

No. 753,996.

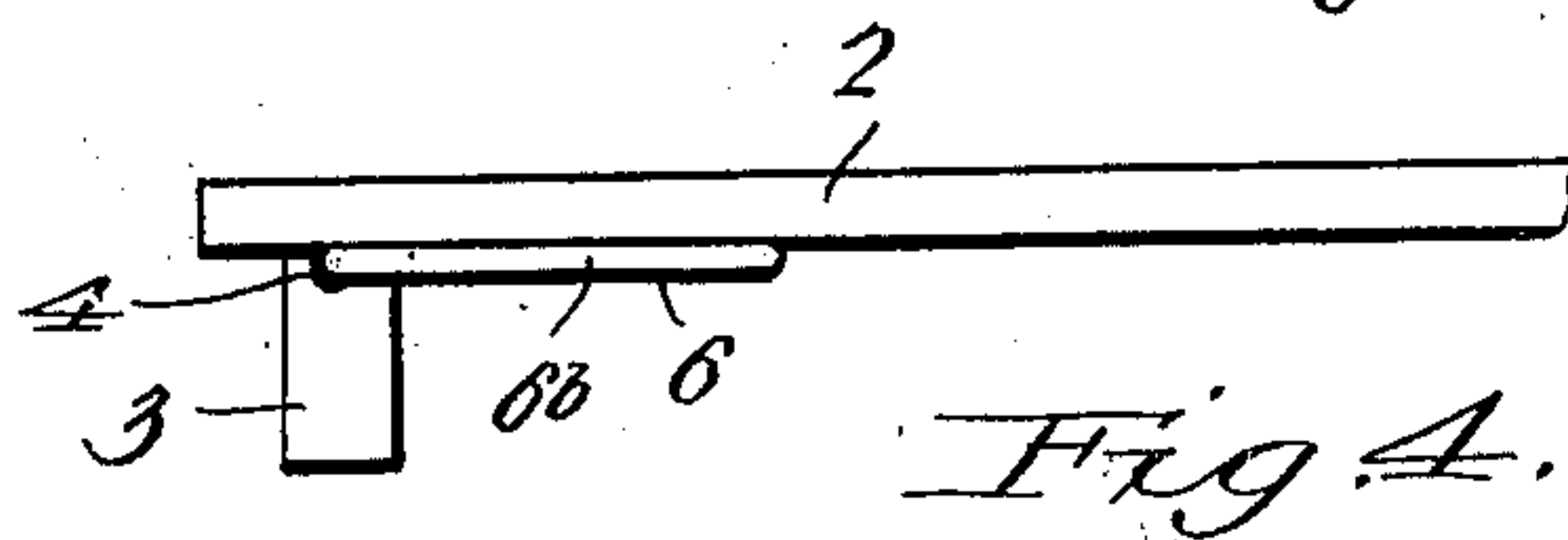
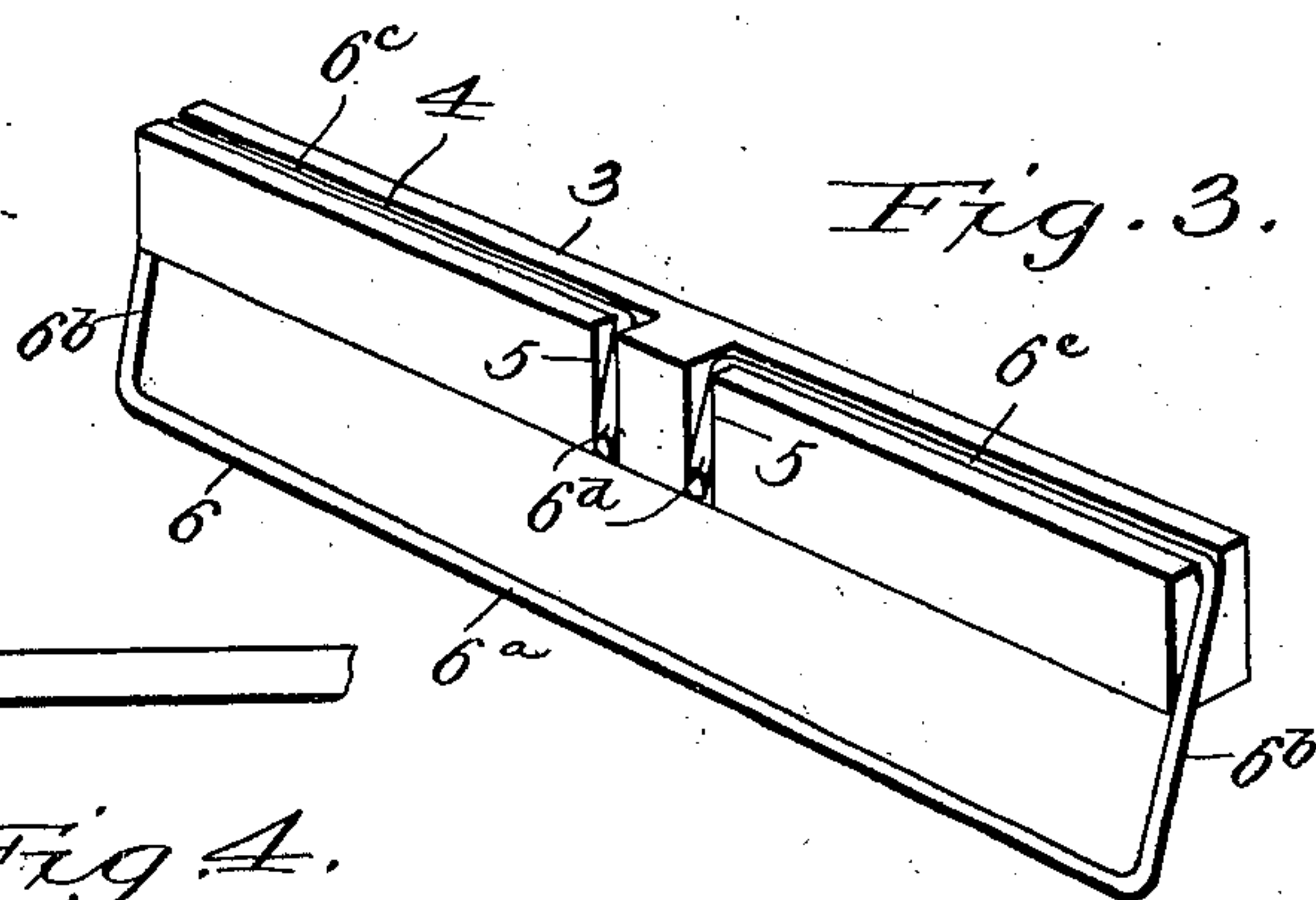
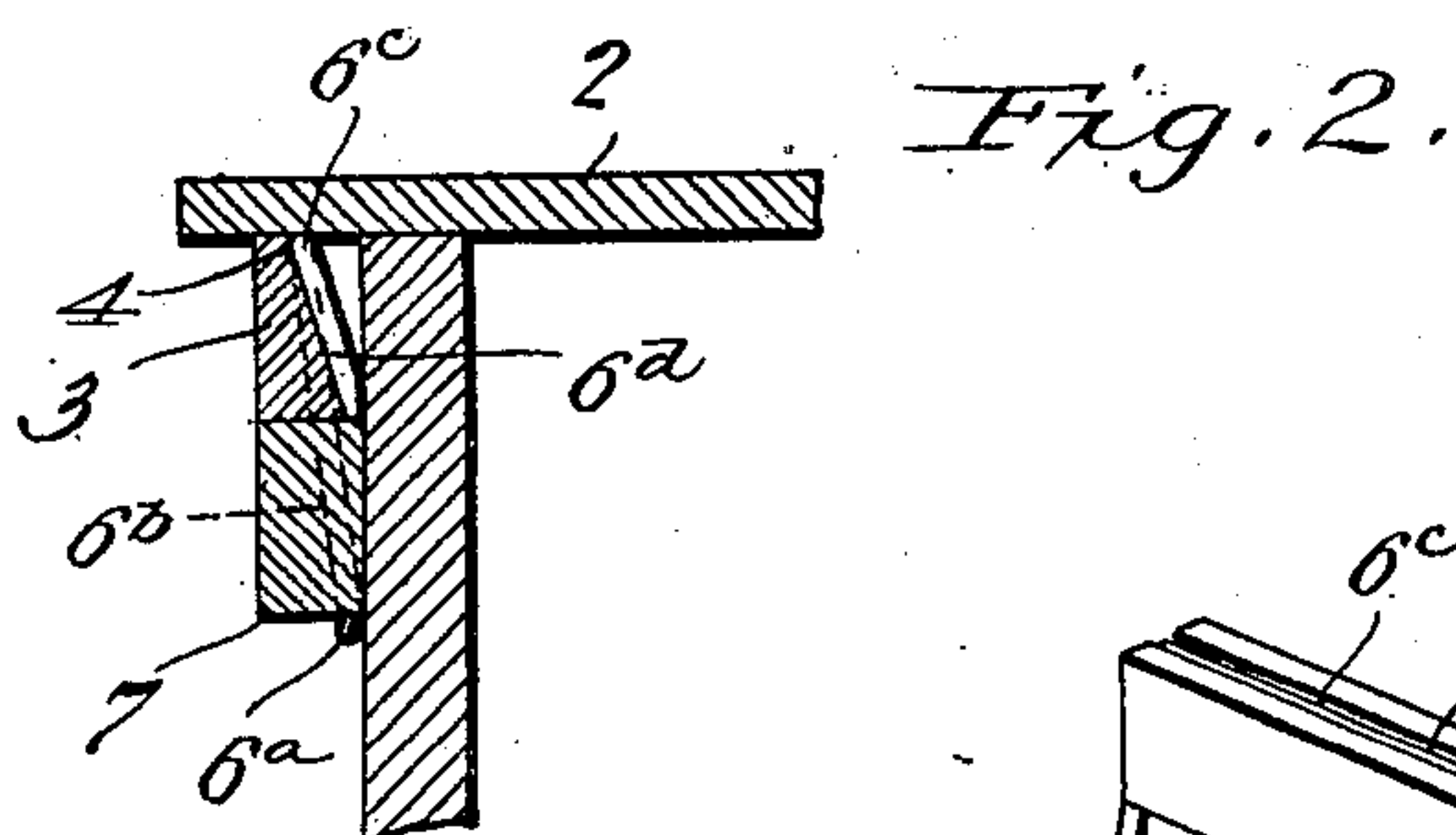
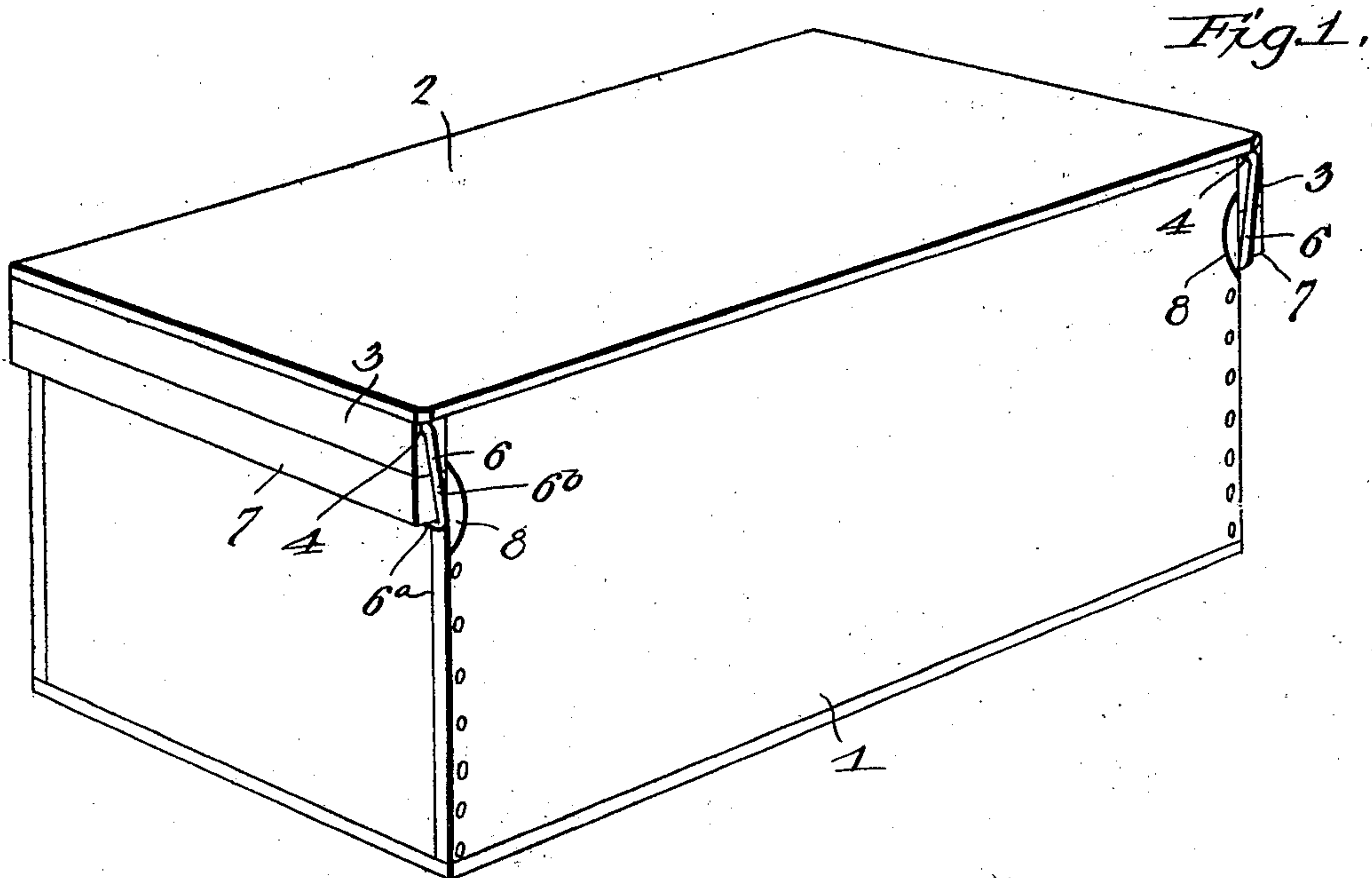
PATENTED MAR. 8, 1904.

F. MOELLENBROCK.

BOX FASTENER.

APPLICATION FILED SEPT. 3, 1903.

NO MODEL.



Witnesses

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UNITED STATES PATENT OFFICE.

FRANK MOELLENBROCK, OF DISSEN, MISSOURI.

BOX-FASTENER.

SPECIFICATION forming part of Letters Patent No. 753,996, dated March 8, 1904.

Application filed September 3, 1903. Serial No. 171,801. (No model.)

To all whom it may concern:

Be it known that I, FRANK MOELLENBROCK, a citizen of the United States, residing at Dis-
sen, in the county of Franklin and State of
5 Missouri, have invented a new and useful Box-
Fastener, of which the following is a speci-
fication.

This invention relates to box-fasteners; and
it consists in certain improvements upon a
10 box-fastener patented to me October 1, 1901,
by Letters Patent No. 683,781.

The object of the invention is to provide im-
proved means for fastening a removable lid
to a box in a secure and convenient manner
15 and to provide a fastener which when the lid
is removed from the box may be folded into
contact with the under surface of the lid, so
as to be entirely out of the way.

A further object of the invention is to im-
20 prove the construction of box-fasteners of the
type to which this invention relates by mate-
rially cheapening the cost of constructing the
fastener and applying it to a box-lid.

The invention consists in the combination of
25 parts of a box-fastener hereinafter fully de-
scribed, illustrated in the accompanying draw-
ings, forming part of this specification, and
having the novel features thereof pointed out
in the appended claims, it being understood
30 that various changes in the details of con-
struction and arrangement of the device may
be resorted to without departing from the
spirit of the invention or sacrificing its ad-
vantages.

35 In the drawings, Figure 1 is a perspective
view of a box having the improved fastener
applied thereto. Fig. 2 is a detail view in
section through one end of the box and the
lid in a plane extending longitudinally of the
40 box. Fig. 3 is a view of the fastener proper
and the cleat by which it is supported de-
tached from the box-lid. Fig. 4 is a view
from the side of one end of the lid with the
loop swung into contact with the under sur-
45 face of the lid.

Referring to the drawings, in which corre-
sponding parts are designated by the same
characters of reference throughout, 1 desig-
nates the body of an ordinary box as com-
50 monly used for shipping eggs and having the

ordinary flat top or lid 2 resting upon the
top edges of the box-walls. Each end of the
lid is provided with a cross bar or cleat 3, ex-
tending transversely thereof on the under
side and terminating a little short of the side
55 margins of the lid, which are beveled slightly
at the corners, as shown. The cleat 3 at each
end of the lid is channeled on the upper sur-
face throughout the entire length, as indicated
at 4, and on the inner face of each cleat, near
60 the middle thereof, are formed two grooves 5,
which are of greatest depth at the upper ends
and whose bottoms are inclined, so that they
merge into the inner face of the cleat at the
lower margin thereof. The upper ends of
65 the groove 5 are of sufficient depth to merge
into the channels 4 upon the upper surfaces
of the cleats 3. The channels 4 and grooves
5 on each cleat serve conjointly to form a seat
for a fastening member 6, which consists of
70 a loop of spring-wire of suitable weight and
which is substantially rectangular in form, as
shown, comprising a lower horizontal portion
6^a, the vertical side portions 6^b, the upper
horizontal portions 6^c, which lie in the grooves
75 4, and the downwardly-disposed terminal por-
tions 6^d, which rest in the grooves 5. The
terminal portions 6^d lie normally parallel
with the side portions 6^b and permit the loops
to be sprung inward until they come substan-
80 tially into contact with the under surface of
the lid 2; but when the loops are swung down-
ward the terminal portions 6^d strike against
the bottoms of the grooves 5 and hold the
loops in the position relative to the cleats. 85
(Indicated in Fig. 3)

The cross bars or cleats 3 are designed to
lie against the respective ends of the box, so
as to prevent any endwise displacement of the
lid, and they normally rest upon transverse
90 cleats 7 of similar dimensions, rigidly at-
tached to the ends of the box on the outside,
as shown. The cleats 7 are so proportioned
that when the box-lid is in position on top
of the box the loops 6 will embrace the said
95 cleats and contact with the ends of the box
beneath the cleats, being held in firm contact
with the ends of the box by the resiliency of
the wire of which the loops are made.

In order to disengage the loops 6 from the 100

cleats 7 upon the box, it is necessary that they should be sprung outward from the ends of the box sufficiently to clear the outer sides of the cleats, and in order to facilitate the outward springing of the loops when it is desired to remove the box-lid the sides of the box are cut away at 8, so that the thumb or forefinger may be conveniently brought into contact with the end of the loop.

10 The sides of the box are cut away at both ends, as shown, so that either of the loops may be disengaged from the cleat which it embraces; but it will be understood that in removing the lid from the box it is unnecessary to spring both of the loops outward. By 15 springing one loop outward sufficiently to clear the outer side of the cleat embraced thereby one end of the box-lid may be raised and the other end will swing upon the loop 20 provided thereat as a hinge and permit the removal of the lid without difficulty.

From the foregoing description and the drawings illustrative thereof it will be seen that by providing the cleats 3 with channels 25 of the form described and constructing the loops in the manner specified the construction of the fastener is made considerably simpler and cheaper than that shown in my prior patent above mentioned, while at the 30 same time none of the mechanical advantages or durability of the device are lost, and the folding of the loops against the under surface of the box-lid gets them out of the way, so that the box-lid will take up less space when 35 removed. As dealers in eggs usually have a large number of boxes or crates on hand at one time and open for convenient removal of eggs therefrom, the folding of the fasteners into contact with the under surface of the lid, 40 so that the lids will occupy much less space when removed, is a very material advantage from a practical point of view. Furthermore, the possibility of bending the loops so that they will not embrace the cleats on the end of 45 the box, which is of not infrequent occurrence when the loops are not susceptible of folding out of the way, is positively prevented.

Having thus described the construction and operation of my invention, what I claim as 50 new, and desire to secure by Letters Patent, is—

1. The combination with a box, of a lid having a transversely-arranged end cleat having channels in the upper surface thereof, a 55 spring-catch pivotally mounted in the channels on said cleat to swing substantially into contact with the under surface of the lid and

having its outward pivotal movement limited, and a member on the box for engagement with said catch. 60

2. The combination with a box, of a lid having a cleat transversely arranged at the end thereof, a loop of resilient material pivotally mounted in said cleat to swing substantially into contact with the under surface of 65 the lid and having its outward movement limited, and a member on said box in position to be encircled by the loop.

3. The combination with a box, of a lid having a transversely-arranged end cleat channeled on its upper surface, a loop of resilient material pivotally mounted in the channel to swing substantially into contact with the under surface of the lid and having its outward 75 movement limited, and a member on the box for engagement with said loop.

4. The combination with a box, of a lid having a transversely-arranged end cleat channeled on the top, a loop of resilient material pivotally mounted in the channel to swing 80 substantially into contact with the under surface of the lid and having its outward movement limited, and an external, transversely-arranged cleat on the end of the box for engagement with said loop. 85

5. The combination with a box, of a lid having a transversely-arranged end cleat channeled on its upper surface and having grooves on the inner face thereof merging at the top into the channel, a loop of resilient material 90 having horizontal portions resting in the channel and downwardly-bent terminal portions lying in said grooves, and a member on the outside of the box for engagement with said loop. 95

6. The combination with a box, of a lid having a transversely-arranged end cleat provided on its upper surface with a longitudinal channel and having on the inner face thereof two downwardly-disposed grooves merging 100 at their upper ends into said channel and having inclined bottoms, a loop of resilient material having horizontal portions resting in the channel on top of said cleat and downwardly-disposed terminal portions lying in 105 said grooves, and a member on the outside of the box for engagement with said loop.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

F. MOELLENBROCK.

Witnesses:

LOUIS KOCH,

H. A. PANHORST.