

E. J. WELCH.
 SCREEN PLATE HOLDER.
 APPLICATION FILED DEC. 20, 1909.

955,622.

Patented Apr. 19, 1910.

Fig. 1.

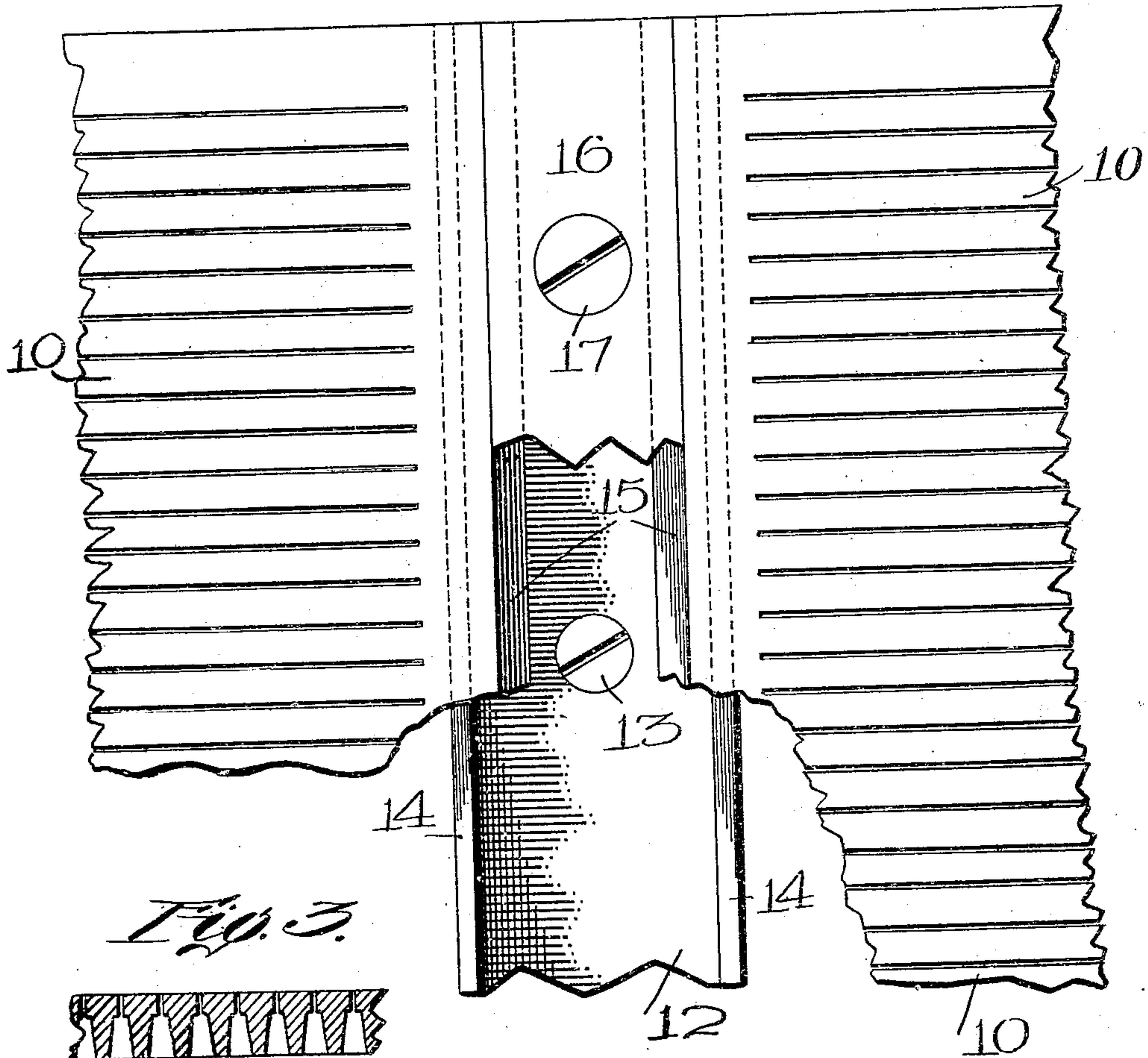


Fig. 3.

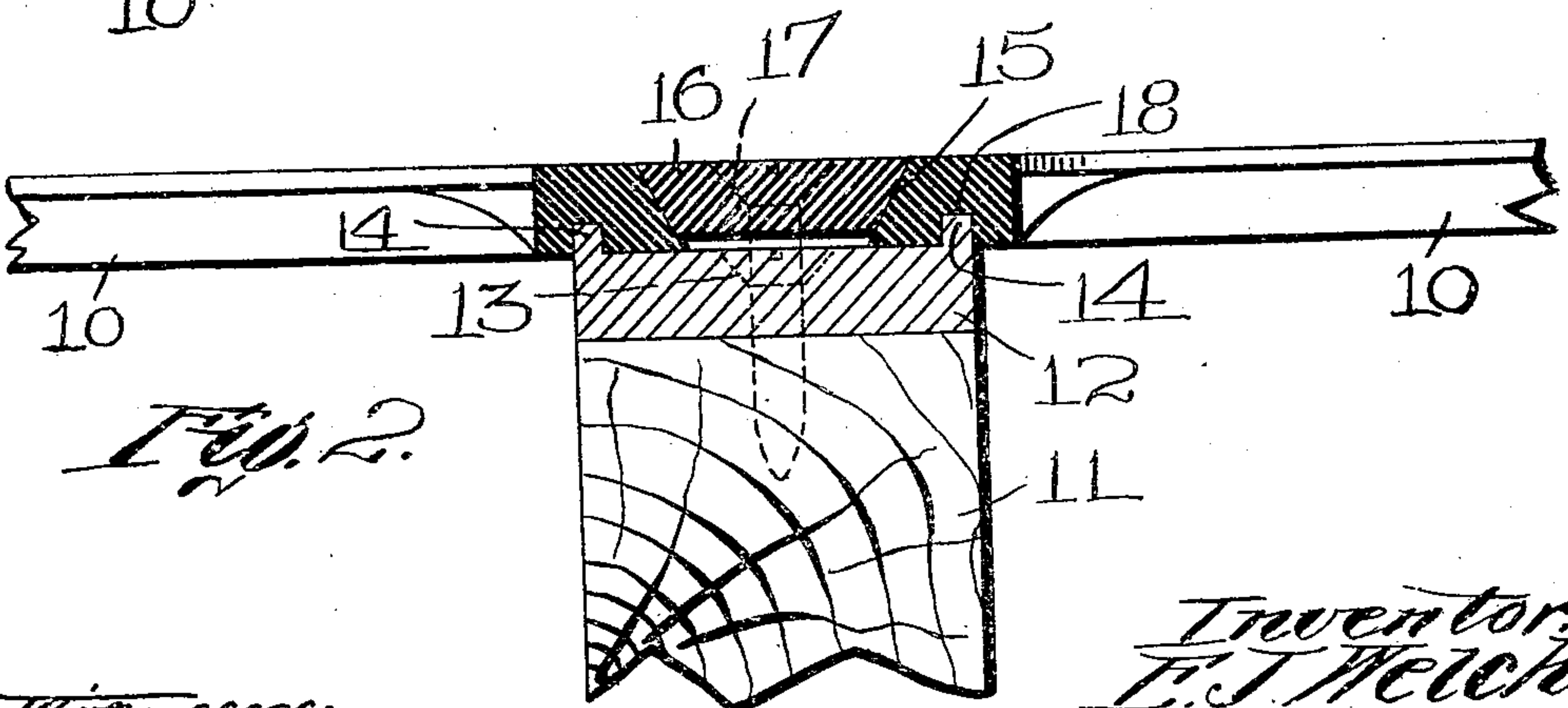
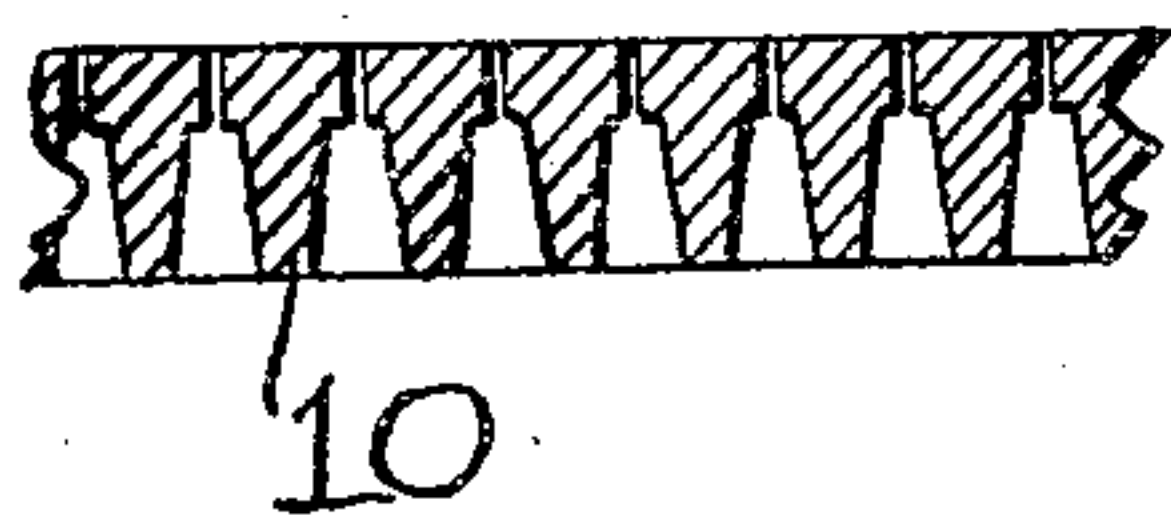


Fig. 2.

Witnesses:

b. f. Mason
 b. d. Hartnett

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UNITED STATES PATENT OFFICE.

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SCREEN-PLATE HOLDER.

955,622.

Specification of Letters Patent.

Patented Apr. 19, 1910.

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To all whom it may concern:

Be it known that I, EDWARD J. WELCH, a
citizen of the United States, residing at
Fitchburg, in the county of Worcester and
5 State of Massachusetts, have invented a new
and useful Screen-Plate Holder, of which
the following is a specification.

This invention relates to a pulp screen
plate holder for use in paper mills in con-
10 nection with the screen plates employed for
straining pulp.

The principal objects of the invention are
to do away with the ordinary fastening
means which involve the employment of a
15 large number of screws, all of which have
to be laboriously removed every time a plate
is damaged or sprung in any way, and to
provide practicable and simple means for
additionally holding the plates rigidly in
20 their horizontal position.

Further objects and advantages of the in-
vention will appear hereinafter.

Reference is to be had to the accompany-
ing drawings, in which—

25 Figure 1 is a plan of a small portion of a
pulp straining apparatus showing a pre-
ferred form of my improved screen holder in
position therein; Fig. 2 is a sectional view
thereof; and Fig. 3 is a sectional view of
30 one of the screen plates.

The drawings show screen plates 10 as of
an ordinary well-known construction so far
as the slits therethrough are concerned.
These are carried by supports 11 which may
35 be of any ordinary character. On each of
these supports is a longitudinal plate 12 se-
cured to the support by means of screws 13
or the like. These plates are provided with
upwardly extending ribs 14 at their outer
40 edges. The screen plates as usual are pro-
vided with bevel edges 15 and these edges
are held in position by a removable wedge-
shaped bar 16. This bar 16 is secured in
place by screws 17 and it is to be understood
45 that when the screen plates are to be re-
moved the screws 17 are the only ones which
have to be taken out.

It will be noted that the wedge bar 16 is
spaced from the top of the plate 12 so as
50 to give perfect freedom of adjustment for
the bar in the wedge-shaped socket in which
it is located between the screen plates. This
constitutes in itself an efficient fastening de-
vice for the plates, but by providing a
55 groove 18 in the bottom of each screen plate

near the edge for receiving the rib 14 a great
deal of additional efficiency is obtained. In
the first place the fastening of the wedge bar
16 in position forces the screen plates against
the ribs 14 and securely fastens the parts 60
between the inner surfaces of these ribs and
the inclined surfaces of the wedge-bar 16.
What I regard as more important however
is the fact that while the wedge plate holds
the inner edge of the screen plate down 65
firmly against the supporting plate 12 the
rib 14 serves as a fulcrum to hold up the
projecting portion of the screen plate. In
other words, the pressure exerted on both
edges of the screen plate serves also to hold 70
the center of the screen plate firmly in its
horizontal position on account of the employ-
ment of the fulcrum point at the outer edge
of the plate 12. It will be understood that
any force acting to cause the screen plate 75
to sag in the center between supports must
necessarily cause a slight motion of their
edges away from the fastening point. In
view of the fact that the rib 14 projects
up into the slot in the plate and the plate 80
is necessarily adjusted originally into close
contact with this rib it will be seen that no
such lateral motion can by any possibility
take place as long as the parts are not
broken. Therefore the fastening device 85
itself assists the natural rigidity of the
screen plates to hold them firmly in hori-
zontal position.

While I have illustrated and described a
preferred embodiment of the invention, I 90
am aware that many modifications can be
made therein by any person skilled in the
art without departing from the scope of the
invention as expressed in the claims. There-
fore I do not wish to be limited to all the 95
details of construction herein shown and
described, but

What I do claim is:—

1. In a holder for pulp screen plates, the
combination of a support having a substan- 100
tially flat top, two screen plates having op-
positely beveled edges projecting over the
edge of said support and resting on said top,
a wedge-shaped bar fitting between the in-
clined edges of said screen plates and spaced 105
throughout the bottom thereof from the top
of said support and removable therefrom,
and adjustable means extending through
said wedge bar for clamping it in position,
whereby the fastening of the wedge-bar 110

will exert lateral pressure on said screen plates in opposite directions.

2. In a holder for pulp screen plates, the combination of a support, two screen plates having oppositely beveled edges projecting over the edge of said support, a removable wedge-shaped bar fitting between the inclined edges of said screen plates and spaced at the bottom from the top of said support, means for clamping said wedge bar in position, and means on the support for positively limiting the outward motion of said screen plates.

3. In a holder for pulp screen plates, the combination of a support having longitudinal ribs projecting upwardly from its outer edges, screen plates adapted to rest on said support and each having a bottom groove in which one of said ribs engages, and a movable wedge bar for forcing said screen plates apart on the support against said ribs.

4. In a holder for pulp screen plates, the combination of a support having longitudinal ribs projecting upwardly from its outer edges, screen plates adapted to rest on said support and each having a bottom groove in which one of said ribs engages, a movable wedge bar for forcing said screen plates apart on the support, said wedge bar projecting at its edges over the inner edges of the screen plates and clamping their edges firmly against said support whereby said ribs constitute fulcrums for the screen plates at a distance from their edges, and the wedge bar serves to hold their inner edges down and the part projecting from the support up.

5. In a device of the character described, the combination of a support, a supporting

plate removably mounted thereon and covering the top thereof, said plate having upwardly extending longitudinal ribs at its edges, screen plates having grooves in their lower sides near their edges, for receiving said ribs, and being beveled from their bottom edges outwardly toward the top, a wedge bar having surfaces fitting the inclined surfaces of the screen plates and adapted to be inserted between them and spaced from said supporting plate, and adjustable means for fastening the wedge bar in position between the screen plates.

6. In a device of the character described, the combination of a support, a supporting plate removably mounted thereon and covering the top thereof, said plate having upwardly extending longitudinal ribs at its edges, screen plates having grooves in their lower sides near their edges for receiving said ribs, a wedge bar, and means for fastening the wedge bar in position between the screen plates.

7. In a device of the character described, the combination of a support having upwardly projecting longitudinal ribs near its edges, screen plates having grooves near their edges for receiving said ribs and adapted to rest at their edges on said support, and means for holding the inner edges of said screen plates on the support.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

EDWARD J. WELCH.

Witnesses:

ALBERT E. FAY,
C. FORREST WESSON.