

(No Model.)

2 Sheets—Sheet 1.

J. D. MISSROON.
SLATE PICKER.

No. 560,858.

Patented May 26, 1896.

Fig. 1.

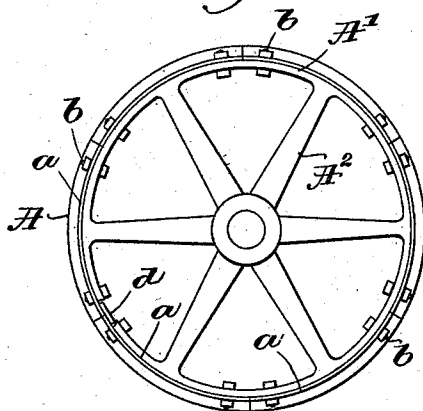


Fig. 2.

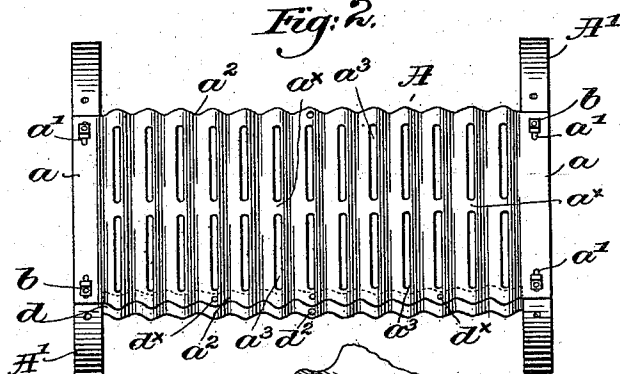


Fig. 3.

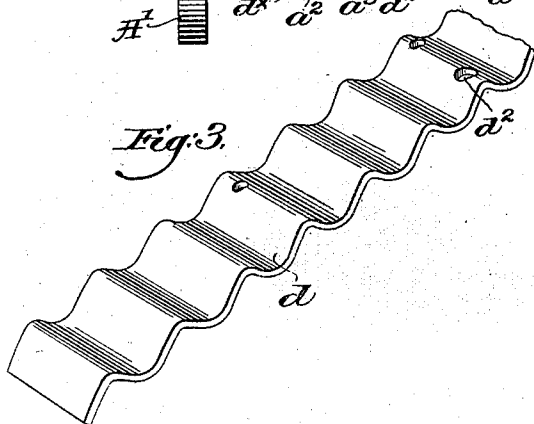
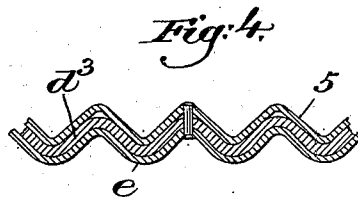


Fig. 4.



Witnesses.
Edward F. Allen.
Thomas J. Drummond.

Inventor.
John D. Missroon
by Crosby & Gregory, attys.

(No Model.)

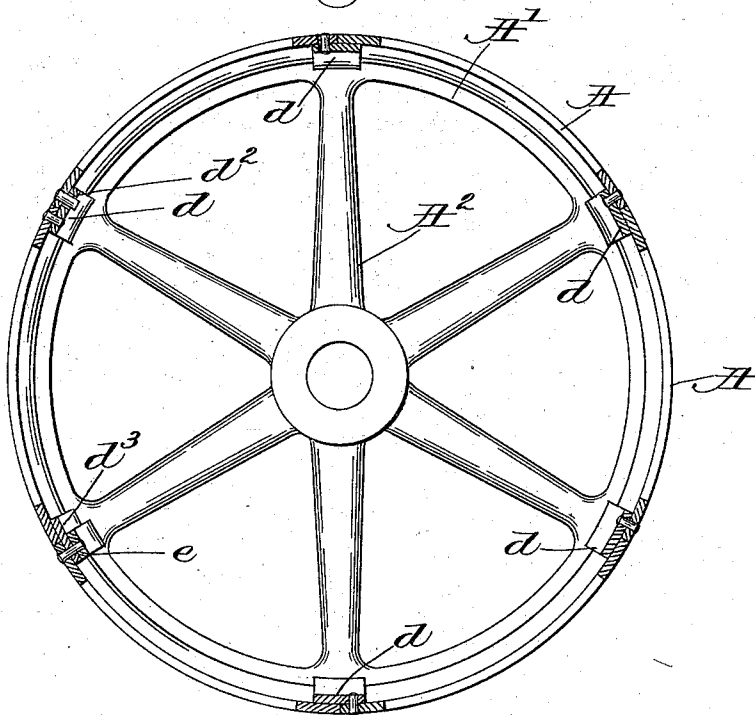
2 Sheets—Sheet 2.

J. D. MISSROON.
SLATE PICKER.

No. 560,858.

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Fig. 5.



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Thomas S. Drummond.

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UNITED STATES PATENT OFFICE.

JOHN D. MISSROON, OF CLINTON, MASSACHUSETTS, ASSIGNOR TO THE
CLINTON WIRE CLOTH COMPANY, OF SAME PLACE.

SLATE-PICKER.

SPECIFICATION forming part of Letters Patent No. 560,858, dated May 26, 1896.

Application filed December 20, 1894. Serial No. 532,401. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. MISSROON, of Clinton, county of Worcester, State of Massachusetts, have invented an Improvement in Slate-Pickers, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object the production of a strong, durable, and effective segment for cylindrical slate-pickers employed in separating flat slate and the like from coal, whereby the strength and rigidity of such pickers and their efficiency in operation are greatly increased. In accordance therewith my invention comprises a slate-picker segment consisting of a metallic plate having flat ends and a transversely-corrugated intermediate web integral therewith, elongated openings being formed in the outer apexes, and a correspondingly-corrugated rigid metallic stay-strip secured to the inner face of and at one edge of the web between the flat ends of the segment and projecting beyond said edge, substantially as will be described.

Other features of my invention will be hereinafter described, and pointed out in the claims.

Figure 1 is an end view, partly broken out, of a cylinder with segments embodying my invention applied thereto. Fig. 2 is a side view of the screen-rings with only one of the segments in place. Fig. 3 is a perspective view, on a larger scale, of a little more than half of one of the stay-strips detached; and Fig. 4 is an enlarged sectional detail of a modification to be described. Fig. 5 is a central vertical section of Fig. 2 on an enlarged scale.

The segments A are secured to suitable cylindrical rings or rims A' on spiders A², forming the supporting-frame of the picker. The segments A, of wrought-iron, steel, or other suitable metal rolled or pressed into shape, consist of ends a of proper curvature to fit the spiders A', to which they are secured by suitable bolts b, extended through preferably elongated openings a' in the ends. As shown clearly in Fig. 2, the ends a are connected by an intermediate transversely-corrugated web a², integral with said ends, the outer apexes

of the corrugations having elongated openings a³ formed therein of uniform size, each of such corrugations having, as herein shown, two of the openings a³ separated by a bridge-piece a^x, which strengthens the web and also assists in the operation of the picker. The web portion of each segment is curved similarly to the ends a, several of such segments forming the covering of the cylinder. As the segments are each in one integral piece and shaped as described they act as braces or trusses for the load carried in the interior of the picker, the edges of the adjacent segments abutting, as shown in Fig. 1. While the segments in themselves possess considerable rigidity they are subjected to very hard usage, and placed, as they are, upon the outside of the spiders A', the butt-joints extending from one to the other spider are totally unprotected and are the first parts of the picker to succumb to wear.

In order to increase the general rigidity of the picker and also to protect the joints between adjacent segments, I have secured to the inner face of each segment and at one edge a stay-strip d, of steel, corrugated to conform to the shape of the intermediate web a², the said strip extending to the flat ends a and projecting beyond the edge of the web, Fig. 2. The stay-strip is preferably secured to the web of the segment by rivets d^x, or by other permanent fastenings, and the adjacent edge of the web of the next segment when abutted will be covered and protected by the projecting portion of the stay-strip d, as shown in Fig. 1. The stay-strip being on the inside of the joint thus prevents direct contact of the load thereupon and greatly increases the rigidity, strength, and life of the picker. Furthermore, the stay-strips act as tumblers to lift the coal from the grooves in the segments and cause it to pass along from one end of the picker to the other, more thoroughly opening up the load to pick the slate therefrom which passes out through the elongated openings a³.

In the modification shown in Fig. 4 an additional strip e is secured to the inner face of the stay-strip d³ at the edge secured to the segment-web 5 to still further increase the action of the stay-strip as a tumbler. While it is not necessary to attach the free edge of

one segment to the stay-strip secured to the adjacent edge of the next segment, a bolt may, if desired, be passed through such free edge and through a hole d^2 made for that purpose in the stay-strip, as shown in Figs. 2 and 3, preferably midway between its ends.

Changes may be made in the construction and arrangement of parts herein shown without departing from the spirit and scope of my invention.

I claim—

1. A slate-picker segment consisting of a metallic plate having curved ends and a transversely-corrugated intermediate web integral therewith, elongated openings being formed in the outer apexes, and a correspondingly-corrugated metallic stay-strip secured to the inner face of and at one edge of the web between the ends of the segment and projecting beyond said edge, said projecting edge being imperforate, substantially as described.
2. A slate-picker segment consisting of a metallic plate having curved ends and a transversely-corrugated intermediate web integral therewith, a plurality of openings being formed in the outer apexes, and a correspondingly-corrugated metallic stay-strip, made thicker at one edge than at the other to form a tumbler, secured to the inner face of and at one edge of the web between the ends of the

segment, and projecting with an imperforate extension beyond said edge to form a joint-protector, substantially as described.

3. A cylindrical slate-picker, composed of similar segments corrugated transversely intermediate their ends and provided with a plurality of transverse openings, combined with internal stay-strips made of metal corrugated to fit snugly against the inner side of said segments, one stay-strip being bolted to each segment at one edge thereof and arranged to project loosely across the joint and beneath the edge of the adjacent segment, the free end of said stay-piece being provided with a central opening to loosely receive a guide-pin depending from the edge of the adjacent segment, all arranged whereby the loaded picker is prevented from springing open at its joints and a plurality of ridges is provided to intercept the revolving mass and tumble it in its progress, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

Witnesses:

JOHN D. MISSROON.

JOHN C. EDWARDS,
AUGUSTA E. DEAN.