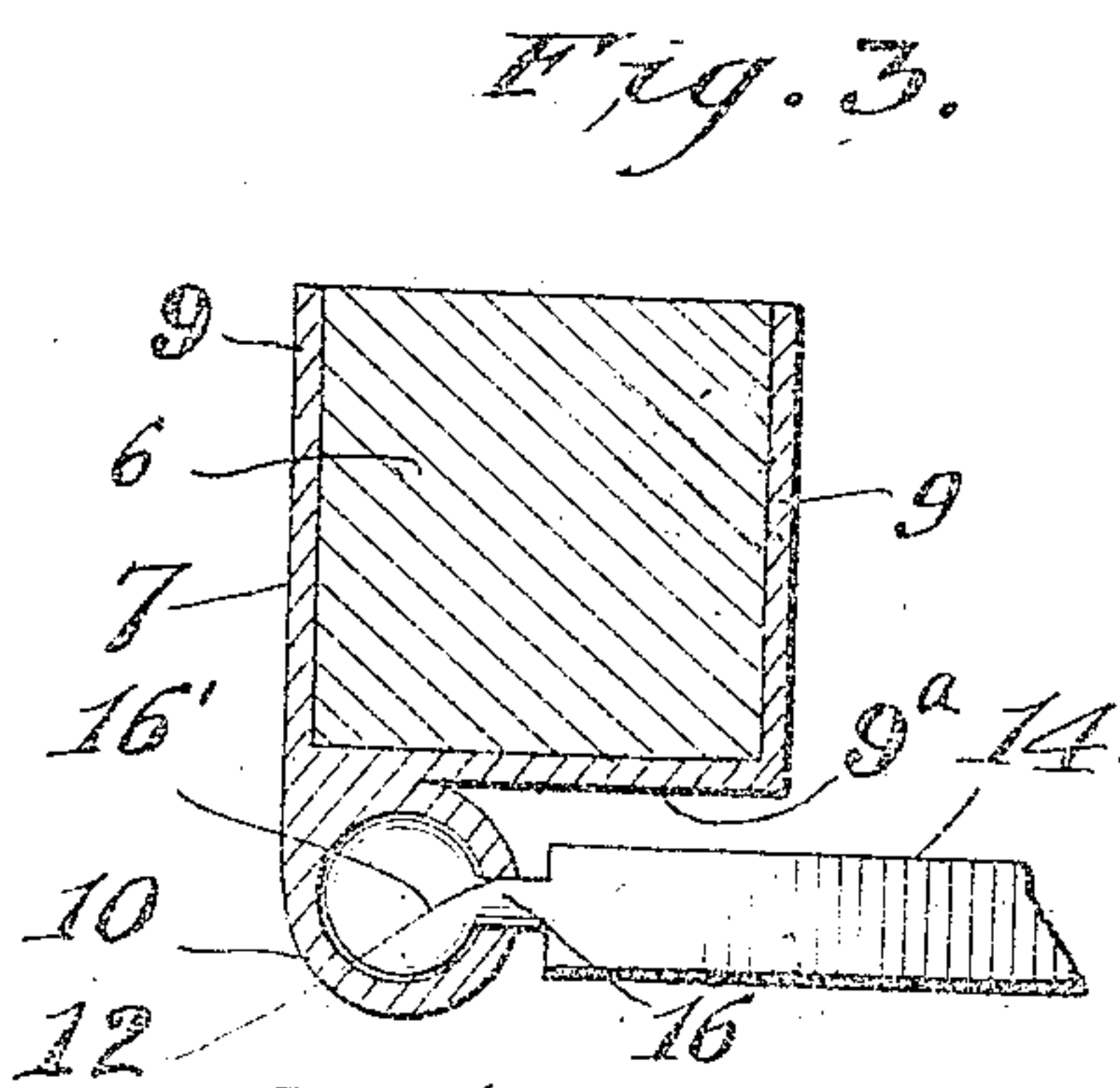
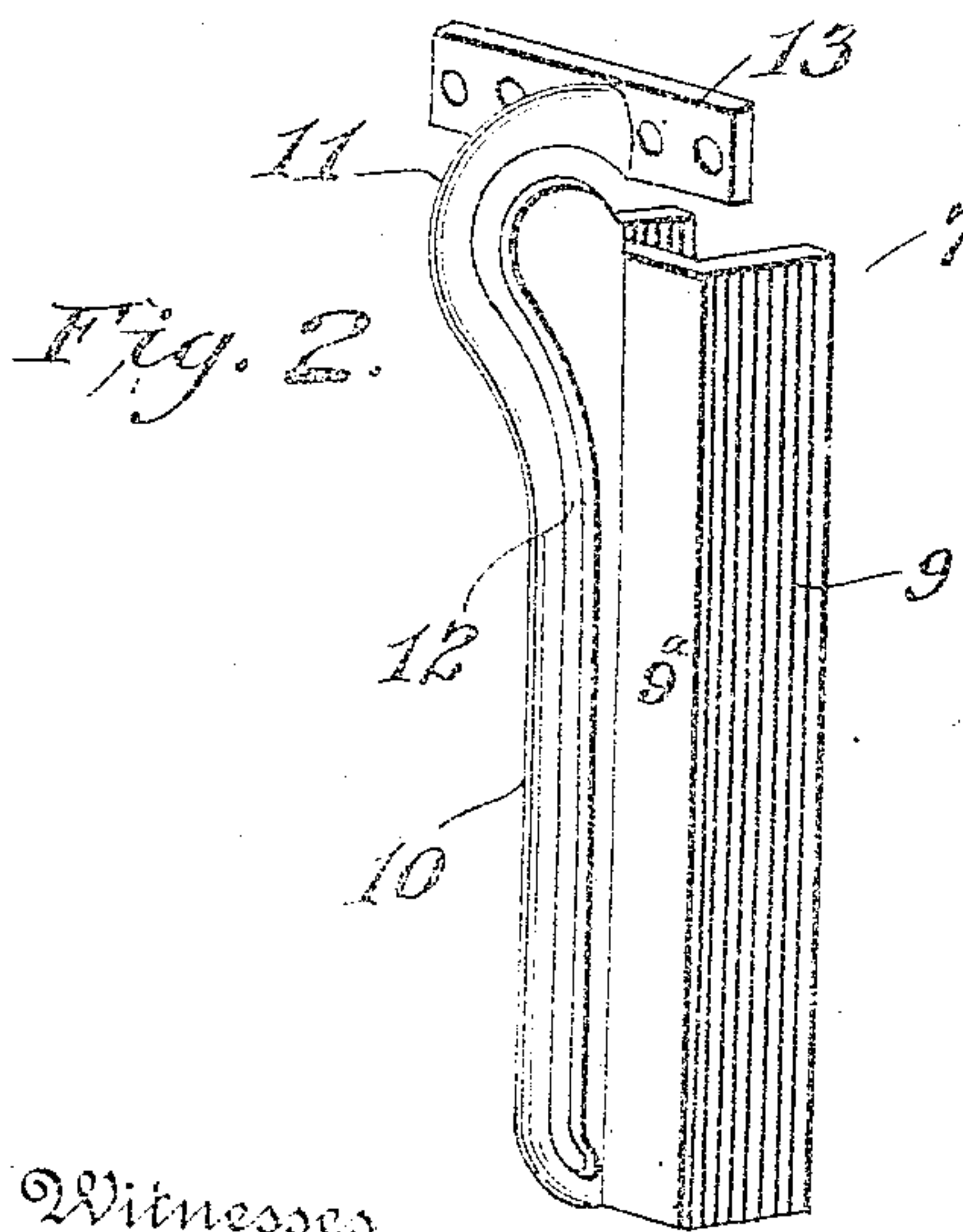
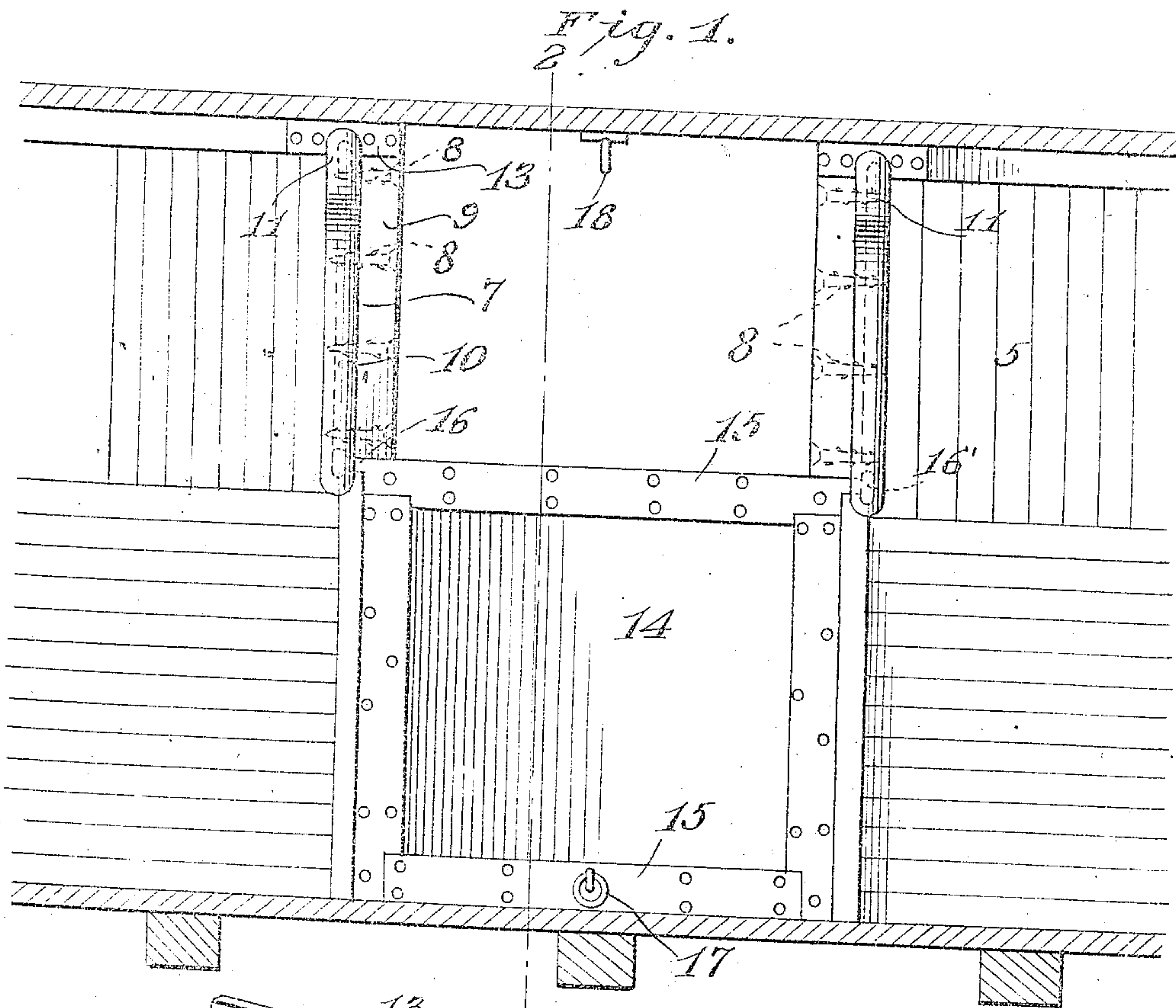


J. KROHN.
GRAIN CAR DOOR.
APPLICATION FILED AUG. 6, 1909.

979,076.

Patented Dec. 20, 1910.



Witnesses
M. C. Lyddane
E. M. Ricketts

Julius Krohn Inventor
Watson E. Coleman
Attorney

UNITED STATES PATENT OFFICE

JULIUS KROHN, OF MENOMONIE, WISCONSIN, ASSIGNOR OF ONE-HALF TO CARL G. TILLESON, OF MENOMONIE, WISCONSIN.

GRAIN-CAR DOOR.

979,076.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed August 6, 1909. Serial No. 511,604.

To all whom it may concern:

Be it known that I, JULIUS KROHN, a citizen of the United States, residing at Menomonie, in the county of Dunn and State of Wisconsin, have invented certain new and useful Improvements in Grain-Car Doors, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to improvements in grain car doors and especially with reference to guide members for a grain car door, adapted to be applied to the door posts and serving to engage trunnions which project
15 from opposite sides of the door, and to guide such trunnions so as to permit the door to be raised or lowered, and to also permit the door, when raised, to be swung inwardly, and supported from the car roof, as hereinafter fully described and claimed.

20 In the accompanying drawings—Figure 1 is an interior elevation of a portion of one side of a car provided with a door, and a pair of my improved guide members for the door, the roof and floor of the car being shown in section. Fig. 2 is a detail perspective view of one of my improved guide
25 members. Fig. 3 is a transverse sectional view of the same showing the same applied to one of the door posts, and also showing the upper side of the door, and a trunnion of the door engaging the said guide member.

30 For the purposes of this specification the side 5 of a grain car is shown provided with a doorway, and a vertically movable door 14 to close the lower portion of the doorway, the said door being shown provided with reinforcing metal plates 15 at its sides, and also provided at its upper corners with
40 oppositely extending trunnions 16 having enlarged heads 16', at their outer ends. The door is also shown provided on its inner side, near its lower edge and at its center with a ring 17 pivotally connected thereto and for engagement with a hook 18 under
45 the roof of the car, to support the inner end of the door when the latter is raised and swung inwardly under the car roof. In accordance with my invention, I provide a
50 pair of guide members 7, each of which comprises a channeled portion to receive one of the door posts and providing side walls 9, to engage opposite sides of the post, and an inner wall 9^a, connecting the side walls
55 9 together, and to bear against the inner side

of the post. The said members are secured to the door posts by means of spikes 8 which are indicated in dotted lines in Fig. 1. Each guide member is also provided with an integral tubular portion 10 which is disposed
60 at the inner corner thereof at the angle between two of the walls thereof, the said tubular portion forming a reinforce for the channeled portion. The said tubular portion is provided at its upper end with a
65 goose-neck 11, and is further provided with a guide slot 12, which extends from near the lower end of the tubular guide portion to the upper end of the goose-neck, that portion of the said slot in the goose-neck conforming
70 to the curvature thereof. A securing plate 13 is formed integral with the goose-neck at the upper end of the latter, and has its central portion united thereto, the said securing plate extending beyond opposite sides of the
75 goose-neck, and being applied to the car beam at the upper end of the post, and secured to the said beam as by means of the spikes, as shown in Fig. 1.

80 It will be observed, upon reference to Fig. 2 that the upper end of the slot 12 is open. The said slots 12 of the guide members are on the opposing sides of said guide members, and are engaged by the trunnion 16 of the car door, the heads 16' of the trunnions operating in the tubular portions of
85 the guide members. These trunnions are vertically movable in the slots 12, and as the door is forced upwardly, will follow the curvature of the upper ends of the slots. When the trunnions have been moved to the upper extremities of the slots 12, the door will close the upper half of the doorway. The door can be then swung inwardly and upwardly and secured in such position by
90 causing its ring 17 to engage the hook 18, thus the said ring and hook coacting with the guide members and the trunnions of the door to support the door in such lifted position until the car has been emptied or filled.

100 Having thus described the invention, what is claimed is:

The herein described guide member for the trunnion of a grain car door and for application to one of the door posts, the said
105 guide member comprising a channeled portion to receive one of the door posts and providing webs or walls to bear against opposite sides of and also against the inner side of the post, a tubular portion disposed at the
110

inner corner of said guide member at the angle between two of the walls thereof, said tubular portion forming a reinforce for the channeled portion, being provided at its upper end with a goose-neck and being further provided with a guide slot extending from near the lower end thereof to the upper end of the goose-neck, that portion of the said slot in the goose-neck conforming to the curvature thereof, and a securing plate formed with said channeled portion and said

tubular member, said securing plate having its central portion united to the upper end of the goose-neck and extending beyond opposite sides thereof and for application to the car beam at the upper end of the post. 15

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JULIUS KROHN.

Witnesses:

H. C. ISENFELDT,
SINA OLESON.