

Oct. 7, 1930.

H. N. FELEY

1,777,640

BOOK

Filed Nov. 8, 1926

2 Sheets-Sheet 1

Fig. 1.

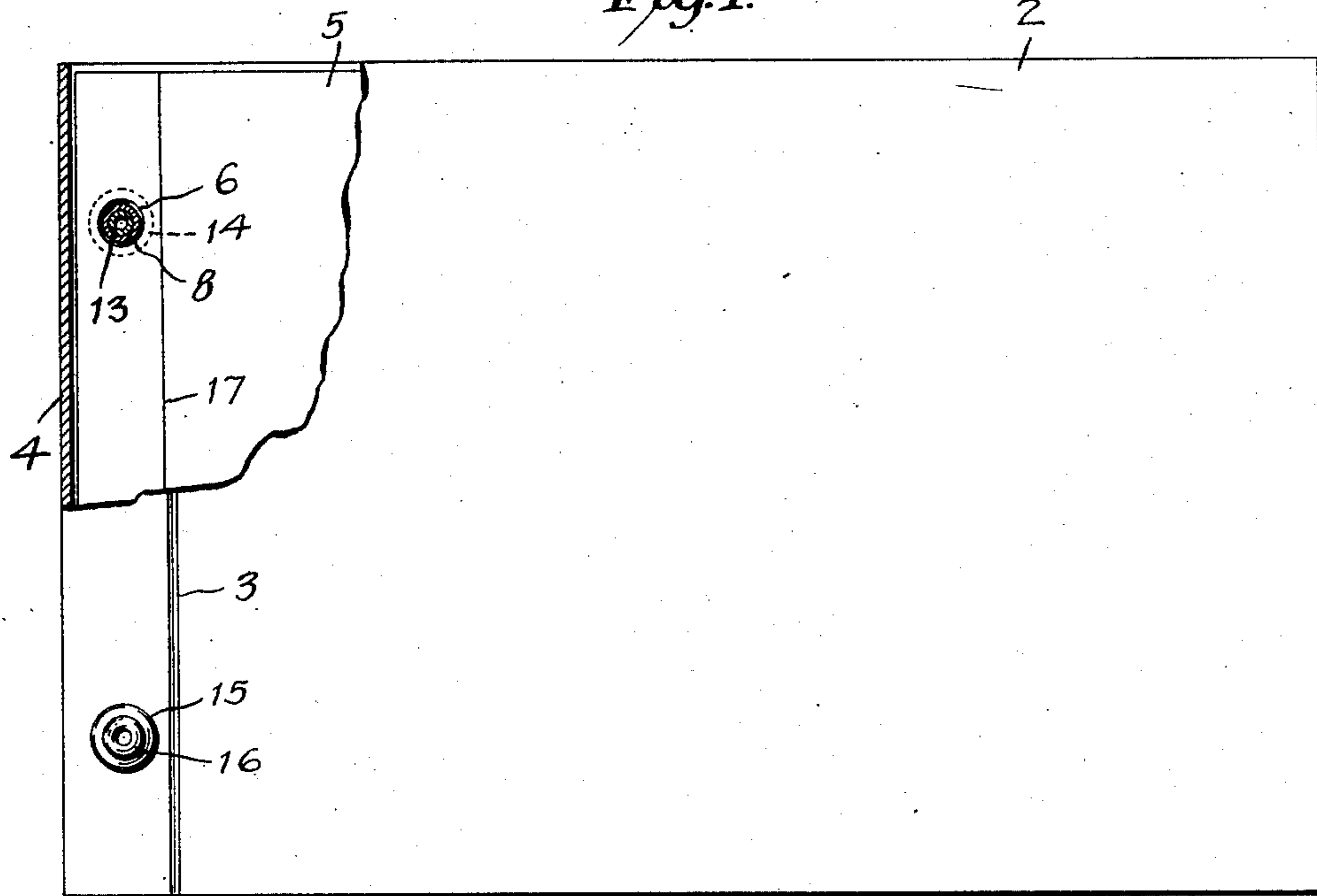


Fig. 2.

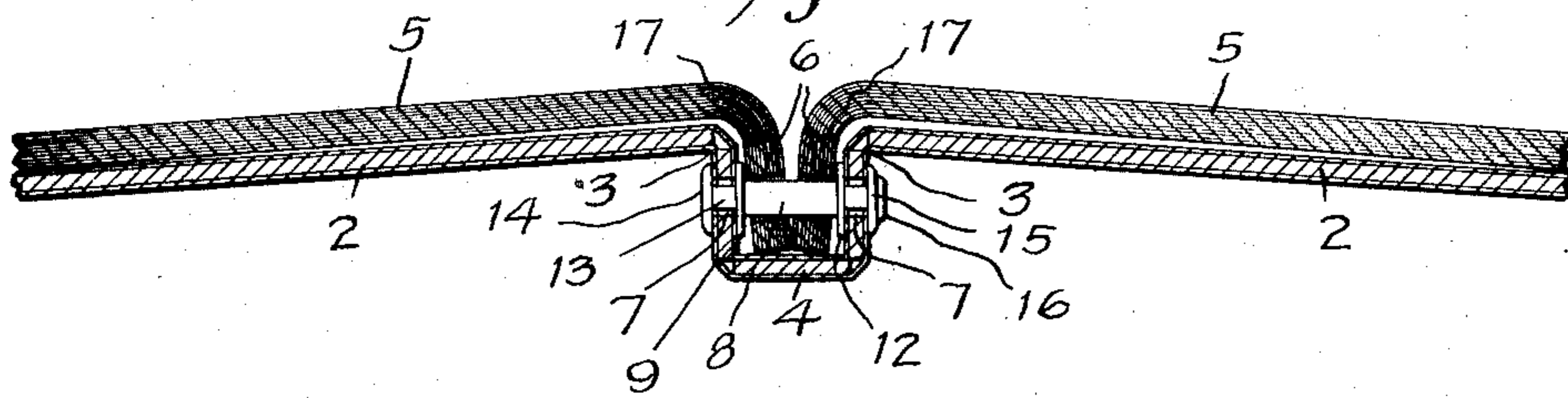
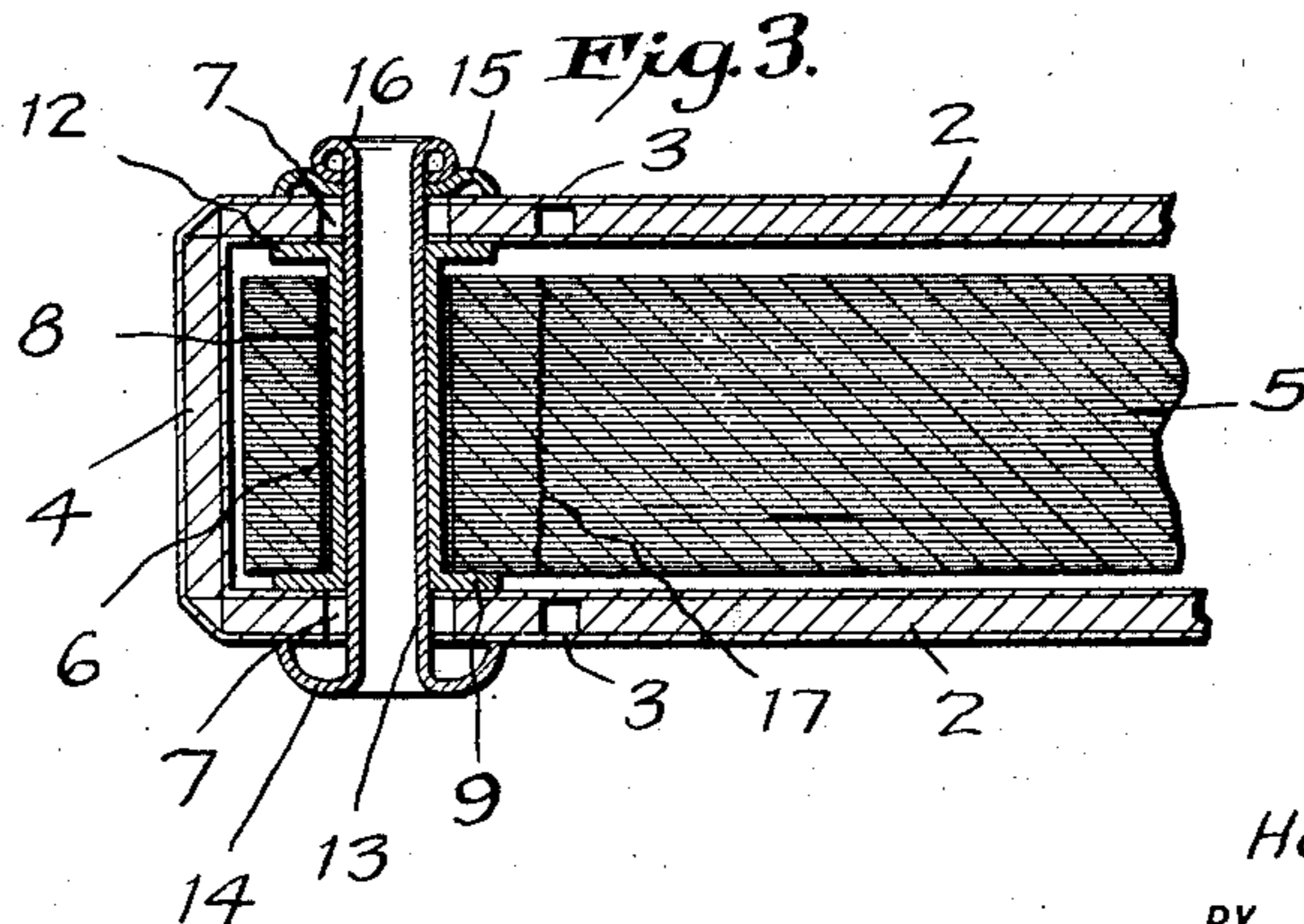


Fig. 3.



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2 Sheets-Sheet 2

Fig. 4.

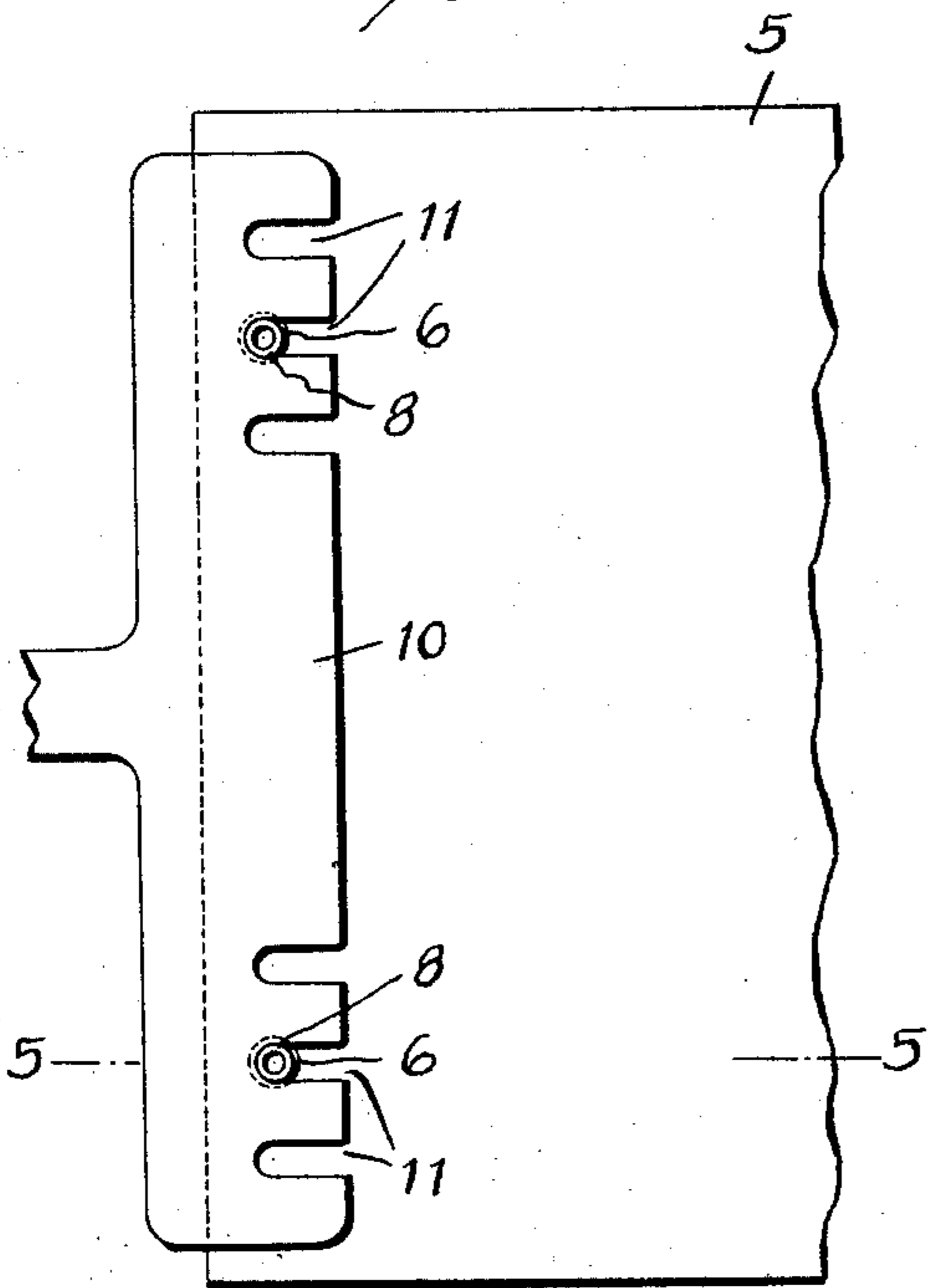


Fig. 6.

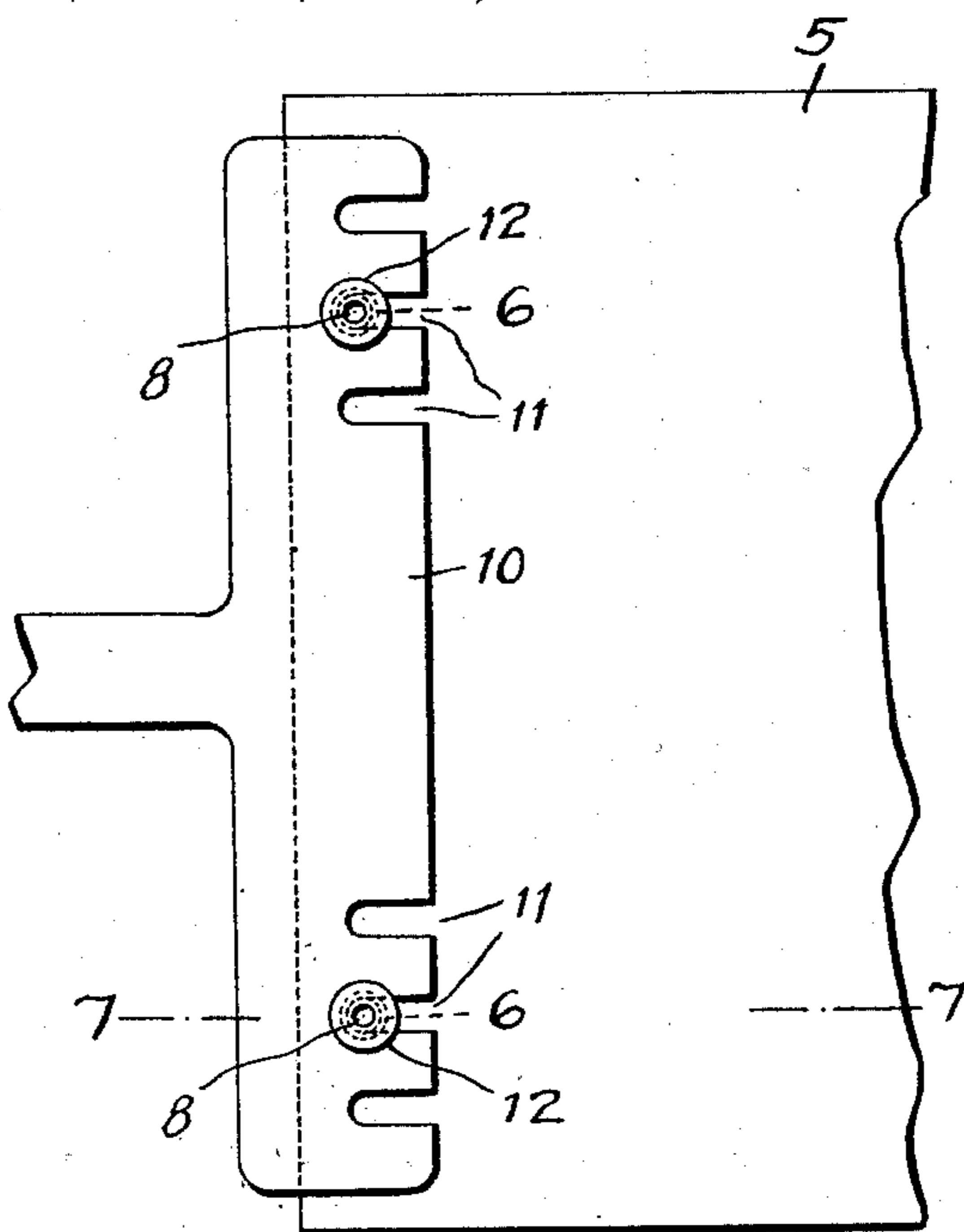


Fig. 5.

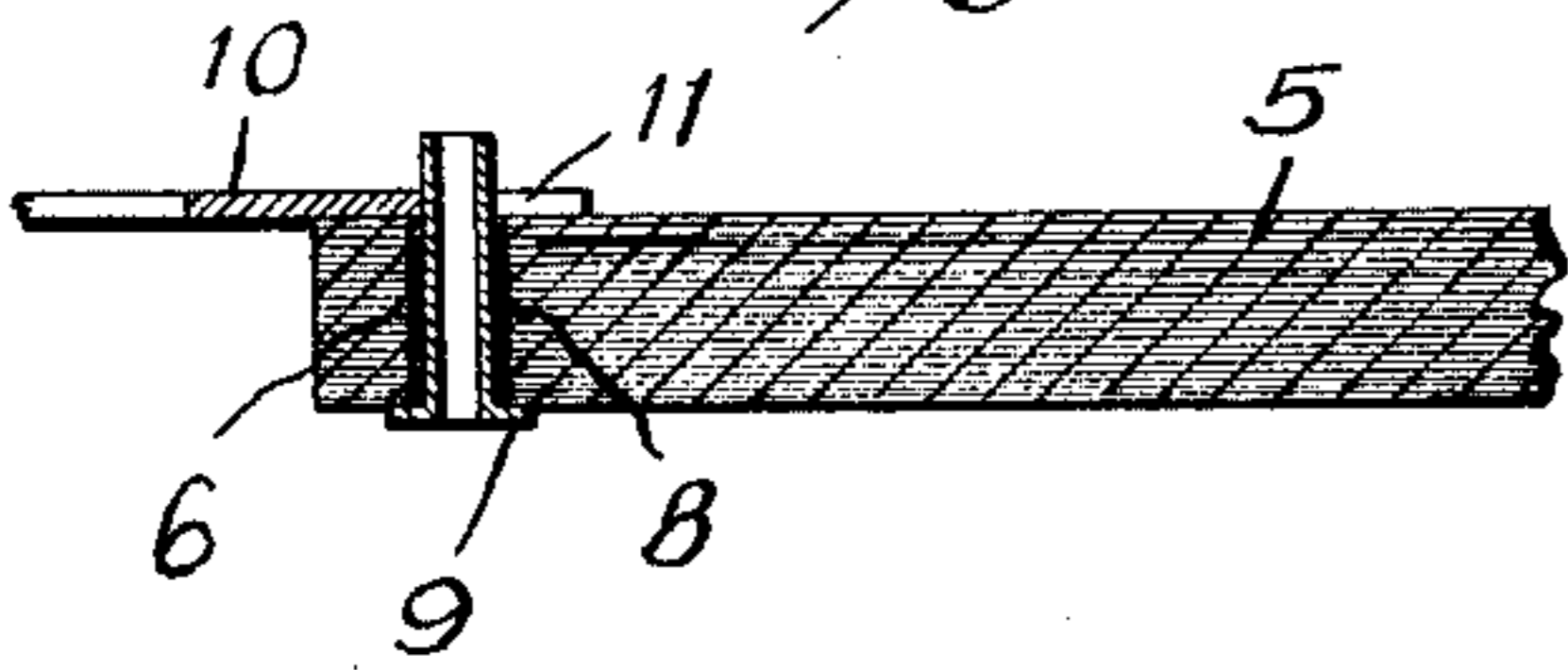


Fig. 7.

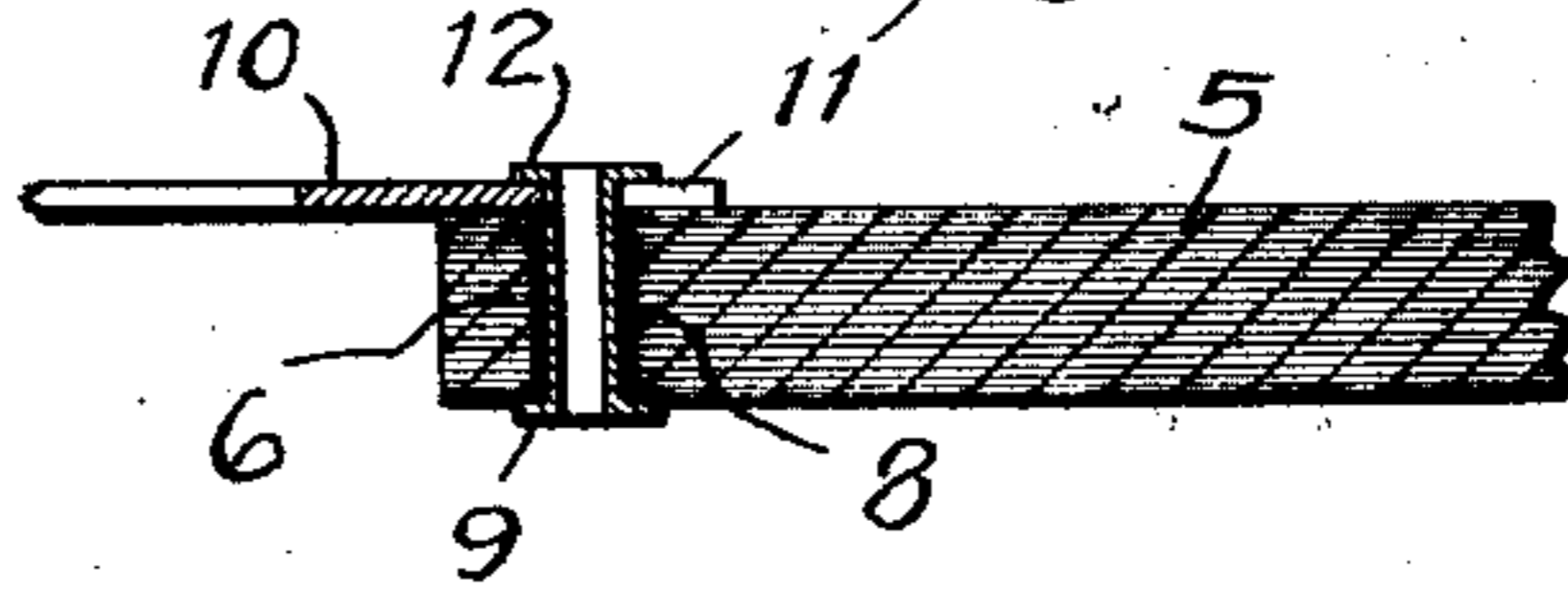
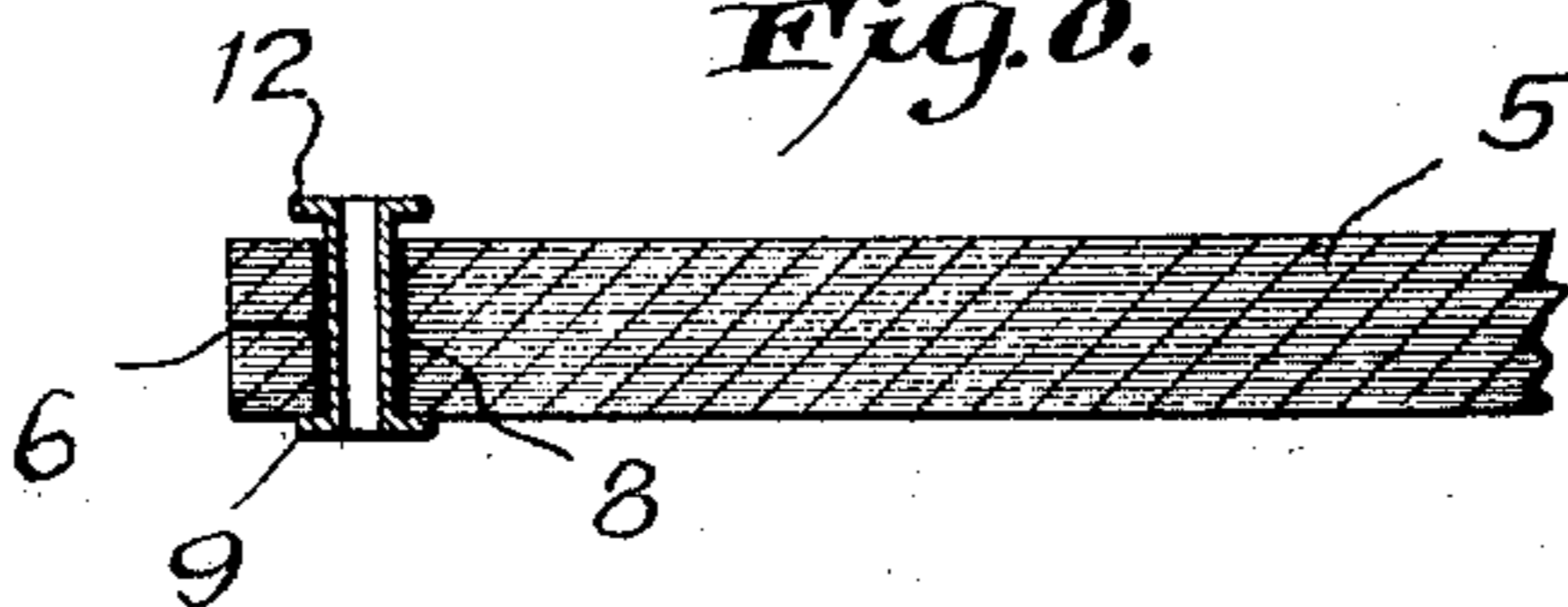


Fig. 8.



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BOOK

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The object of the invention is to provide an improved flat-opening check-book, or other book, constructed in an advantageous manner so that the book will lie open at any point. It is a serious inconvenience of ordinary check-books that they must be held open in order to keep the stubs from springing over onto the page to be written upon. According to the present invention the book is bound by means of shaft members passed through openings in the sheets and cover and provided with upset heads outside the cover, and spacer means on the shafts inside the cover, the spacer means being adapted to bear against the inner sides of the cover and keep the sheets free, that is to say, not tightly held or gripped. This, together with the fact that the openings through the separate sheets are materially larger than the diameter of the parts standing within them, permits the leaves to separate loosely at any point where the book is opened. Other features of the invention will become apparent as the specification proceeds.

In the accompanying drawings, forming part hereof:

Fig. 1 is a plan view of the book embodying the invention, a portion of the cover being broken away;

Fig. 2 is a longitudinal section through the book, open, the end portions being broken away because of lack of space;

Fig. 3 is a fragmentary sectional view on a larger scale, showing the closed condition;

Fig. 4 is a plan view showing the collection of sheets with the removable filler plate in position, prior to upsetting the sleeves which loosely confine the sheets of the book;

Fig. 5 is a sectional view on line 5—5 of Fig. 4;

Fig. 6 is a plan view of the collection of sheets showing the removable filler plate in position and the upper ends of the sleeves upset;

Fig. 7 is a sectional view on line 7—7 of Fig. 6; and

Fig. 8 is a sectional view of the collection of sheets after the filler plate has been removed.

The stiff-board cover of the book is marked

2, the hinges of the front and back parts of the cover are marked 3, and the binding strip of the cover is marked 4. The interior pad consists of separate leaves 5, not united by stitching, staples or gum.

Two large holes 6 are made through the rear portion of the collection of leaves, and corresponding holes 7 are made in the cover. The holes in both the leaves and cover may be made at the same time.

Figs. 4 to 8 illustrate the method of binding the collection of sheets or pad 5. Sleeves 8 having preformed flanges 9 are passed through the holes 6 in the collection of sheets, the ends of the sleeves extending beyond the collection of sheets as shown in Figs. 4 and 5. A plate 10, termed a filler plate, is placed on top of the collection of sheets. This filler plate 10 has a series of open ended slots 11 therein and the extended ends of the sleeves 8 pass through a pair of these slots. A plurality of slots 11 are indicated so as to provide for different distances between the holes 6. The extended ends of the sleeves 8 are then upset by suitable dies so as to form flanges 12. The filler plate 10 is then removed and the bound pad, as shown in Fig. 8, is ready for insertion in the binder. Attention is called to the fact that after the filler plate has been removed the distance between the flanges 9 and 12 is greater than the thickness of the collection of sheets, or, at least, the leaves are only loosely held between the flanges. The amount of freedom for the sheets may be readily controlled by varying the thickness of the filler plate.

A tubular shaft 13 having a flange 14 is then inserted through each of the holes in one of the parts of the cover, the flange 14 being on the outside of the cover. The sleeves 8 and their collection of sheets 5 are then passed over the shafts 13, the flanges 9 bearing against the inside of the cover. The openings 7 of the other cover member are then passed over the shafts 13, this cover member resting on the flanges 12. A washer 15 is placed over the end of each shaft outside the cover and the ends 16 are upset, forming retaining heads. The flanges 14 forming the heads at the opposite side of the book are preferably

shaped under pressure in the dies as shown in Fig. 3.

It will be observed that the spacer means formed by the sleeves 8, the flanges 9, 12 of which bear against inner sides of the cover is so designed, and of such length, that the pressure exerted in clinching and upsetting the binder fastenings does not result in the leaves 5 being gripped or compressed at the binding. Instead they remain quite loose between the parts of the cover, which are held away from the leaves by the flanges 9 and 12. As previously stated the leaves are only loosely held between the flanges. Furthermore, it will be seen that the holes 6 through the leaves are materially wider than the external diameter of the sleeves 8 within them. Consequently, when the book is opened at any point, the two sections of the collection of leaves part freely as shown in Fig. 2, and there is no tendency for one side to flop over on the other.

Further contributing to this effect, the individual sheets are provided with creases 17, parallel with the binding, adjacent and in front of the holes 6, these creases tending to destroy the springiness of the paper at the regions where the leaves curve over the bends of the cover at the hinges 6, without seriously injuring the strength of the fiber.

In the completed book the covers are tightly gripped between the ends of the shafts and the flanges on the spacer sleeves while the leaves remain loose between the flanges on the spacer sleeves.

I claim:

The herein described method of making a book having covers and a series of sheets, consisting in first binding the sheets as a unit by passing a sleeve headed at one end through the openings in the sheets, applying a distance piece over the non-headed end of the sleeve immediately beyond the sheets, heading the sleeve beyond the distance piece, withdrawing the distance piece to permit play of the sheets on the sleeve, and securing the bound sheets between the covers by a shaft passed through the perforations in the covers and through the sleeve binding the sheets.

In testimony whereof I affix my signature.
HENRY N. FELEY.

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