No. 629,140. Patented July 18, 1899.

T. J. VOLLKOMMER.

CONVEYING APPARATUS.

(No Model.) (Application filed Nov. 22, 1898.)

Fig. 1.

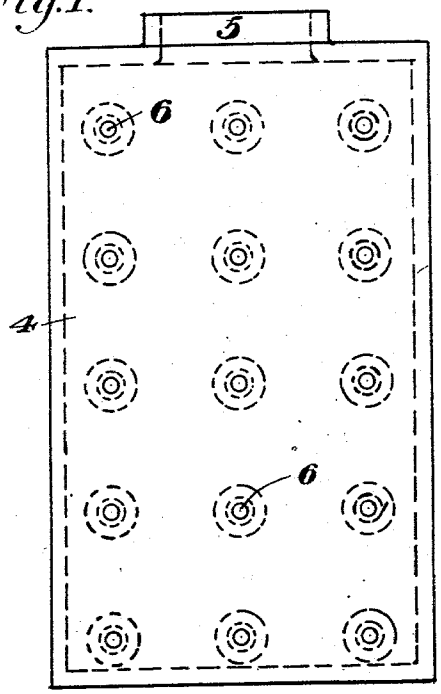
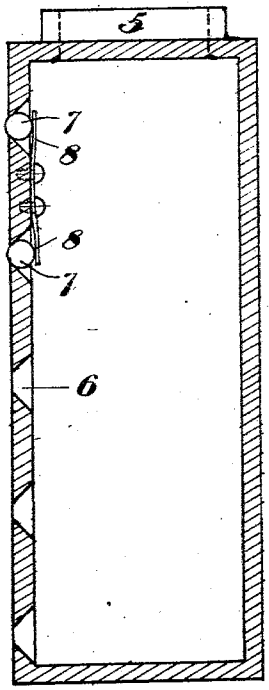


Fig. 2.



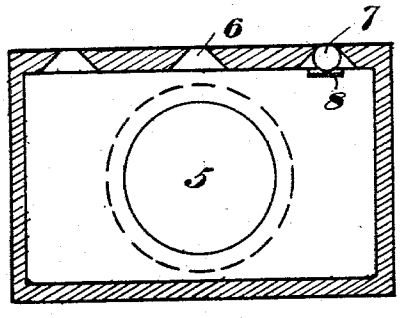


Fig. 3.

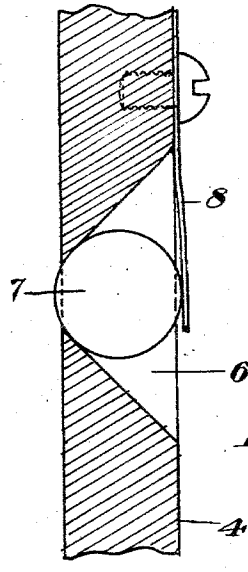


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

THEODORE J. VOLLKOMMER, OF YOUNGSTOWN, OHIO.

CONVEYING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 629,140, dated July 18, 1899.

Application filed November 22, 1898. Serial No. 697,145. (No model.)

To all whom it may concern:

Be it known that I, THEODORE J. VOLLKOMMER, of Youngstown, in the county of Mahoning and State of Ohio, have invented a new and useful Improvement in Conveying Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a plate-conveying table constructed in accordance with my invention. Figs. 2 and 3 are vertical longitudinal and cross sections, respectively, of the same; and Fig. 4 is an enlarged sectional view showing in detail the valve which is illustrated in Figs. 2 and 3.

In the various forms of my invention I employ as a means for floating or floating and conveying metal plates or strips jets of air, which are directed against the under side thereof and maintain or tend to maintain the same in suspension, so that they may be moved freely in their supporting-surface, or by arranging the air-jets at an inclination the articles may not only be supported, but may be given a forward impulse in the desired direction, the jets being controlled by valves arranged to be opened by the article on the conveyer.

My apparatus may be used for metal plates, bands, or strips, or for like articles of other material, although it will be especially useful in the conveying of metal as a substitute for the feed-tables, discharge-tables, and caster-conveying tables heretofore commonly used.

Referring to Sheet 1 of the drawings, 4 represents a box, which constitutes the body of the conveying-table and has an air-inlet 5, through which compressed air may be supplied to its interior. Its surface is also provided with perforations 6, from which the compressed air entering through the opening 5 will flow in jets. If now a metal sheet be placed on the box 4, the air escaping through the jet-opening 6 and playing on the under surface thereof will tend to raise the same from the surface of the box, enabling the sheet to be pulled over the surface with very little effort, just as metal sheets are pulled or pushed over the caster-tables common in plate-mills. Any number of these boxes or tables 4 may be placed together, so as to constitute a conveying-table of the desired size.

To prevent useless waste of air from those of the jet-openings 6 which are not covered by the plate, I use the valve arrangement illustrated in Figs. 2, 3, and 4. For this purpose I prefer to make the perforations on the inner side of the top plate of the box 4 flaring, so as to afford seats for ball-valves 7, which are backed by suitable springs 8 and project somewhat above the top surface of the box, as shown in Figs. 2 and 4. Normally these balls close the openings 6 and prevent the escape of air; but when the plate is laid upon the top of the box its weight will press down the balls, thus unseating them and permitting the air to escape through the openings and to act as above described. The perforations may be inclined instead of at right angles to the surface of the table and provided with suitable valves, the jets in such case moving or aiding in moving the article over the table. The apparatus can thus be used as an efficient substitute for conveying-tables provided with feed-rolls.

An important feature of my invention is that the air, in addition to supporting the strip or plate, cools it, and hence serves not only as a conveyer, but as a means for simultaneously cooling the hot metal. The valves may of course be used with either the straight or inclined perforations.

Within the scope of my invention as defined in the following claims the skilled mechanic may make many changes in the form and arrangement of the parts without departure from my invention, since

What I claim is—

1. A conveying apparatus or table having upwardly-directed jets, means for delivering fluid therethrough to impinge upon articles placed thereon, and valves closing said jets and adapted to be opened by the article placed upon the conveyer, substantially as described.

2. Conveying apparatus comprising a table having jet-openings, and valves closing the same and protruding beyond the surface of the table, said valves being adapted to be engaged by a superimposed article and to be opened thereby, substantially as described.

In testimony whereof I have hereunto set my hand.

THEO. J. VOLLKOMMER.

Witnesses:

L. W. RAVER,

KATE KIELTY.