a more positive engagement of the bolt with the engaging plate may be preferred, and for that purpose a square notch b' may be formed in the lower edge of the bolt, as seen in Fig. 8. The disengagement of this form would be effected by slightly lifting the sash before attempting to withdraw the bolt by pressure upon the thumb-piece. This, however, would usually be done involuntarily by one taking hold of the lock for that purpose, the thumb-piece on the bolt being below the thumb-piece A⁴ on the housing, so that the action of pressing up the bolt thumb-piece would be accompanied with a lifting action upon the sash which would disengage even the bolt having the square recess seen in Fig. 8.

I claim—

1. A sash-lock comprising a segmental annular bolt and a housing having a correspondingly-shaped seat for the bolt, the engaging end portion of the bolt being offset rearwardly from the remainder, and the corresponding portion of the housing being similarly offset, the remainder of bolt and housing being adapted to be applied upon the forward surface of the sash, said rearwardly-offset portion being adapted to be let into the sash from the forward side.

2. A sash-lock comprising a segmental annular bolt having one end portion including the engaging end offset from the remainder; a housing having a segmental annular guide-way for the bolt, provided with a correspondingly-offset portion, the housing having face-flanges for application to the forward surface of the sash, one of said flanges being cut away between the ends, the bolt having a thumb-piece extending out through such cut-away portion of the flange, and the housing having a thumb-piece projecting forwardly from the flange above the thumb-piece of the bolt.

3. A sash-lock comprising a housing having a face and an edge flange adapted to be let into the face and edge of the sash; a housing or bolt comprising a portion occupying the angle between said face and edge flange, and a further portion offset forwardly from the first-mentioned portion and protruding forwardly from

the plane of the face-flanges, and a bolt having a portion comprising the engaging end offset rearwardly from the remainder, said offset portion and the remainder being adapted
5 to be lodged respectively in the corresponding portions of the guideway in the housing and to play respectively in the sash and forward of the sash.

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, at 10
Chicago, Illinois, this 10th day of March, 1904.

CHARLES JOHNSON.

In presence of—

CHAS. S. BURTON,
ALFRED BENSON.