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YIELDING SUPPORTING MEANS

Filed Dec. 26, 1931

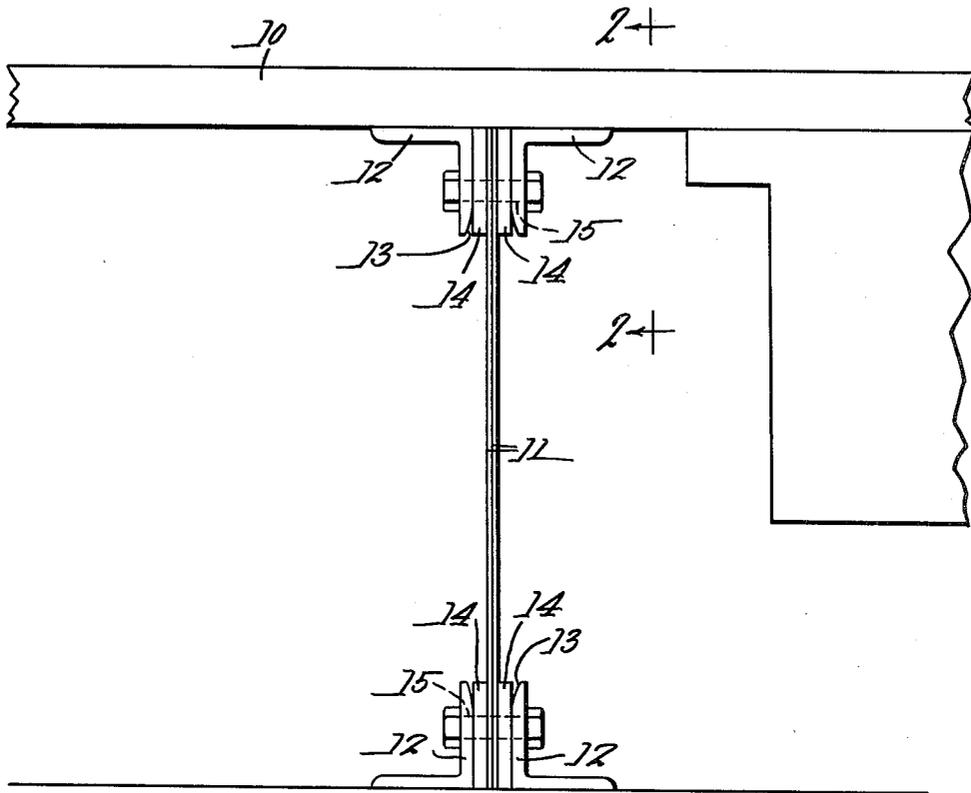


FIG. 1.

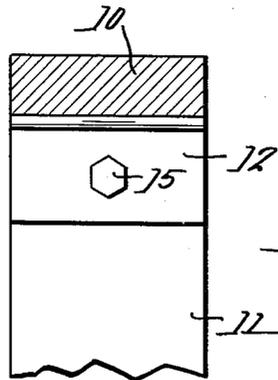


FIG. 2.

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UNITED STATES PATENT OFFICE

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YIELDING SUPPORTING MEANS

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This invention relates to the yielding and resilient supporting means usually in the form of spring leaves for carrying oscillating suction boxes, or Fourdrinier wire supports, in paper making machines, although the invention is not limited to this particular art. The principal object of the invention is to provide means for mounting the ends of the spring leaves in such a way that as they vibrate they will not be subjected to such acute bendings, as has been the case heretofore, and yet they will perform the function of yieldingly supporting a Fourdrinier wire or other devices. By this means the fatigue set up in the metal of these springs is very greatly reduced and the life of the springs materially increased.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing, in which

Fig. 1 is an edge view of a supporting spring leaf for an oscillating suction box showing this invention applied thereto, and

Fig. 2 is a sectional view on the line 2—2 of Fig. 1, showing the connection of the leaf, with the suction box support in elevation.

A suction box, Fourdrinier wire, or the like, in paper making machines is carried by a support 10 by means of spring leaves 11 so that the suction boxes, wire or the like can be vibrated very readily. However, the spring leaves, being subjected as they are to rapid and constant bendings in opposite directions, soon lose their elasticity owing to the fatigue of the metal. Ordinarily the upper and lower ends of these spring leaves are held between and adjacent two clamps which are made of metal. This results in subjecting the vibrating leaves to a severe bending action and one of the objects of this invention is to avoid this particular feature.

For the above mentioned purpose the leaves 11 are secured at both ends to the solid connection 12 through resilient or elastic me-

dium 14, such as rubber. The inner surfaces of the connecting means 12 may be rounded off as at 13.

It will be understood, of course, that the connections 12, which may be angle irons or brackets, are secured together by bolts 15 arranged at intervals and passing through them and through the resilient or elastic cushions 14, which are strips extending throughout the length of the connections. This construction preferably is the same at the top and bottom.

It will be seen that under the former practice a comparatively short and severe bend of the leaves 11 was made, whereas now the leaves have a length in which the bend takes place, extending down to the ends of the springs 11. Furthermore, this is not as sharp or severe a bend but a more gradual one, due to the elasticity or resiliency of the cushion 14. Therefore, bending of the springs is considerably relieved and their fatigue is delayed so that they have a much longer life than they would otherwise. This is an important feature in this industry as these leaf springs last ordinarily such a very short time.

Although I have illustrated and described only one form of the invention I am aware of the fact that 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 in this respect, otherwise than as set forth in the claims, but what I claim is:—

1. The combination with a leaf spring for supporting an element and means for holding its ends rigidly, of connections on opposite ends of the spring having their edges toward the center of the spring rounded off on the inside and a pair of rubber cushions between the connections and the spring for absorbing the vibration and allowing the spring to bend without bending around a rigid right angled corner.

2. The combination with a leaf spring for supporting an element, of connections on opposite ends of the spring having flat surfaces on opposite sides of the ends of the spring
5 and their edges toward the center of the spring rounded off on the inside and a pair of cushions between the connections and the spring for absorbing the vibration and allowing the spring to bend without bending
10 around a rigid right angled corner.

In testimony whereof I have hereunto affixed my signature.

JOHN WARREN VEDDER.

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