

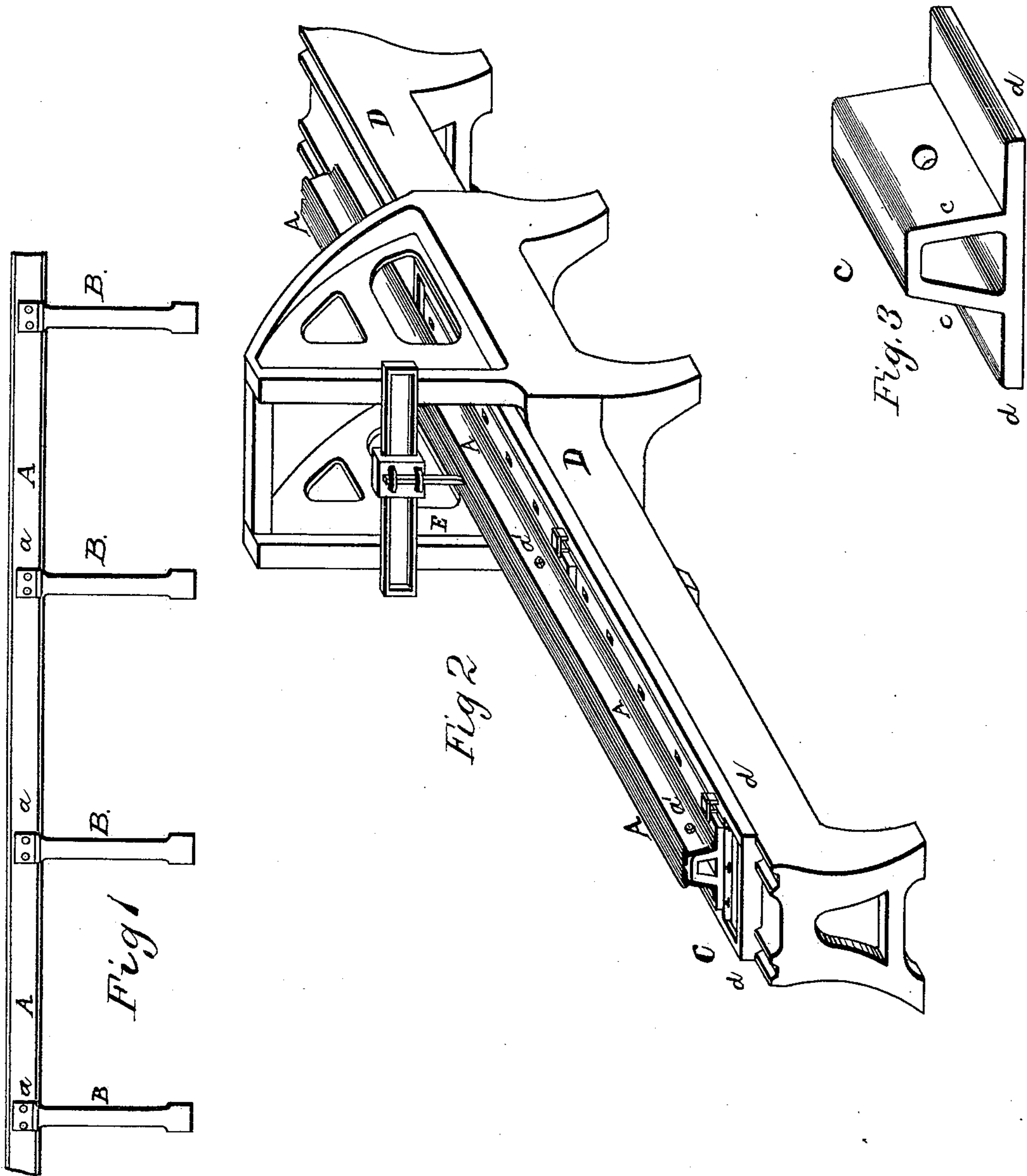
(No Model.)

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PROCESS OF STRAIGHTENING SLOT RAILS.

No. 385,818.

Patented July 10, 1888.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## PROCESS OF STRAIGHTENING SLOT-RAILS.

SPECIFICATION forming part of Letters Patent No. 385,818, dated July 10, 1888.

Application filed February 13, 1888. Serial No. 263,836. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR J. MOXHAM, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Process of Straightening the Slots of Slot-Rails for Cable Railways, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

10 The object of this invention is to provide a process by means of which, subsequent to the execution thereof, the slot-rails of cable railways may be laid in track, with the edges of their sides or flanges forming the slot truly parallel.

15 The invention consists in first securing the slot-rails upon the bed of a suitable machine exactly at the points where said rails would be secured in track and at the same angles, and then, while so secured, cutting or planing the parts of each rail forming the sides of the slot to exactly the uniform width required, as will be hereinafter more particularly described.

20 In the accompanying drawings, Figure 1 shows in side elevation a portion of the slot-rails as secured in track to the yokes which support said rails. Fig. 2 shows in perspective a pair of slot-rails secured upon a planing-machine or other suitable machine provided with a cutting-tool. Fig. 3 shows in perspective a chock or chair to which the slot-rails are to be secured upon the bed of the planing or cutting machine.

25 In said figures the several parts are indicated by letters of reference, as follows: The letter A indicates one each of the two slot-rails, and a the points at which said rails are secured to the cable-yokes B in Fig. 1.

30 C indicates a chock secured to the bed of a planing-machine, D, through its flanges d. As many of said chocks may be used as desired. The rails A A are clamped together on said chocks by bolts, as shown in Fig. 2, at the points a a', which points correspond exactly with the points of attachment of said rails, when in track, to their yokes B. Above said rails, in the frame of the planer D, is secured a cutting-tool, E—such a tool as is used in ordinary planing-machines and secured in any well-known manner—so that upon the reciprocation of the bed of the machine carrying the rails A A said tool E will cut or plane away the sides of the slot be-

tween the rails A A exactly as the tool is set to cut. The rails A A, being first set at the proper angles and secured at the proper points, as already described, may be additionally 55 braced or secured, if desired, in any suitable manner.

In view of the adoption of this process, prior to setting the rails in track it would be a good plan for the manufacturer in rolling such slot-rails to leave the metal a little full at the parts where the planing-tool is to cut. This, however, would not in practice be an absolute necessity.

60 The advantage of this preliminary process is as follows: In constructing cable railways great difficulty has been encountered in securing a parallel slot or true alignment of the same, the sides of said slot being formed by portions of the opposite rails. No matter how 65 true the working-edge of a slot-rail may be, unless the whole rail be true there results an uneven slot when the rails are laid in track during road-bed construction. The yokes to which the slot-rails are secured are rigid, while 70 the slot-rails themselves are more or less flexible, and therefore on tightening up the slot-rails against the yokes any small twist or irregularity in the body of the slot will be manifest in an irregularity or want of truth in 75 the slot. It is, moreover, a difficult matter, owing to difficulties incidental to rolling and to the flexibility of the slot-rails, to roll the same absolutely straight, and even if absolutely straight at time of shipment they are 80 liable to become slightly distorted in the necessary handling of transit.

85 By this process the slot-rails are clamped together on the chair C upon the bed of the planing-machine precisely in the manner which will occur in the track during construction—that is, the rail is rigidly clamped in the same way that it would be on the yokes in the road-bed. The rails, being tightened up to the chair C, present the same irregular slot as is ordinarily presented in the ordinary method of 90 construction, where this prior preparatory process has not been used. The cutting-tool E, being now run through the slot between the rails clamped, as described, to the chair C, 95 will cut out a clear and exactly-parallel groove, forming the desired slot. Thus is secured a 100



true slot without the necessity of overcoming other irregularities incident to the ordinary course of manufacture, which irregularities are thus rendered no longer objectionable. This  
5 will be evident when it is remembered that the slot between the rails is only about three fourths of an inch wide. A vertical irregularity of one-eighth of an inch would be imperceptible in practice and lead to no damage, whereas the  
10 closing of the slot but one-eighth of an inch would be a serious matter. By means, therefore, of this process true alignment or parallelism of the slot is obtained by taking advantage of existing irregularities and obviating  
15 their effects, instead of by eliminating said irregularities themselves, which would be a costly, if not impossible, operation or task.

As part of the work of the regular manufacturer is to drill the necessary holes in the slot-  
20 rails for securing them to their yokes in the

road-bed, these points can always be availed of as guides for clamping the slot-rails at exactly the same points and angles upon the cutting-machine at which said rails would be secured to their yokes in the road-bed.

Having thus fully described my said process as of my invention, I claim—

The process of securing or providing the slot-rails of cable railways with a parallel or true sided slot, consisting in clamping said  
30 rails upon the bed of a machine at the same points and at the same bevels or angles at which they are to be laid in track, and then cutting or planing said rails while so clamped to form the desired width of slot, substantially as and  
35 for the purposes set forth.

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Witnesses:

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