

J. BEAVIS.
METAL ROLLING MACHINERY.

No. 175,904.

Patented April 11, 1876.

Fig 1 -

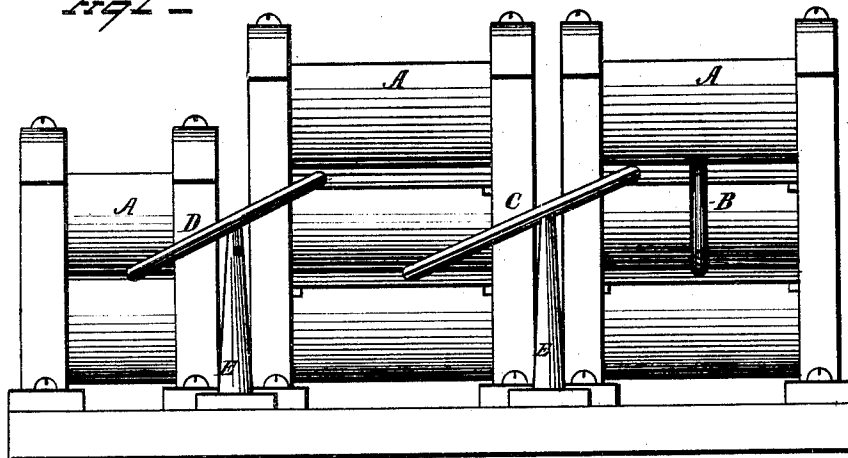


Fig 2 -

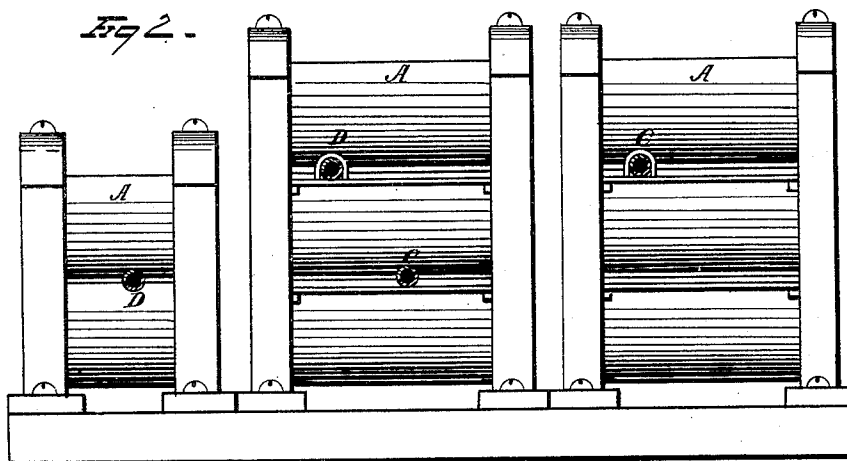
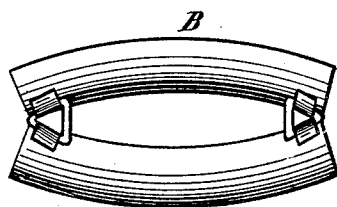


Fig 3 -



WITNESSES

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UNITED STATES PATENT OFFICE

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IMPROVEMENT IN METAL-ROLLING MACHINERY.

Specification forming part of Letters Patent No. **175,904**, dated April 11, 1876; application filed February 11, 1876.

To all whom it may concern:

Be it known that I, JOHN BEAVIS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Machinery for Rolling Metal, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in machinery for making wire or bars of metal by the process of rolling.

In the drawings, Figure 1 shows, in front elevation, a train of rolls, part two-high and part three-high, with my invention attached. Fig. 2 is a view taken in cross-section. Fig. 3 is a detached view, showing the manner in which my viaducts open to permit the escape of the bar or wire when necessary.

My invention consists, first, in channel-guides or viaducts, in combination with one or more sets of rolls, said viaducts being constructed to automatically expand and allow of the escape of surplus metal as it accumulates therein; second, in said channel-guides or viaducts adapted to open or unfold in such a way as that, after they shall have performed the office of receiving from one pass and delivering into another, the surplus or slack of the bar or wire may be permitted to escape.

A A represent rolls, of any style or description. B is a viaduct to receive from the lower passes of three-high rolls and deliver to the upper passes of the same, or vice versa. C is a viaduct to receive from the upper passes of a set of three-high rolls and deliver to the lower passes of a neighboring set of a train, or vice versa. D is a viaduct to receive from the upper passes of a set of three-high rolls and deliver to a neighboring set of two-high rolls in a train, or vice versa. Each viaduct is made in two longitudinal parts, hinged or jointed together in such a manner that their component parts can open or unfold, and permit the escape of the contents.

Operation: The rolls A may be of any nature or description, inasmuch as they form no part of my invention, and as my invention is

equally applicable to rolls of any description. The viaducts A, B, C, or D are supported in any suitable manner, so that they shall be held stationary in the proper position. To this end they may be fixed upon posts or standards E, or they may be held by brackets from the frame of the rolls, or in any other desired manner.

To illustrate the operation of my invention, it is only necessary to describe the working of a single viaduct, and for that purpose we will select the one marked B in the drawings. We will suppose that it is to receive from the upper tier of passes and feed or deliver at the lower tier. The rod or wire as it is fed in at the upper pass is directed and propelled directly into the viaduct B, and is thereby directed downward, and properly fed into the proper pass below.

As the operation of the upper and nether rolls progresses, there will be more or less surplus or slack in the material being rolled, and if the viaduct was a solid piece it would soon become gorged and inoperative.

To obviate this difficulty I have provided a means of opening the viaduct automatically, by constructing it of the two longitudinal sections shown, and hinging them together in such a way that this slack or overplus just mentioned shall of itself serve to open the viaduct and permit an escape of said overplus.

The only function of my viaducts is to afford a primary guide or director of the bar or wire from one pass to another of a set or train of rolls. In other words, my viaducts are intended merely to receive from one pass and to guide and feed into another pass upon the rolls. This done, their function is accomplished; and to prevent their afterward being of detriment, I have constructed them to permit the escape of their contents, as may be necessary.

I do not limit myself to any particular shape or fashion of my viaducts, as they must needs be varied in this particular to meet special requirements.

What I claim is—

1. The combination, with rolls for rolling metal or other substances, of the guide or viaduct herein described, said viaduct being constructed in two longitudinal sections, and

adapted to open or unfold, substantially as and for the purpose set forth.

2. The combination, with rolls for rolling metal or other substances, of one or more guides or viaducts, constructed substantially as herein described, and placed so as to properly receive and deliver, and at the same time constructed to open or unfold, substantially as and for the purpose set forth.

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

JOHN BEAVIS.

Witnesses:

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FRANCIS TOUMEX.