Mar. 13, 1923. 1,448,646

J. F. WARD

HINGE FOR SAND SPOUTS

Filed Nov. 10, 1921

Fig. 1.

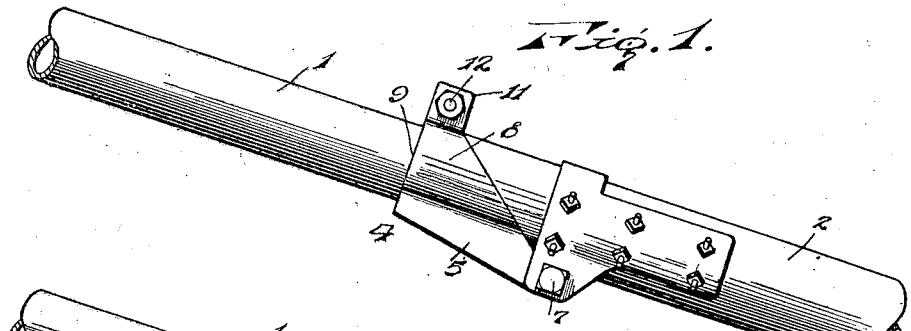


Fig. 2.

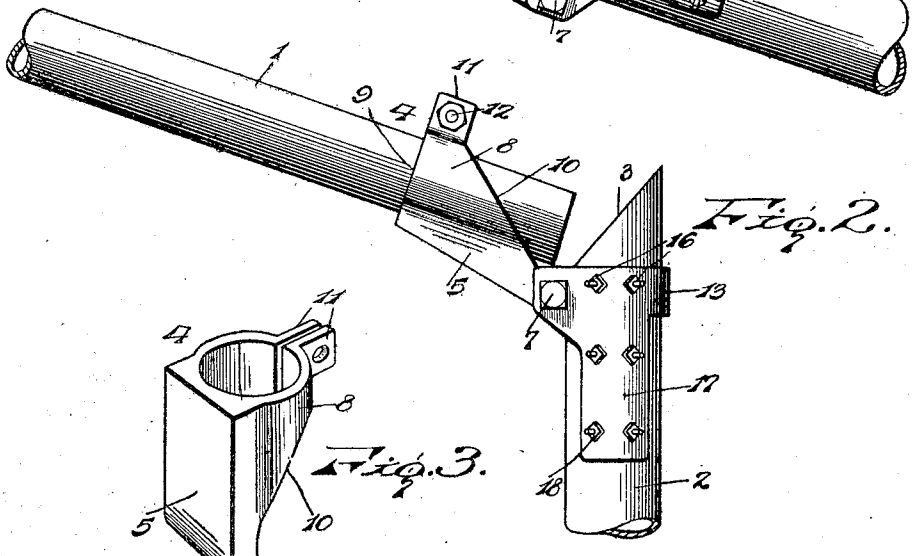
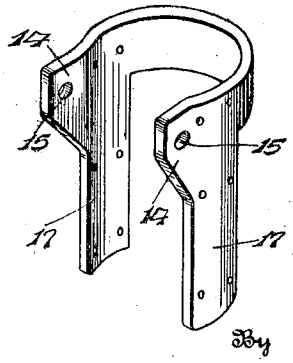


Fig. 3.

Fig. 4.



Inventor

John F. Ward.

By Lacey & Lacey. Attorneys

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UNITED STATES PATENT OFFICE.

JOHN FISK WARD, OF DUNSMUIR, CALIFORNIA.

HINGE FOR SAND SPOUTS.

Application filed November 10, 1921. Serial No. 514,320.

To all whom it may concern:

Be it known that I, JOHN FISK WARD, a citizen of the United States, residing at Dunsmuir, in the county of Siskiyou and State of California, have invented certain new and useful Improvements in Hinges for Sand Spouts, of which the following is a specification.

This invention relates to spouts for feeding sand to the sand boxes of locomotives and has special reference to the hinge connecting the parts of the spout whereby the delivery end of the spout may be permitted to swing out of the way when the spout is not in use. The invention seeks to provide a construction of simple and inexpensive form which may be readily applied to the spout and will firmly connect the parts thereof in either the closed or the open position. The invention is illustrated in the accompanying drawings and will be hereinafter fully set forth.

In the drawings—

Figure 1 is a side elevation of a portion of a sand spout having my improved hinge applied thereto;

Fig. 2 is a similar view but showing the spout open or in inoperative position;

Figs. 3 and 4 are detail perspective views of the members of the hinge.

The spout consists of an upper tubular member 1 which is connected with the discharge opening of the sand hopper or bin in any convenient manner, and a lower tubular member 2 which may be of any desired length and is adapted to be placed upon or over the sand box or dome upon the locomotive so that sand flowing through the alined spout members will be delivered into the box or dome. The diameter of the lower member 2 of the spout is somewhat greater than the diameter of the upper member 1 so that the meeting end of the lower member or section may fit over the meeting end of the upper member, the end of the lower member being cut obliquely relative to the longitudinal axis of the spout, as shown at 3. The upper hinge member 4 comprises a base block or body 5 through one end of which is formed an opening 6 to receive the hinge or pivot bolt 7. Disposed longitudinally of the base block 5 at the side edges thereof are the arcuate walls 8 which are adapted to fit closely around the upper spout section 1, as shown clearly in Figs. 1 and 2, and the said walls have one end disposed at a right angle to their axis, as shown at 9, while the opposite ends 10 are arranged obliquely and extend from the opening 6 toward the opposite end of the side walls and away from the base block 5, terminating in peripheral lugs or ears 11 through which a clamping bolt 12 is inserted to secure the side walls firmly around and against the spout section. The lower hinge member consists of a stirrup or collar 13 which is adapted to fit around the lower spout section 2 and is provided with terminal ears 14 which are adapted to embrace the end of the base block 5 provided with the opening or passage 6, openings 15 being provided through the said ears 14 to receive the pivot or hinge bolt 7, as will be readily understood. Fastening bolts or rivets 16 are inserted through the collar or stirrup 13 and the wall of the spout section 2 and the said stirrup is provided with extensions 17 which are adapted to extend longitudinally of the spout section and be rigidly secured thereto by rivets 18, the said extensions being provided with concave inner faces to fit closely to the spout section.

When the spout is in use, the two sections 1 and 2 will be axially alined and the end 3 of the section 2 will rest upon the inclined edges 10 of the upper hinge member, encircling the end of the upper spout section so that a continuous passage for the sand will be provided and the joint between the sections will be closed so that leakage of sand cannot occur. When the spout is not in use, the lower spout section is swung downwardly, as shown in Fig. 2, about the pivot bolt 7 so that it will be out of the way of passing trains and any slight excess of sand which may be contained in the spout will not be deposited on the track or roadbed but may be caught in a conveniently placed receptacle. It will be readily noted that I have provided an exceedingly simple hinge which may be readily applied to any sectional tubular conveyor and will firmly support the parts at their meeting ends. The base block 5 is solid and presents a firm support for the pivot bolt so that bending of the bolt will be prevented and the inclined co-operating edges of the upper hinge member and the lower spout section provide a

firm support for the lower spout section. Moreover, as the hinge members encircle the respective spout sections, they serve to reinforce said sections at their meeting ends so that distortion thereof is obviated.

Having thus described the inventiton, what is claimed as new is:

1. The combination of tubular sections adapted to be brought into axial alinement, one of said sections having its end provided with obliquely disposed edges and adapted to encircle the meeting end of the alined section, and pivotally connected hinge members secured to the respective sections whereby to connect the same, the hinge member on the upper section having an inclined end to be engaged by and support the inclined end of the lower section.

2. The combination of tubular spout sections, a hinge member provided with arcuate side walls adapted to fit snugly around the upper section adjacent the end thereof, means for clamping said walls upon said section, a hinge member secured rigidly about the lower spout section and having projecting portions adapted to span the first-mentioned hinge member, a pivotal connection between said projections and the end of the first-mentioned hinge member, and means whereby the first-mentioned hinge member may support the end of the lower spout section.

3. The combination of upper and lower spout sections, a hinge member comprising a base block having a transverse passage through one end, arcuate side walls rising from the side edges of said base block and adapted to fit snugly around the upper spout section, means for clamping said walls firmly about said spout section, the end edges of said walls presented to the end of the spout section being inclined upwardly and rearwardly from the end of the spout section, a hinge member comprising a stirrup fitting about and rigidly secured to the lower spout section and having portions projecting beyond the said section and spanning the adjacent end of the base block in the upper hinge member, and a pivot inserted through the said projections and the passage in the said base block whereby to connect the hinge members, the end of the lower spout section projecting beyond the said stirrup and being inclined whereby it may rest upon and be supported by the inclined end edges of the first-mentioned hinge member.

In testimony whereof I affix my signature.

JOHN FISK WARD. [L. S.]