

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

955,622.

Patented Apr. 19, 1910.

Fig. 1.

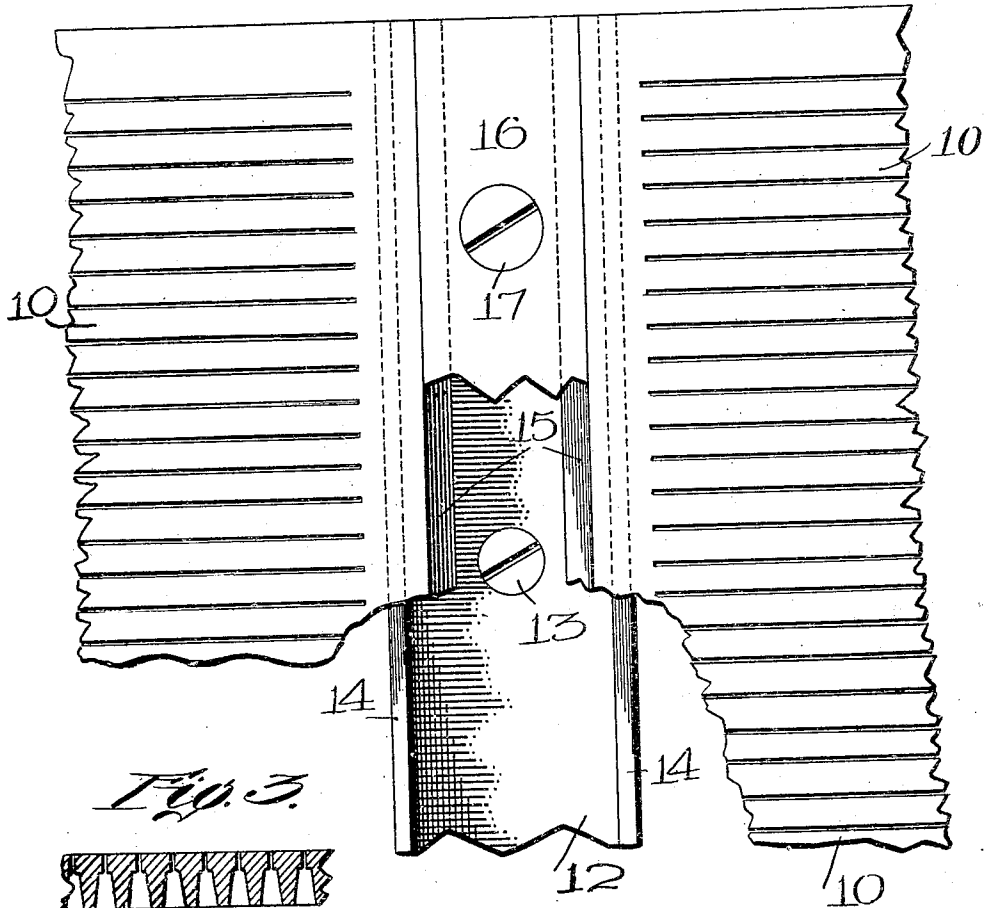


Fig. 3.

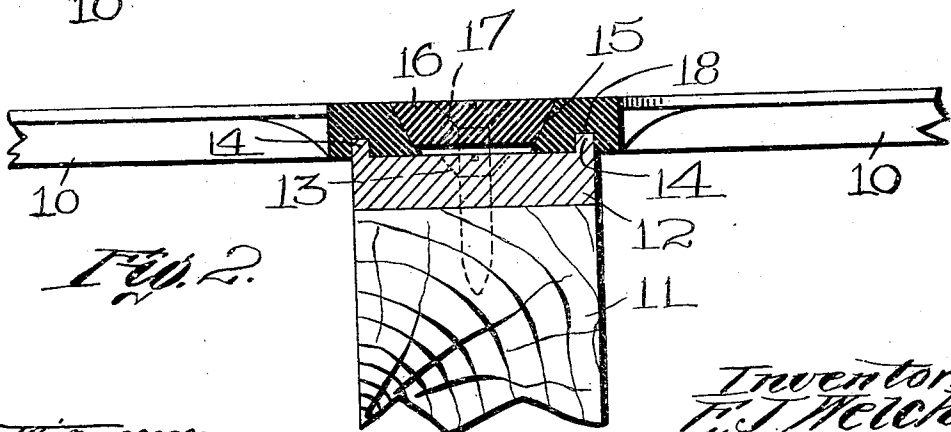
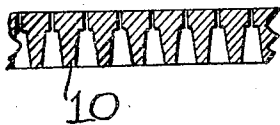


Fig. 2.

Witnesses:

b. f. Mason

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UNITED STATES PATENT OFFICE.

EDWARD J. WELCH, OF FITCHBURG, MASSACHUSETTS, ASSIGNOR TO UNION SCREEN
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SCREEN-PLATE HOLDER.

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Specification of Letters Patent.

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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 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 connection 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 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 their horizontal position.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a plan of a small portion of a pulp straining apparatus showing a preferred form of my improved screen holder in position therein; Fig. 2 is a sectional view thereof; and Fig. 3 is a sectional view of 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 be of any ordinary character. On each of these supports is a longitudinal plate 12 secured to the support by means of screws 13 or the like. These plates are provided with upwardly extending ribs 14 at their outer edges. The screen plates as usual are provided 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 that when the screen plates are to be removed 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 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 device for the plates, but by providing a 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 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 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 the center of the screen plate firmly in its horizontal position on account of the employment 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 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 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 itself assists the natural rigidity of the screen plates to hold them firmly in horizontal position.

While I have illustrated and described a preferred embodiment of the invention, I 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. Therefore I do not wish to be limited to all the 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 substantially flat top, two screen plates having oppositely beveled edges projecting over the edge of said support and resting on said top, a wedge-shaped bar fitting between the inclined edges of said screen plates and spaced 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

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.