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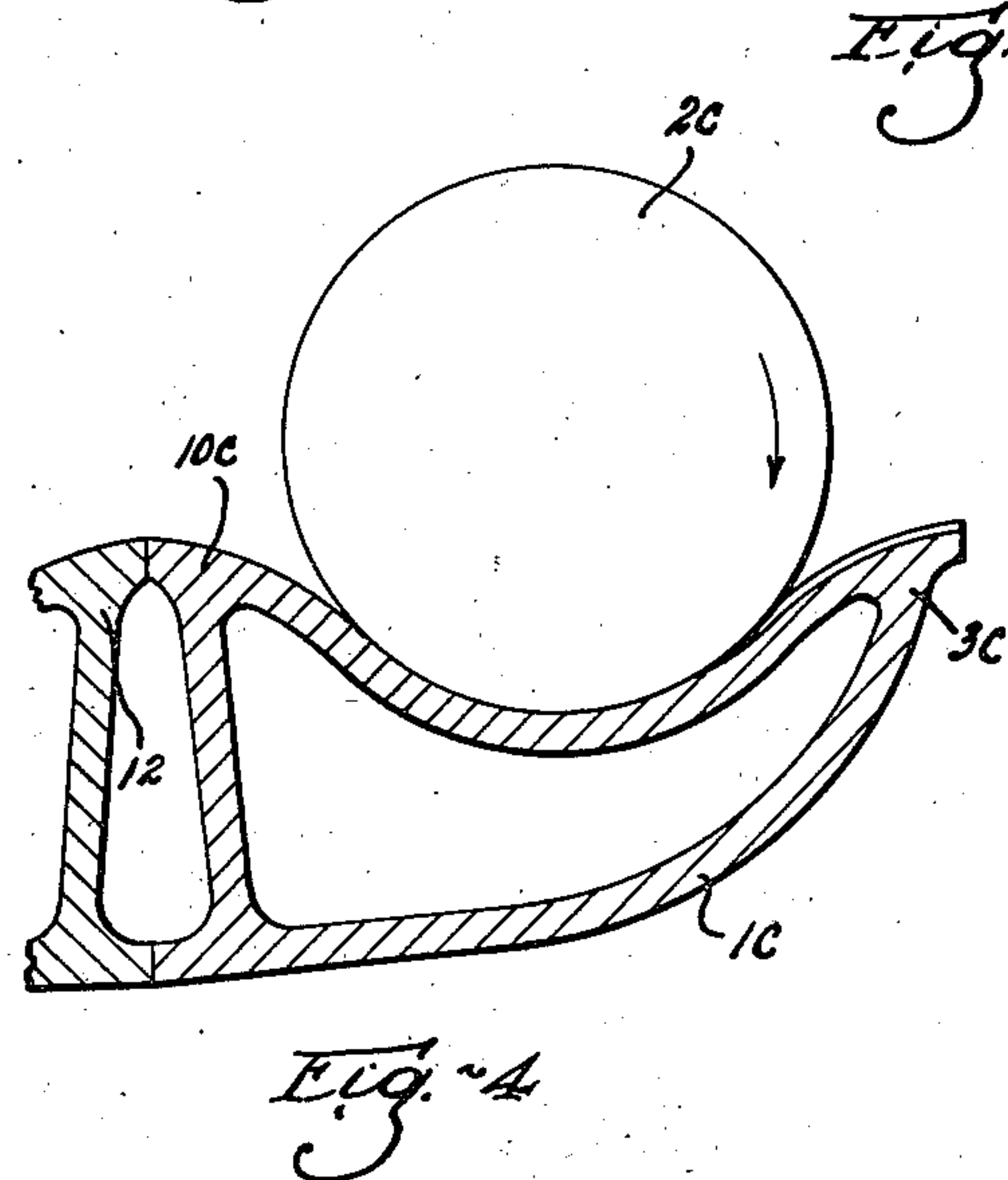
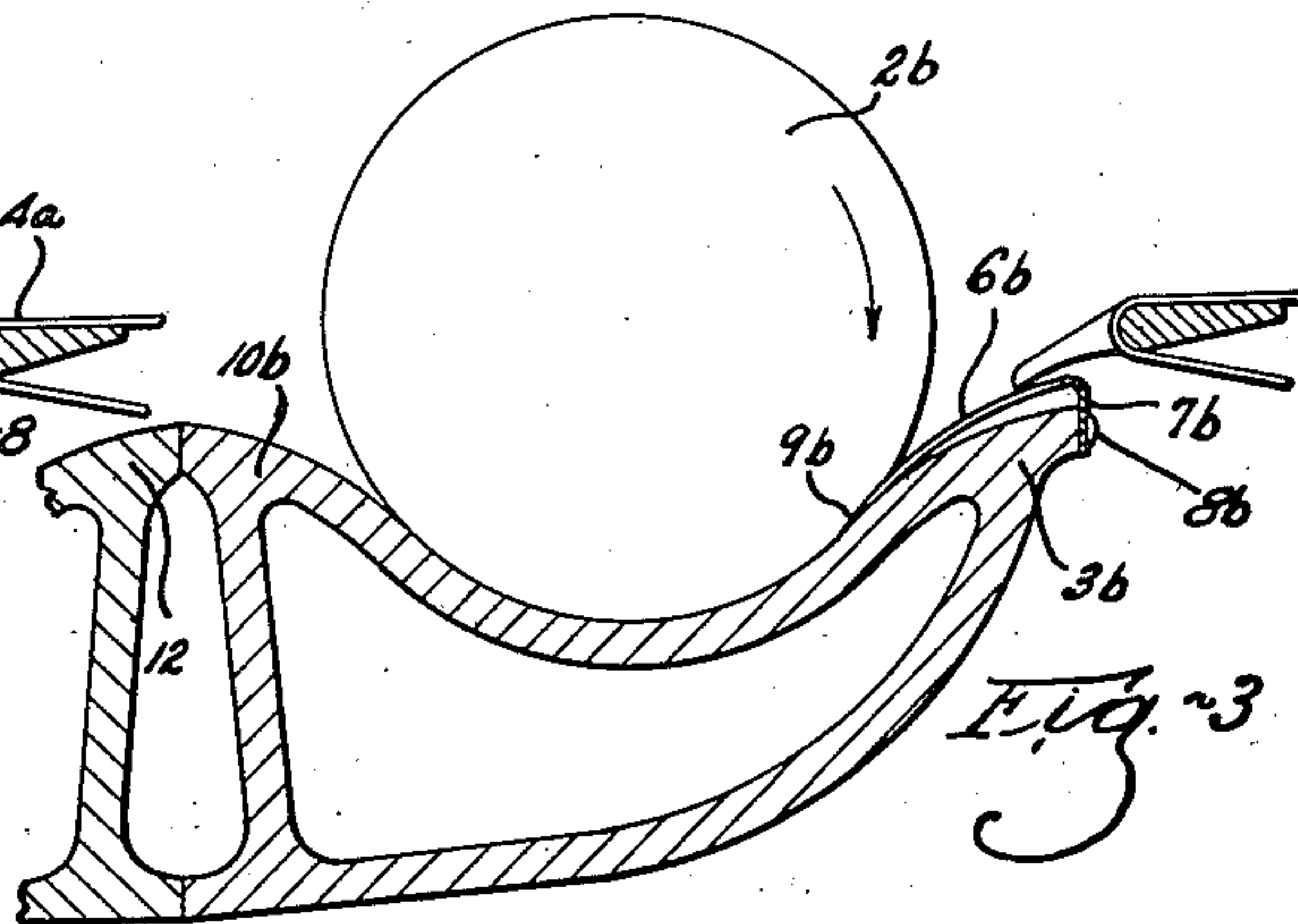
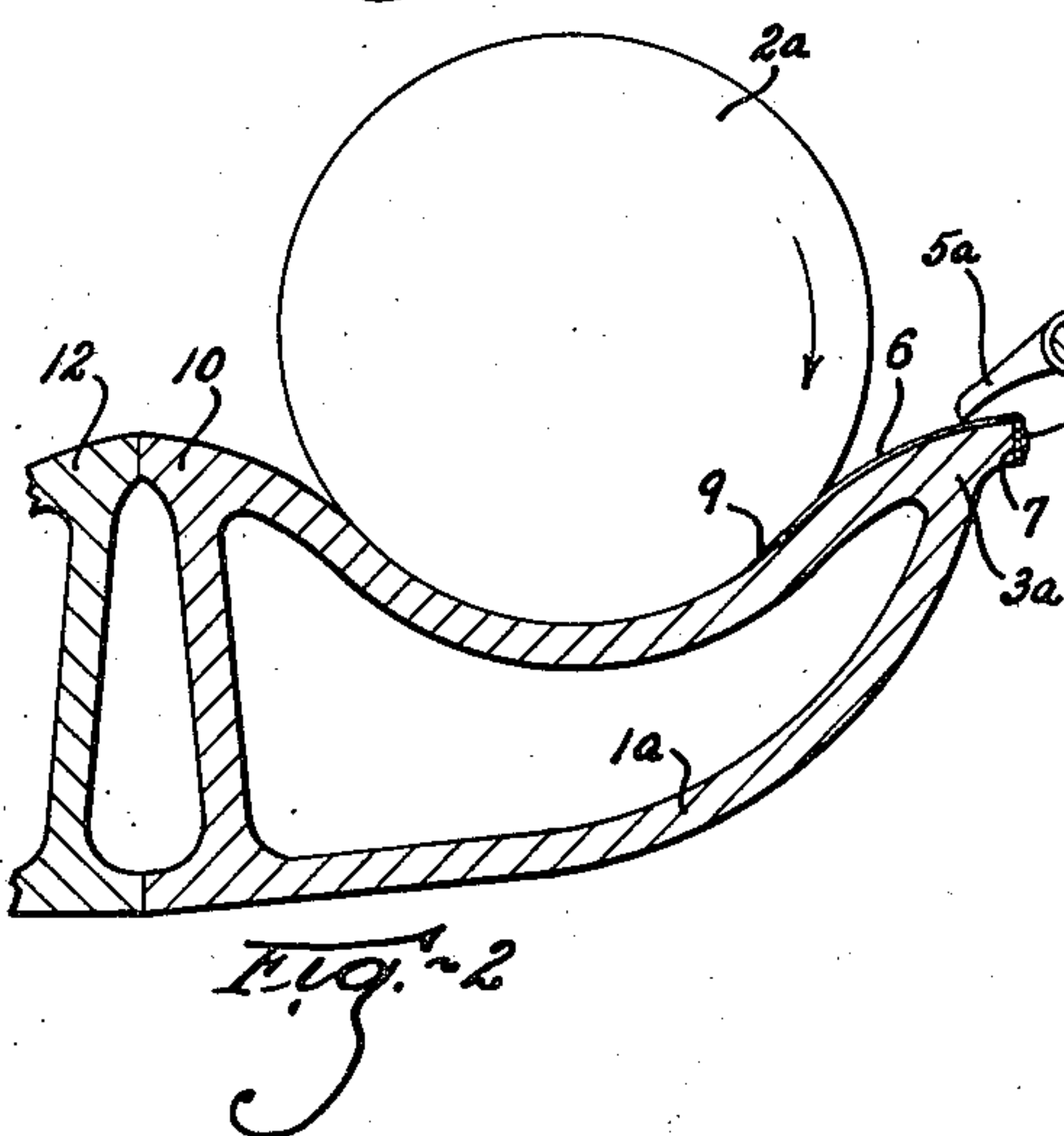
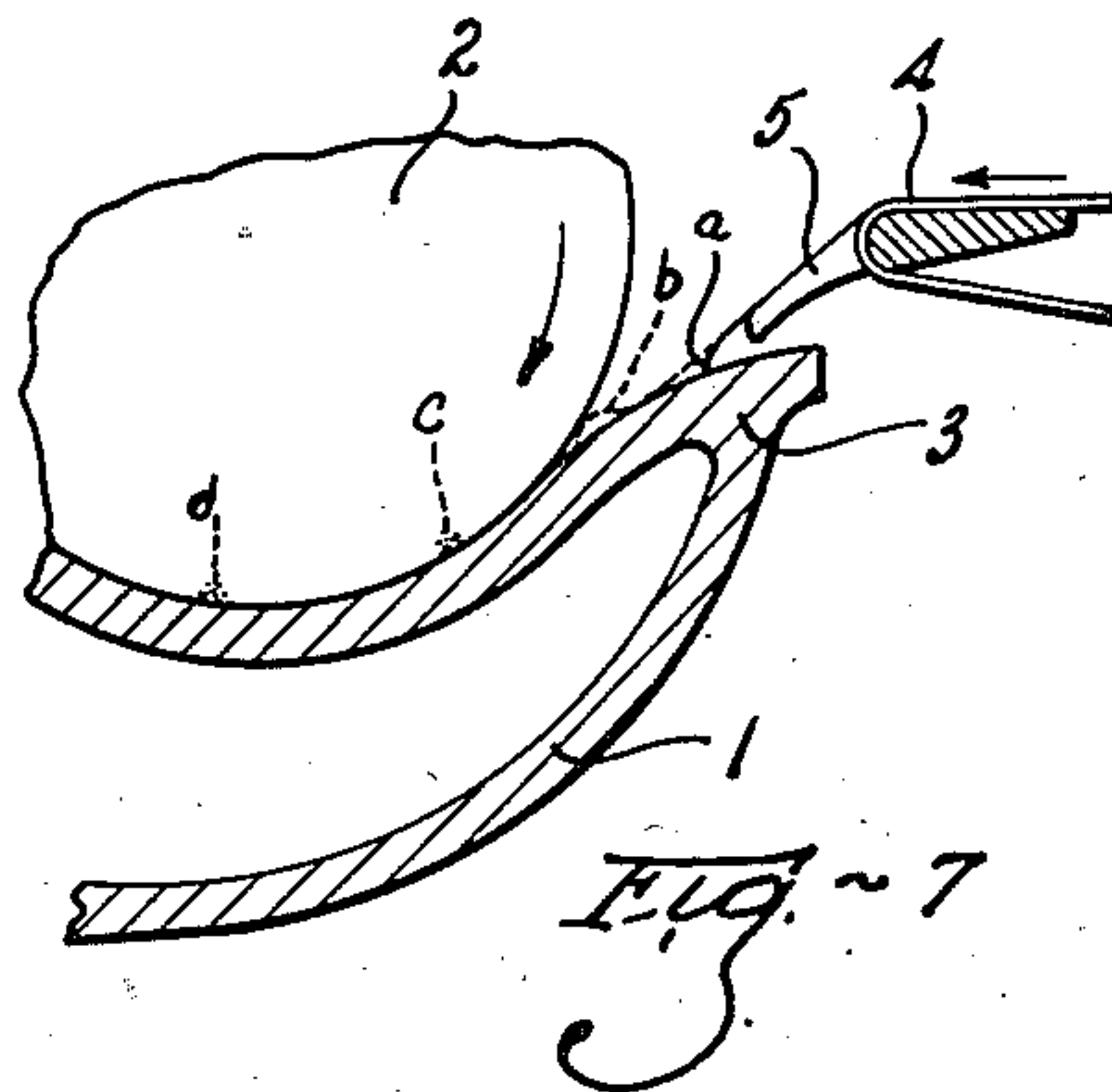
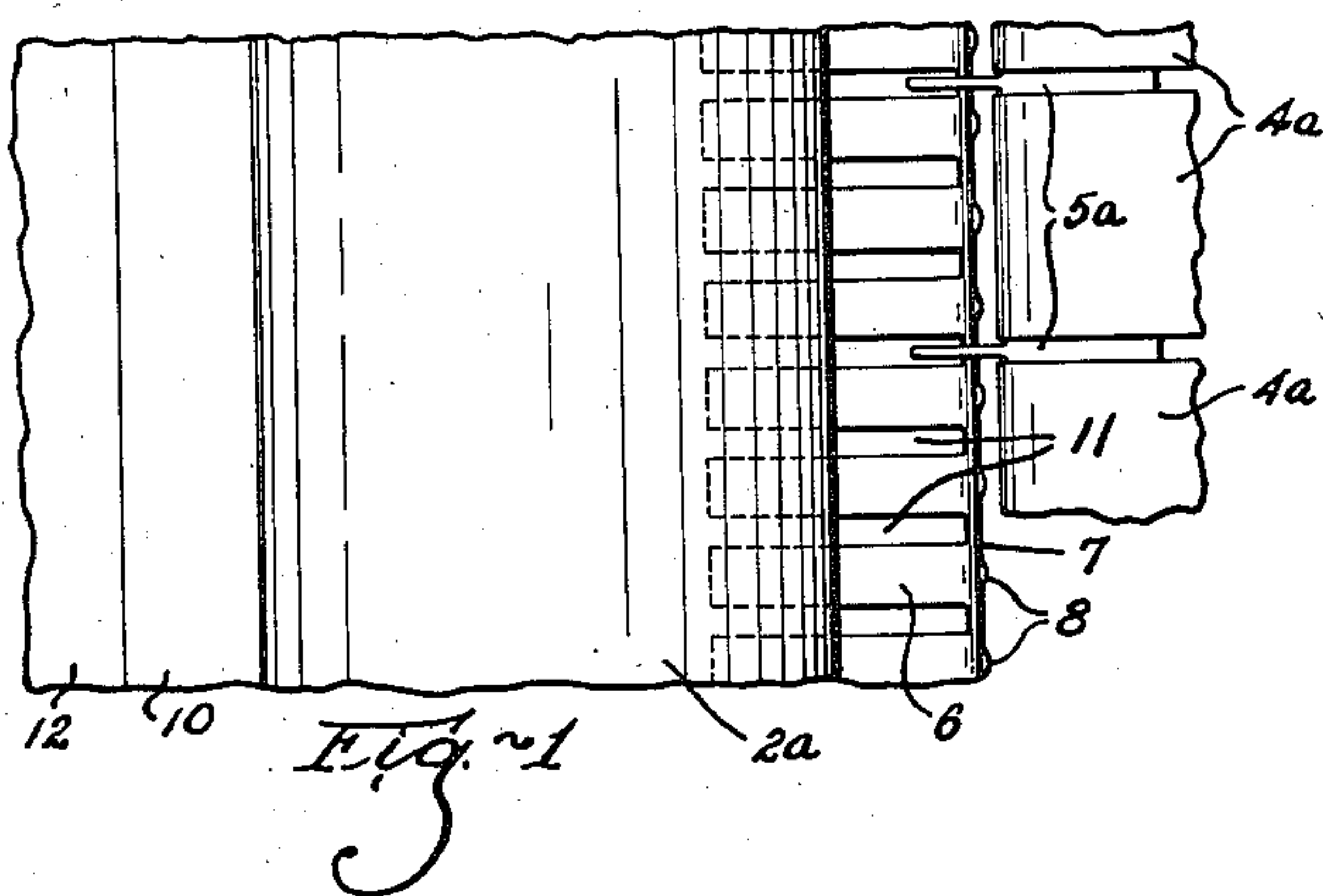
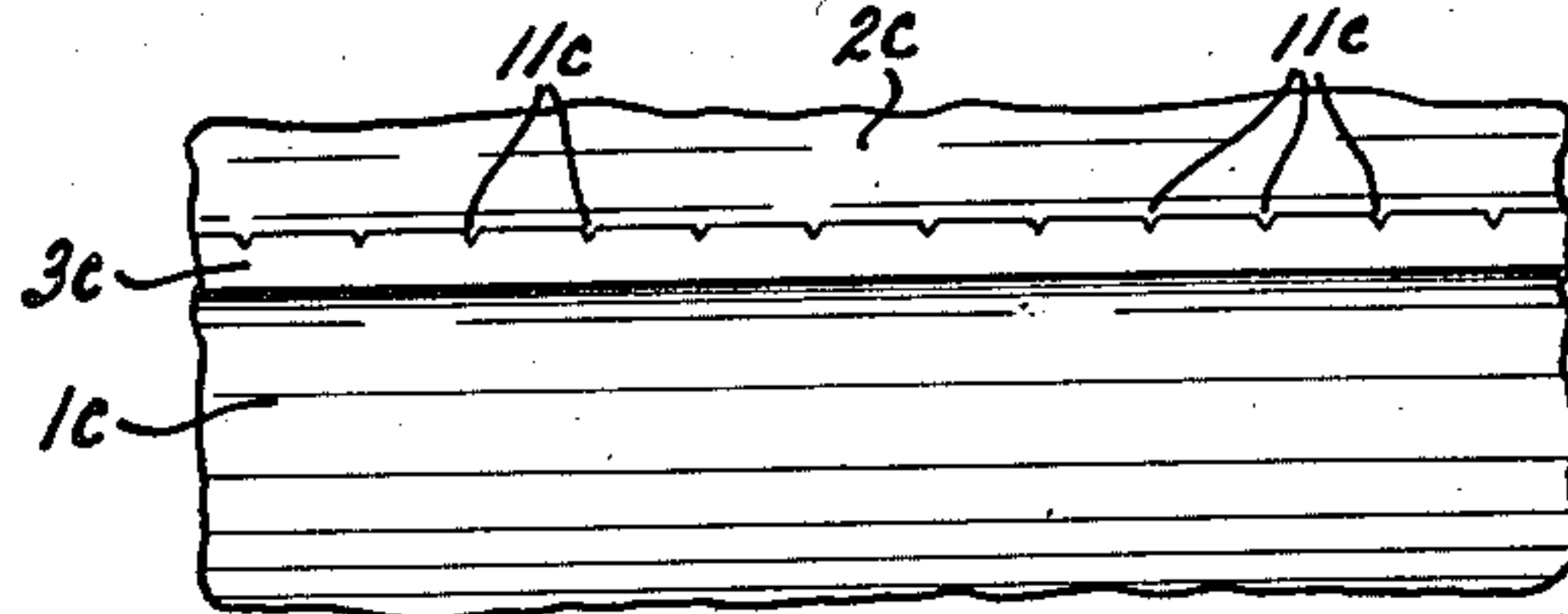
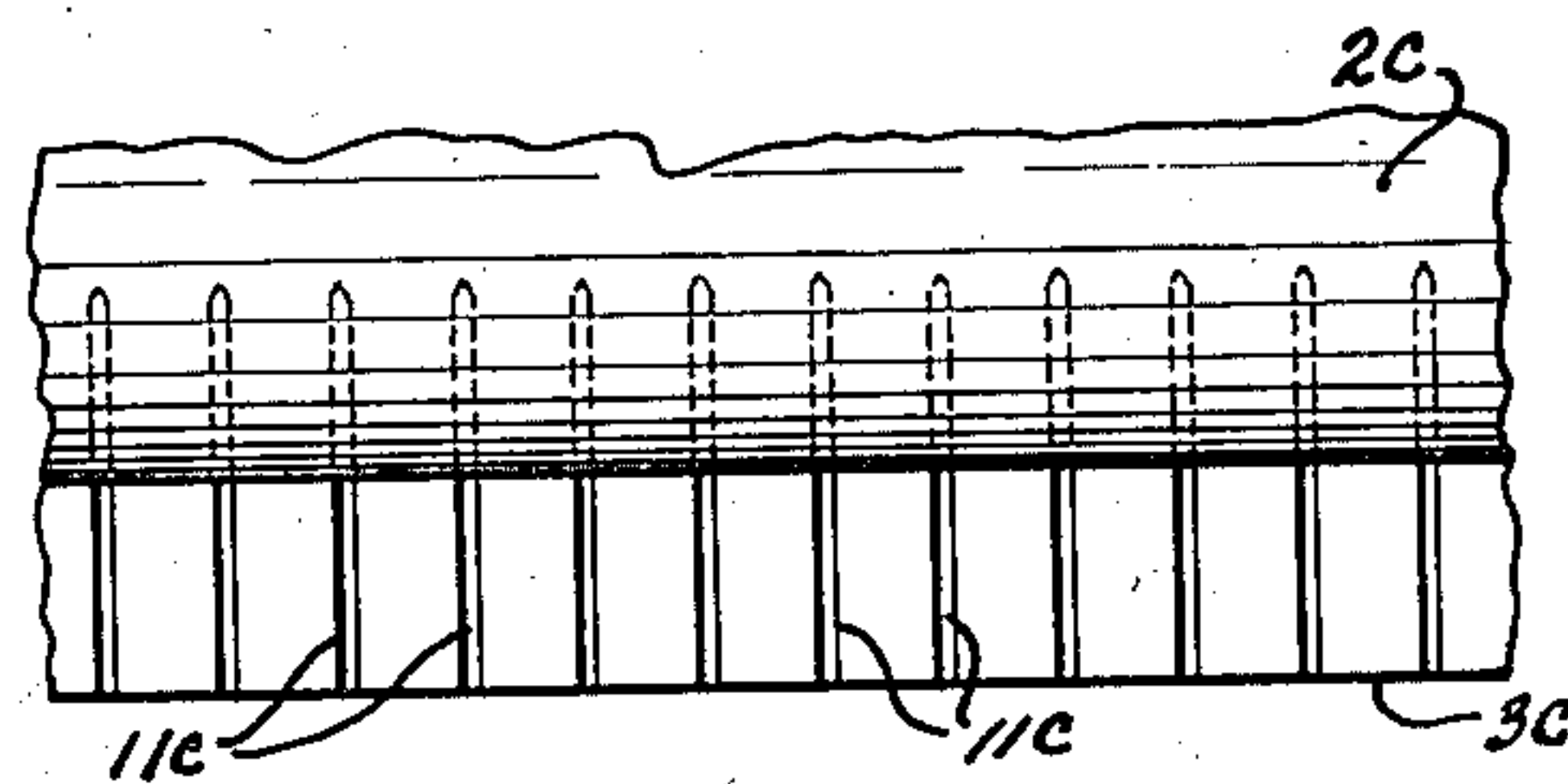


Fig. 6



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## UNITED STATES PATENT OFFICE

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SHIELD

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8 Claims. (Cl. 68—9)

This invention relates to ironing machines hav-  
ing cooperative roll and chest parts and known  
as of flatwork type. Such a machine includes as  
an elementary combination of ironing parts, a  
5 heated metal chest having an ironing face, and a  
padded roll bearing thereupon. The ironing face  
is of generally cylindrical characteristics to fit the  
roll, but the chest has a lip both ahead and be-  
hind the roll by which the ironing face is extend-  
10 ed to support the work as the latter enters and  
leaves respectively between chest and roll. The  
roll is driven, to bear the work against the iron-  
ing face and to cause the work to progress there-  
over and thus accomplish the ironing operation.

15 Such an ironing machine usually has more than  
one pair of cooperative elements as described, but  
this invention relates primarily to that pair of  
roll and chest parts between which the work is  
first fed. It has been found that in such a ma-  
20 chine, and particularly where there is a hem on  
the leading edge of the work, there is a decided  
tendency of the work to turn under and roll back  
upon itself, between the roll and chest parts of  
the ironer. Such malfunction is frequent when  
25 handkerchiefs and the like, which are hemmed all  
around, are being ironed and especially when  
these have narrow rolled hems. In many cases  
the work is damaged and in some case even the  
padding of the ironing roll itself has been  
30 damaged.

It is the object of this invention to prevent such  
malfunctioning, and further objects are to ac-  
complish this by simple and inexpensive means.

35 The exact nature of this invention together  
with further objects and advantages thereof will  
be apparent from the following description taken  
in connection with the accompanying more or  
less conventional drawing, wherein corresponding  
parts have corresponding reference characters,  
40 and in which Figs. 1 and 2 are details in plan and  
typical sectional elevation of pertinent parts of  
an ironing machine in which an embodiment of  
the invention has been incorporated; Fig. 3 is a  
view corresponding to Fig. 2 but showing a pre-  
ferred form of the invention; Figs. 4, 5 and 6 are  
45 details in sectional elevation, front elevation and  
plan respectively, of another embodiment of the  
invention; and Fig. 7 is a sectional detail illus-  
trating the characteristics of the malfunction  
which this invention is designed to overcome.

50 With reference now to the drawing and first  
to Fig. 7 thereof, 1 and 2 represent the chest and  
roll respectively of an ironing machine. The roll  
2 is driven as indicated by the arrow and the  
55 chest 1 has a lip part 3 to which the work is fed

by means of a travelling belt 4, the usual fingers  
5 extending from the belt to assist in the feeding  
operation. The position of the leading edge of  
the work as it contacts with the chest is indicated  
at *a*. As the work advances over the ironing face  
of the chest and contacts with the roll, its posi-  
tion is indicated by the dotted line *b*. At this  
instant as indicated at *b*, the leading edge only  
of the work may be bearing against the chest, and  
tends to stick upon the ironing surface. The roll,  
10 however, engaging the work immediately back of  
its leading edge, forces the work between roll and  
chest, causing the work to roll upon itself as in-  
dicated at *c*. As the work progresses the tend-  
ency of the chest to drag upon it, plus the tend-  
15 ency of the roll to advance it, makes the work  
continue rolling about its leading edge as at *d*.

With reference now to Figs. 1 and 2, the chest  
1*a* and roll 2*a* are arranged and related as before,  
as are the parts by which the work is fed onto the  
lip 3*a* of the chest, these parts including the feed  
belts 4*a* and fingers 5*a*. It will be appreciated  
that the chest 1*a* is hollow as indicated that it  
may be heated by steam conducted therethrough;  
and the roll 2*a* is driven as indicated by the  
25 arrow, is caused to bear against the polished iron-  
ing surface 10 of the chest, and is peripherally  
padded, all as will be appreciated by one familiar  
with the art.

According to this invention I provide a number  
30 of members 6 arranged in spaced relation and  
extending over the ironing face of the lip 3*a*, in  
the direction of travel of the work, up to and  
slightly under the roll 2*a*. These members 6 are  
secured against travel with the work. They may  
35 be of sheet metal, integral with a frame or back-  
ing part 7 which is turned down over the edge of  
the lip 3*a* of the chest and there secured as by  
screws 8. By this simple arrangement the mem-  
bers 6 are of course integral with each other as  
40 well as firmly secured with the chest, the relation  
of the members 6 being that of teeth in a comb.  
The free ends of the members 6 extend but  
slightly under the roll 2*a* and are preferably  
feathered as indicated at 9 so that they do not  
45 have an abrupt ending.

The thickness of the members 6 need be but  
slight, as their purpose is to form grooves 11  
therebetween.

In operation, as the leading edge of the work is  
50 delivered onto the leading chest 1*a* of the ma-  
chine, the work will strike the members 6 instead  
of the perfectly flat ironing surface of the lip 3*a*.  
The work being damp, it is limp, and will sag  
slightly in the spaces 11 between the members 6.  
55



The result is that the work will have slight deformations extending in the direction of its travel, and will be stiffened against rolling as described in connection with Fig. 7. Also, the leading edge of the work will not touch the hotter ironing surface of the ironing chest so that its tendency to stick will be materially decreased. Consequently once the work touches the roll 2a it will be moved by the latter, from the members 6, over the ironing surface 10 of the chest and onto the next chest 12 of the ironing machine.

With reference now to the preferred modification of Fig. 3 the arrangement is as before except that the intermediate parts of the members 6b are raised somewhat from the lip 3b of the chest by the simple expedient of making the frame part 7b with which the members 6b are integral, slightly wider. The frame part is secured with the lip of the chest by screws 8b as before. The free extremities 9b of the members 6b slightly underlie the roll 2b as before and have feathered extremities. As compared with the arrangement of Figs. 1 and 2, the arrangement of Fig. 3 differs in effect that the spaces between the members 6b are deeper than before, so that the entire leading edge of the work is engaged by the roll 2b before it passes off the members 6b and engages the ironing surface 10b.

With reference now to the modifications of Figs. 4-6, an arrangement is shown wherein the ironing face of the lip 3c of the chest 1c is provided with narrow spaced grooves 11c, the grooves commencing at the end of the ironing face and extending, in the direction of travel of the work, up to the roll 2c, where they terminate gradually as indicated in Figs. 4 and 6.

It will be apparent that so far as the work is concerned, the effect of the arrangement of Figs. 4-6 is substantially the same as of that of Figs. 1 and 2; the principal difference being that in the former case the deformation of the work is accomplished by means integral with the chest, whereas in the latter case it is accomplished by separate means attached to the chest.

What I claim is:

1. In an ironing machine, cooperative roll and chest parts, one of said parts having deformations extending in the direction of travel of work passing between said parts and adapted to produce corresponding deformations in such work as it enters between said parts in the ironing operation, the effect of the deformations produced in the work being to resist tendency of the leading edge of the work to roll.

2. In an ironing machine, cooperative roll and chest parts, said chest part having deformations extending in the direction of travel of work passing between said parts and associated with its ironing face to produce corresponding deformations in such work as it enters between said parts in the ironing operation, the effect of the def-

ormations produced in the work being to resist tendency of the leading edge of the work to roll.

3. In an ironing machine, a chest part and a cooperative roll part, means associated with said chest part for producing in the work passing between said parts deformations extending in the direction of travel of such work as it enters between said parts in the ironing operation, said means comprising a plurality of spaced portions secured to the leading lip of said chest part and extending over said lip toward said roll part.

4. In an ironing machine, a chest part and a cooperative roll part, means associated with said chest part for producing in the work passing between said parts deformations extending in the direction of travel of such work as it enters between said parts in the ironing operation, said means comprising a plurality of spaced portions secured to the leading lip of said chest part and extending over said lip toward said roll part, said portions having their intermediate parts spaced above said chest lip to deepen the effect of the cavities between said portions.

5. In an ironing machine, a chest part and a cooperative roll part, said chest part having a lip extending from the roll part in the direction from which the work is fed between the parts, said lip having spaced grooves extending to the roll, in the direction of travel of the work, to resist tendency of the leading edge of the work to roll in the ironing operation.

6. In an ironing machine, a chest part and a cooperative roll part, said chest part being provided with means for producing in the work passing between said parts deformations extending in the direction of travel of such work as it enters between said parts in the ironing operation, said means being of such character that each of the deformations produced in the work is of less width than the space between adjacent deformations.

7. In an ironing machine, a chest part, a cooperative roll part, and means for feeding work to said parts for receiving an ironing effect therebetween, means carried by said chest part and independent of said feeding means for producing in the work fed to such parts relatively narrow deformations extending in the direction of travel thereof as it enters between said parts in the ironing operation.

8. In an ironing machine, a chest part, a cooperative roll part, means for feeding work to said parts for receiving an ironing effect therebetween, means for producing in the work fed to such parts deformations extending in the direction of travel of the work as it enters between said parts in the ironing operation, and work supporting means extending between said feeding means and said deformation producing means.

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