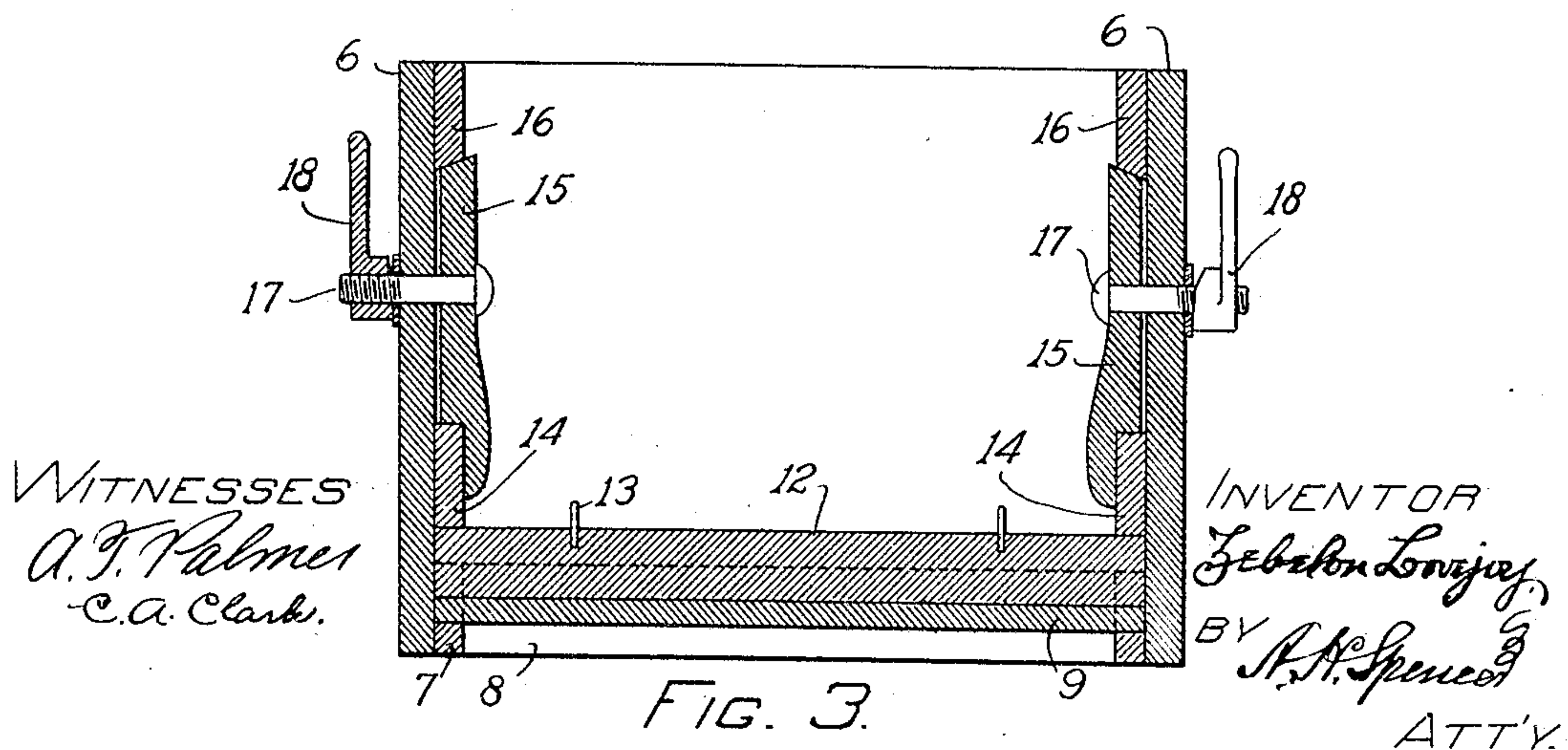
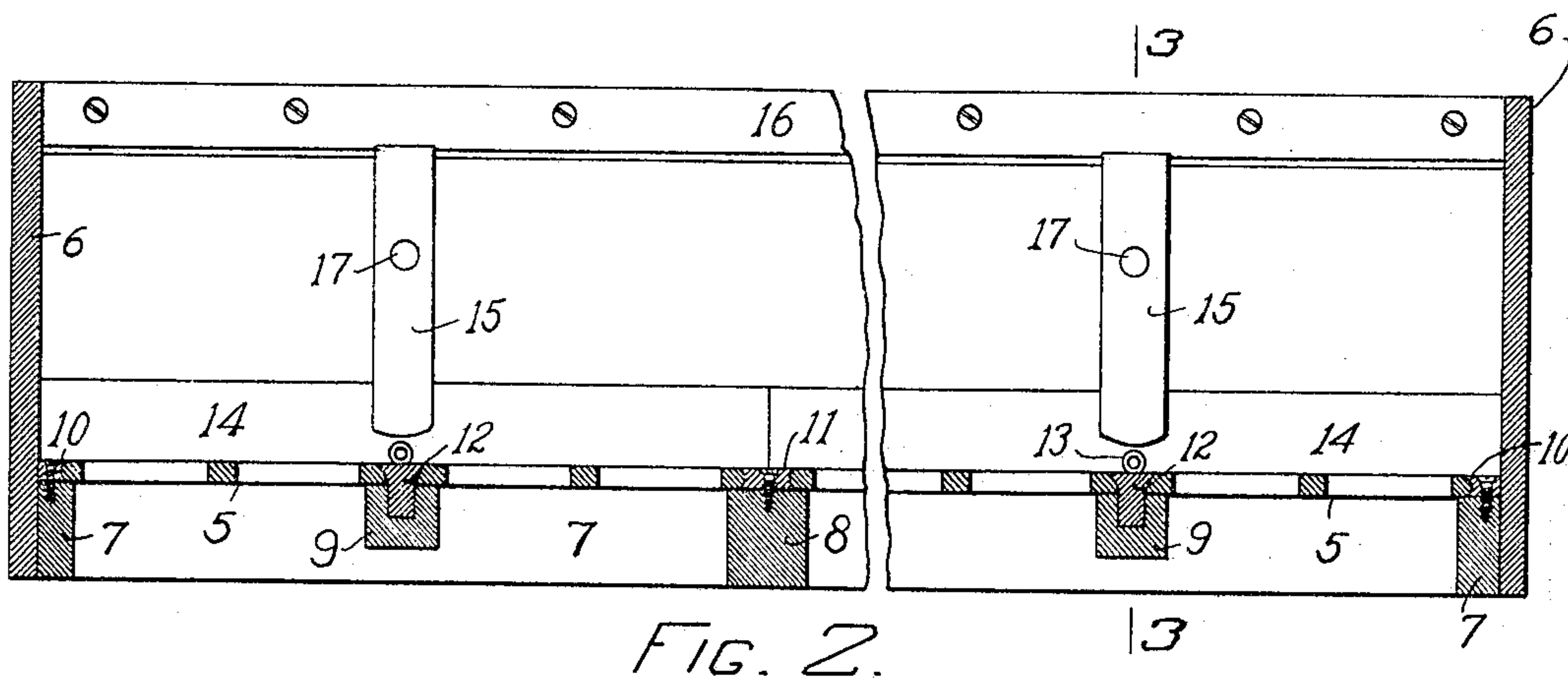
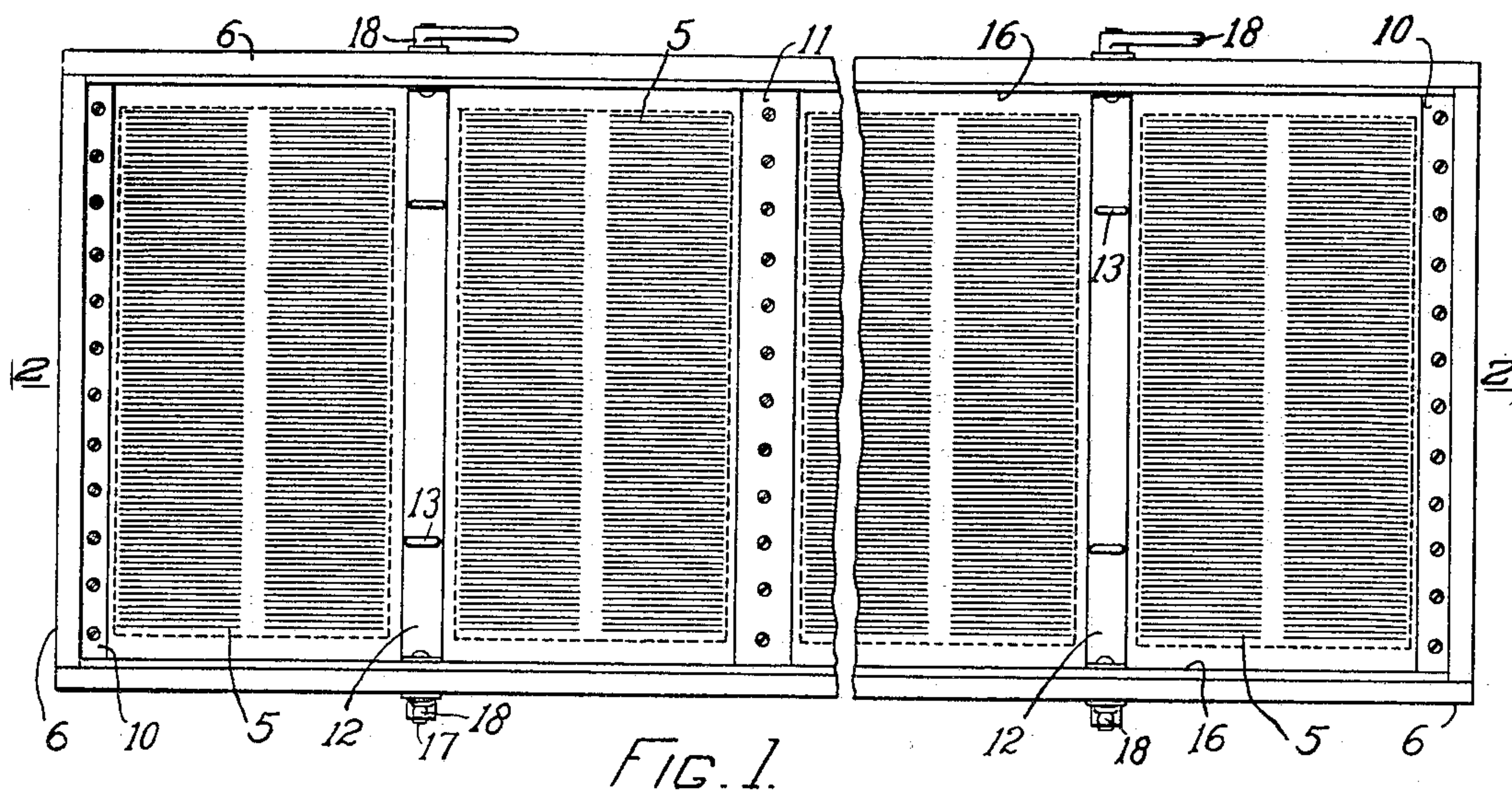


No. 766,150.

PATENTED JULY 26, 1904.

Z. LOVEJOY.
PULP SCREEN APPARATUS.
APPLICATION FILED APR. 23, 1904.

NO MODEL.



WITNESSES
A. J. Palmer
C. A. Clark.

INVENTOR
Zebulon Lovejoy
BY A. H. Spencer
ATT'Y.

UNITED STATES PATENT OFFICE.

ZEBELON LOVEJOY, OF LINCOLN, MAINE, ASSIGNOR OF ONE-HALF TO
ELI H. PINKHAM, OF LINCOLN, MAINE.

PULP-SCREEN APPARATUS.

SPECIFICATION forming part of Letters Patent No. 766,150, dated July 26, 1904.

Application filed April 23, 1904. Serial No. 204,520. (No model.)

To all whom it may concern:

Be it known that I, ZEBELON LOVEJOY, of Lincoln, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Pulp-Screen Apparatus, of which the following is a specification.

The object of this invention is to simplify and perfect pulp-screens, and especially to reduce the time required in adjusting the old forms of screens—that is, in removing and replacing the perforated plates, as is frequently necessary in practical use. Under my improvement less than one-fourth of the time formerly required is consumed in this adjustment, because these simple and efficient fastenings and the screens held by them are so quickly removed and replaced.

In the drawings, Figure 1 is a top plan of the screen, showing a series of perforated plates with interposed locking-bars and end fastenings. Fig. 2 is a longitudinal vertical section on line 2 2 of Fig. 1. Fig. 3 is a transverse vertical section of line 3 3 of Fig. 2.

Each complete screen is furnished with a series of perforated brass plates 5, secured horizontally. The screen-frame is of rectangular form and suitable size, its vertical walls 6 having a ledge 7 extending around their inner face at the base to support the screens proper and their fastenings. Flush with the upper face of this ledge and sunken in its opposite side portions are heavy cross-sills 8 and deeply-recessed sills 9, alternating with and separated from each other a distance nearly equal to the width of a screen-plate. Each end portion of ledge 7 has made fast to its upper surface a screen-holding bar 10, grooved along its inner edge and each of the heavy sills 8 has a like bar 11, grooved in both its edges, these grooves receiving the rounded edges of the perforated plates 5 when introduced.

Each of the screen-plates has a length equal to the internal width of the frame, so that its ends are supported by the ledge 7, and each has a rounded edge along one side to fit into and turn somewhat when inserted

in and removed from the edge groove of the bars 10 and 11. Each screen-plate is also beveled along one edge, these beveled-edge walls being adjacent to each other and converging downwardly to meet the edges of the longitudinal recess in the cross-sill 9. The flat bottoms of the plates adjoining the beveled edges rest on the flat surfaces of sill 9 each side of its recess. A transverse wedge-bar 12 is now introduced sidewise between these converging walls and extends downwardly to fit into and fill the recess of the sill 9, the walls of such recess and of the corresponding lower part of the wedge-bar being preferably vertical. The ends of the wedge-bars rest on the ledge 7. It will be obvious that when the wedge-bar is introduced between the beveled edges of the screens they will be pressed apart and held down with their rounded edges in the grooves of bars 10 and 11, and as the parts are properly proportioned the screen as a whole will present a perfectly flat internal surface. A screw-eye or other upwardly-extending lifting device 13 for the wedge-bar will be provided. The screen may contain as many pairs of plates with bars thus arranged as may be desired.

The plates and bars forming the screen-bottom are held down firmly by fastenings quickly detached or replaced. Removable longitudinal bars 14 extend along the side walls, resting on the ends of the plates and bars described. Vertical clamps 15 of peculiar shape are bolted midway of their length to the side walls 6, their lower ends resting on the upper edge of bar 14 and extending down partly across its front face, thus holding said bar down and against the inner wall of the frame 6. The upper end of each clamp is beveled to fit beneath the beveled under surface of a projecting rib 16, firmly secured to the inner wall of the frame. When the bolt is tightened, these beveled surfaces tend to force the bar 14 down closely upon the screen-plates and cross-bars and the clamp is held from rotation. I prefer to make the lower edge of bar 14 somewhat crowning to bring special downward pressure on the wedge-bars 12.

For convenience the bolts 17, which secure the clamps, have their heads inside the frame, and their threaded bodies extend outwardly through clamp and side wall and are each furnished with a terminal nut 18, having a stem or handle in the plane of its outer face to facilitate turning it sufficiently without a wrench. A washer will be interposed between the frame and the nut.

10 I claim as my invention—

1. In pulp-screen apparatus, the frame having a supporting-ledge extending around its inner wall, cross-sills flush with the upper surface of such ledge, one of said sills having a deep longitudinal recess, in combination with perforated screen-plates arranged in pairs, supported marginally on said ledge and sills, and each having one rounded and one obliquely-beveled longitudinal edge, transverse cross-bars grooved edgewise to receive the edges of said plates, and a horizontal wedge-bar interposed between said beveled edges and held within such recess by the fastenings for said plates, substantially as set forth.

25 2. In pulp-screen apparatus, the frame having a ledge and cross-sills supporting a series of perforated horizontal screen-plates, and transverse bars bearing edgewise on said plates and flush with the upper surface thereof, in combination with longitudinal bars extending across the ends of said plates and bars, upright clamps bearing endwise on the upper edge of such longitudinal bars and extending down over the face thereof, bolts extending through 35 said clamps and the side of the frame, and

tightening-nuts thereon, substantially as set forth.

3. In pulp-screen apparatus, fixed parts comprising the frame having around its inner wall a screen-supporting ledge and near the top of each side wall a beveled rib, transverse sills between the ends and flush with the upper surface of said ledge, one of said sills for each pair of screen-plates having a deep longitudinal recess, end bars secured to the end portions of the ledge and grooved to receive the rounded edge of a screen-plate, and an intermediate cross-bar secured to one of said sills and similarly grooved in both its edges, in combination with removable parts consisting of perforated screen-plates, arranged horizontally, in pairs, supported marginally on said ledge and sills and each having one rounded and one beveled longitudinal edge, a horizontal wedge-bar interposed between the beveled edges of each pair of plates and entering the longitudinal recess in the subjacent sill, longitudinal bars resting across the ends of said plates and cross-bars, vertical clamps bolted through the frame sides, and bearing at the lower end upon and in front of said longitudinal bars, and beveled at upper end to fit beneath said rib, substantially as set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

ZEBELON ^{his} × LOVEJOY.
mark

Witnesses:

ARTEMUS WEATHERBEE,
FOREST L. KNEELAND.