

S. WHEELER.  
Ore-Washers.

No. 145,771.

Patented Dec. 23, 1873.

Fig. 1.

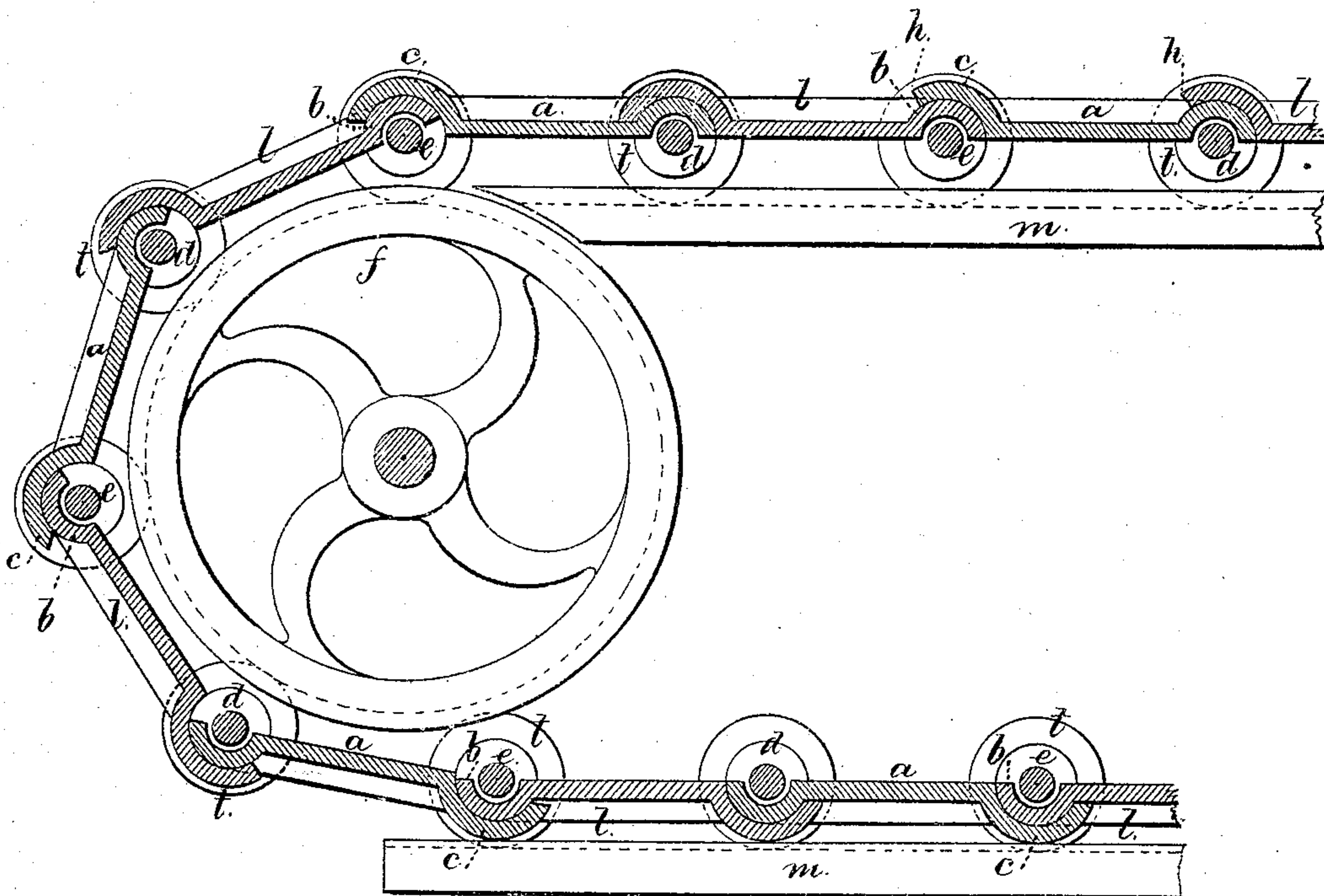


Fig. 3.

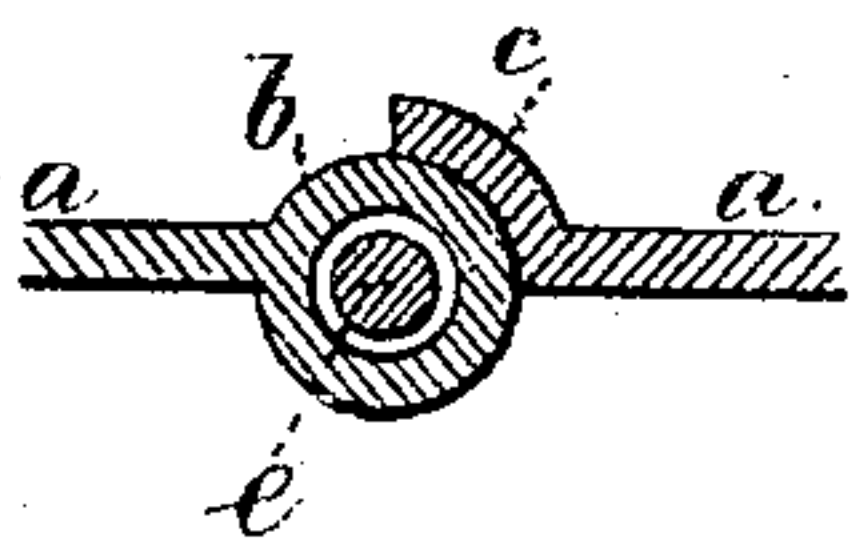
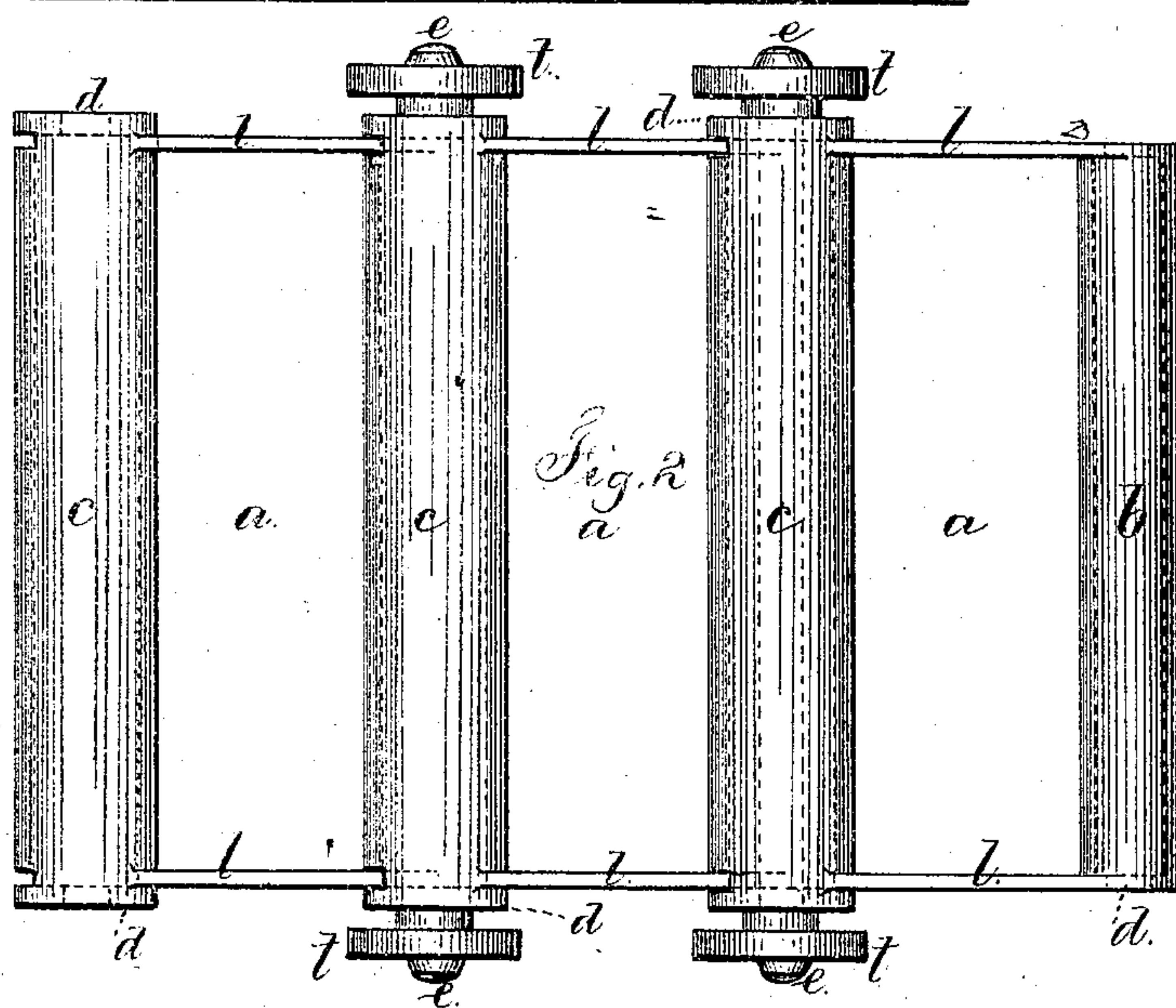


Fig. 2.



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# UNITED STATES PATENT OFFICE

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## IMPROVEMENT IN ORE-WASHERS.

Specification forming part of Letters Patent No. **145,771**, dated December 23, 1873; application filed November 4, 1873.

*To all whom it may concern:*

Be it known that I, SETH WHEELER, of the city and county of Albany and State of New York, have invented an Improvement in Endless Chains or Carriers for Ore-Washing Machines, of which the following is a correct description:

Endless chains or carriers, made of wooden slats placed transversely of the carrier, have heretofore been employed for conveying away the material delivered from ore-washing machines. These carriers are moved slowly, so as to afford opportunity for the removal by hand of foreign material from the ore.

The objection to this form of carrier is that the finer particles of ore escape at the openings between the slats; besides this, the joints are more open when the slats are traveling around the guide drums or reels than when moving horizontally; hence, if pieces of ore or stones lodge between the slats the latter are very liable to be broken as the slats reach the horizontal position and the joints close.

My invention consists in an endless carrier formed of metallic plates, with semi-cylindrical portions or segments that are concentric with the hinge pin or bolt that connects the adjoining plates, and the segment on one edge of each plate sets within the larger segment on the adjoining plate. By this means a joint is obtained that prevents the escape of any material at the joints, and lessens the risk of lumps of ore becoming wedged at said joint. The material is kept from falling off the sides by vertical flanges upon the plates.

In the drawing, Figure 1 is a vertical section of a portion of my improved carrier, and Fig. 2 is a plan of three of the plates D.

The endless chain or carrier is made of the metallic plates *a a*, which are to be of the desired size and strength, and they may be perforated to allow the water to drain from the ore. Each plate is made with the semi or nearly semi-cylindrical portions or segments *b c*, which extend from side to side of the plate, and from the ends of these segments ears or lugs *d d* pass downwardly and form bearings for the hinge pins or shafts *e e* that connect the plates to each other. The segment *b* of one plate sets within the segment *c* of the

next plate at one side, and the segment *c* sets over the segment *b* of the plate at the other side, and these segments *b* and *c* are concentric with the hinge pin or shaft *e*.

By reference to Fig. 1 it will be seen that the joint thus formed prevents the escape of any fine ore, or other material that may be conveyed by the carrier, and that there is but slight chance of any lumps of ore becoming wedged in between the edge of the segment *c* and the surface of the plate *a*, even if said lumps should fall upon said plates as they are being carried up over the drum or reel that is near the delivery-mouth of the ore-washer; but, to prevent all risk of pieces of ore becoming wedged at the joint, the segment *c* may be partially removed or made narrower, as shown at *h h*, Fig. 1, or the segment *b* may be made as a complete cylinder, and the segment *c* as about one-quarter of a cylinder, as shown in Fig. 3, which will effectually prevent any lumps becoming wedged, or the joint opening so as to allow fine particles of ore to pass through.

The flanges *l l* are cast with the plates *a*, and they keep the ore from falling off the sides of the carrier. Rollers *t* are provided at the ends of the shafts *e e*, and these travel in the railway *m* and sustain the carrier and its contents; but said rollers might be upon fixed studs and the carrier travel over them. Drums or reels *f* are to be provided for the carrier to travel around, one of which is located near the ore-washing machine; but the railway *m* might be made as half-circles at the places occupied by said reels, and the carrier be moved over them.

I claim as my invention—

An endless chain or carrier made of metal plates *a*, provided with segments *b c*, flanges *l*, and lugs *d d*, and connected by the hinge pins or shafts *e e*, substantially as and for the purposes set forth.

Signed by me this 29th day of October, A. D. 1873.

SETH WHEELER.

Witnesses:

E. WACKERHAGEN,  
W. B. ASKAM.