E. A. BAYLEY.

PULP SCREEN PLATE FASTENER.

APPLICATION FILED APR. 28, 1908.

918,261.

Patented Apr. 13, 1909.

Fig 1.

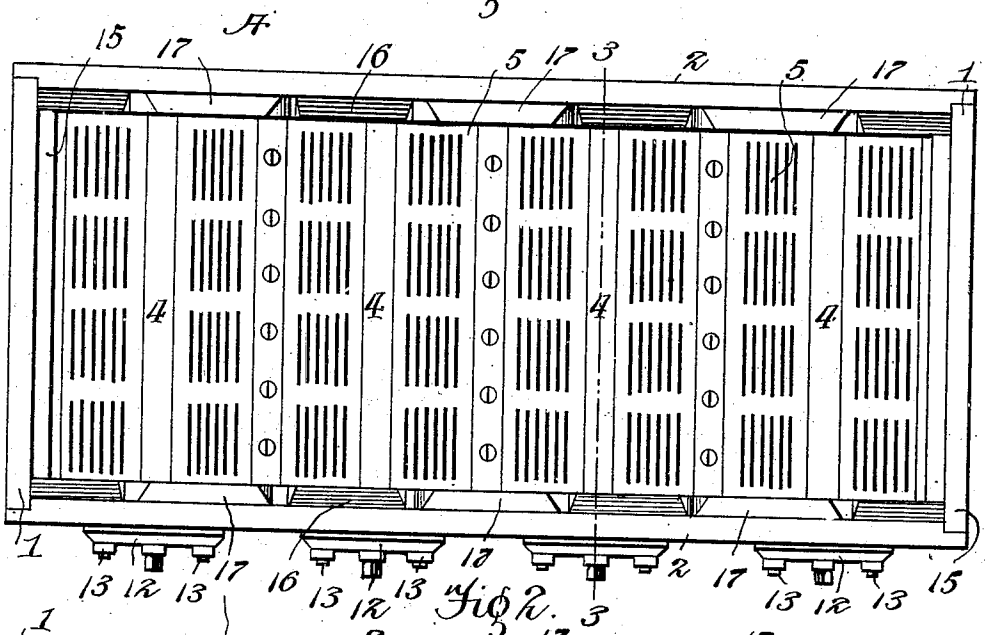


Fig 2.

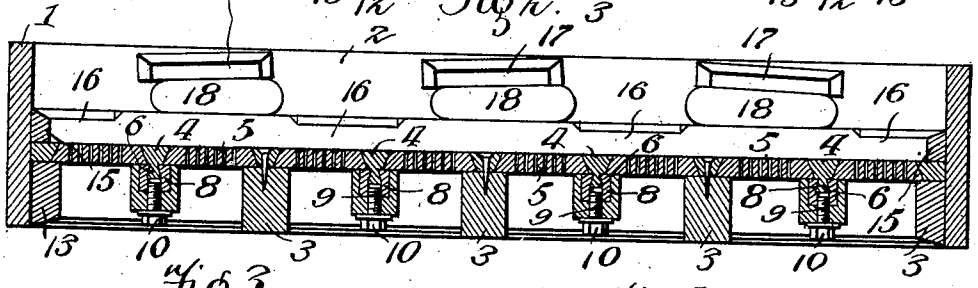


Fig 3.

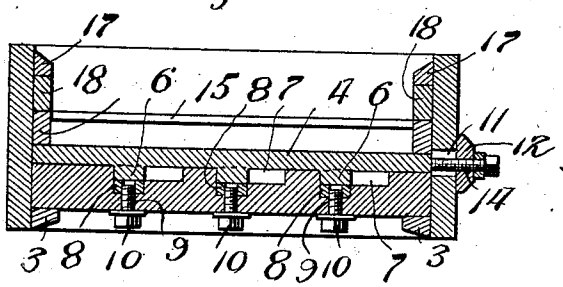
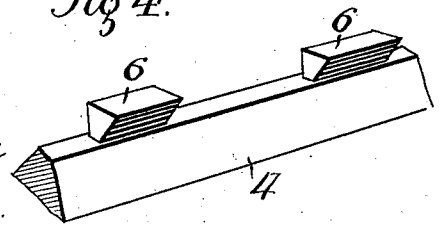


Fig 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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PULP-SCREEN-PLATE FASTENER.

No. 918,261. Specification of Letters Patent. Patented April 13, 1909.

Application filed April 28, 1908. Serial No. 429,683.

To all whom it may concern:

Be it known that I, EUGENE A. BAYLEY, a citizen of the United States, residing at Dexter, in the county of Jefferson and State of New York, have invented new and useful Improvements in Pulp-Screen-Plate Fasteners, of which the following is a specification.

This invention relates to pulp screen plate fasteners, and the object of the invention is to provide a fastener for the existing form of pulp screen plates, which will permit the removal of any plate in the frame without disturbing the other screen plates.

Another object of the invention is to provide a device of this character which allows for the ready removal of the screen plates without unnecessary wear upon the plates and which entirely dispenses with the use of screws in securing the plates, the heads of which often break under the pressure against the plates, and the bodies of which have to be drilled out, thus occasioning time and annoyance in repairing the device.

With these and other objects in view the invention resides in the novel construction of elements and their arrangement in operative combination, hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a top plan view of a pulpscreen box constructed in accordance with the present invention. Fig. 2 is a central longitudinal sectional view of the same. Fig. 3 is a transverse sectional view upon the line 3—3 of Fig. 1. Fig. 4 is a fragmentary perspective view of one of the locking bars.

In the accompanying drawings the letter A designates a screen box such as is usually employed on paper machines. This screen box comprises the ends 1 and sides 2. The sides are provided with the usual spaced supporting bars 3 having the dove tailed screen retaining members 4, adapted to engage with the inclined edges of the screen plates 5.

By reference to Fig. 2 of the drawings it will be noted that the retaining member 4 provided upon every alternate supporting bar 3 is rigidly secured to the said bar, while the intermediate retaining members are slidable upon the bars, but it is to be understood that I do not wish to restrict myself to this precise structure, as it may be desirous to have all the members slidable. The retaining or locking members 4 are approximately V-shaped in cross section and are each provided with a series of dove-tailed engaging fingers 6 upon their lower reduced face. These fingers 6 are adapted to slide in suitable cut away portions 7 provided by the supporting bars, and to engage suitable dove tailed bushings 8, also provided by the supporting bars. These bushings 8 are provided with a suitable threaded orifice adapted for engagement with a threaded element 9 having a rectangular head 10 engaging the lower face of the supporting bars. By this arrangement it will be noted that the bushings may be raised or lowered as desired to adjust their dove-tailed openings in regard to the V-shaped fingers of the locking bars 4.

The locking bars are of a length approximately equaling the width of the screen box between the inner walls of the sides 2, and one of the walls 2 is provided with a suitable cut away portion at its point of contact with the ends of the locking bars. This cut away portion or opening 11 is protected by a suitable cap 12, secured upon the sides of the box by the retaining elements 13. The cap 12 is provided with a threaded opening adapted for the reception of a threaded element 14, and this element 14 is adapted to contact the end of the locking bar 4, adjacent the opening 11 to force the bar forward within the cut away portion 7 of the supporting braces 3, and the fingers 6 into engagement with the dove tailed portions of the bushings 8. When it is desired to withdraw one of the screens from the box A, the element 14 is removed from contacting with the end of the locking bar 4, the locking bar pressed within the opening 11 so as to remove its fingers 6 from engagement with the dovetailed portion of the bushings 8, when the bar may be readily raised and the screen removed from the frame.

The ends 1 of the frame are provided with a transverse bar or ledge 15 positioned upon the end securing bars and terminating a suitable distance away from the inner faces of the sides 2 of the box. Positioned between the ends of these members 15 and the inner faces of the sides 2 of the box are the longitudinal securing strips 16. These strips 16 are adapted to bear against the side edges of the screen plates and to securely retain them upon the box, as well as to provide a means for preventing pulp being washed through the ends of the screen plates. The inner faces of the sides 1 are provided with a plurality of longitudinally extending inclined lugs 17, adapted for the reception of

suitable wedges 18 which engage the securing strips 16 and retain the same in locked position against the screen plates.

From the above description it is clear that the screen plates to the extent of any desired number may by the herein described means be secured to a suitable screen box in such a manner as to provide an absolutely plane surface over the entire extent thereof, the tops of the bars 4 being so proportioned that when the screen plates are locked in position the upper surfaces thereof will be flush with the upper surfaces of the plates, through the medium of the adjustable bushings 8 in their engagement with the fingers 6 of the locking bars.

Having thus fully described the invention what is claimed as new is:

1. The combination with a pulp screen frame having cross braces provided with longitudinal openings, dove-tailed members within the openings and to one end thereof, screens having beveled edges upon the cross braces, slidable locking bars having dove-tailed fingers upon the cross bars, said locking bars engaging the beveled edges of the screens, and the dove-tailed fingers adapted to be positioned within the openings and adapted to be slid into engagement with the dove-tailed members.

2. The combination with a pulp screen frame having cross braces provided with longitudinal passages, adjustable dove-tailed bushings within the passages and to one end thereof, screens having beveled edges upon the cross braces, slidable beveled locking bars having dove-tailed fingers upon the cross bars, said locking bars having their edges engaging the beveled edges of the screen, and the dove-tailed fingers adapted to be positioned within the openings and to be slid into engagement with the dove-tailed bushings.

3. The combination of a pulp screen frame having cross braces provided with longitudinal passages, dove-tailed bushings within the passages and near one end thereof, threaded elements engaging the bushings to adjust the same, screens having beveled edges upon the cross braces, slidable beveled locking bars having dove-tailed fingers upon the cross bars, said locking bars having their sides engaging the beveled edges of the screens and the dove-tailed fingers adapted to be positioned within the passages of the cross bars, and a threaded element engaging one end of the locking bar to force the fingers thereof into engagement with the dove-tailed bushings.

4. The combination with a pulp screen frame having cross braces provided with longitudinal passages, adjustable dove-tailed bushings within the passages, screens having beveled edges upon the cross bars, beveled locking bars having dove-tailed fingers upon the cross bars, said locking bars having their edges engaging the edges of the screens, the dove-tailed fingers adapted to be positioned within the passages, means for sliding the fingers into engagement with the dove-tailed bushings, a securing strip for the edges of the screens, inclined lugs upon the sides of the frame, and wedges engaged between the lugs and the securing strip to lock the same upon the screens.

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

EUGENE A. BAYLEY.

Witnesses:

JAMES R. BAYLEY,

O. M. WOOD.