(No Model.) 3 Sheets—Sheet 1.

H. S. SMITH, F. H. TREAT & C. PETTIGREW.

BILLET CONVEYER.

No. 455,062. Patented June 30, 1891.

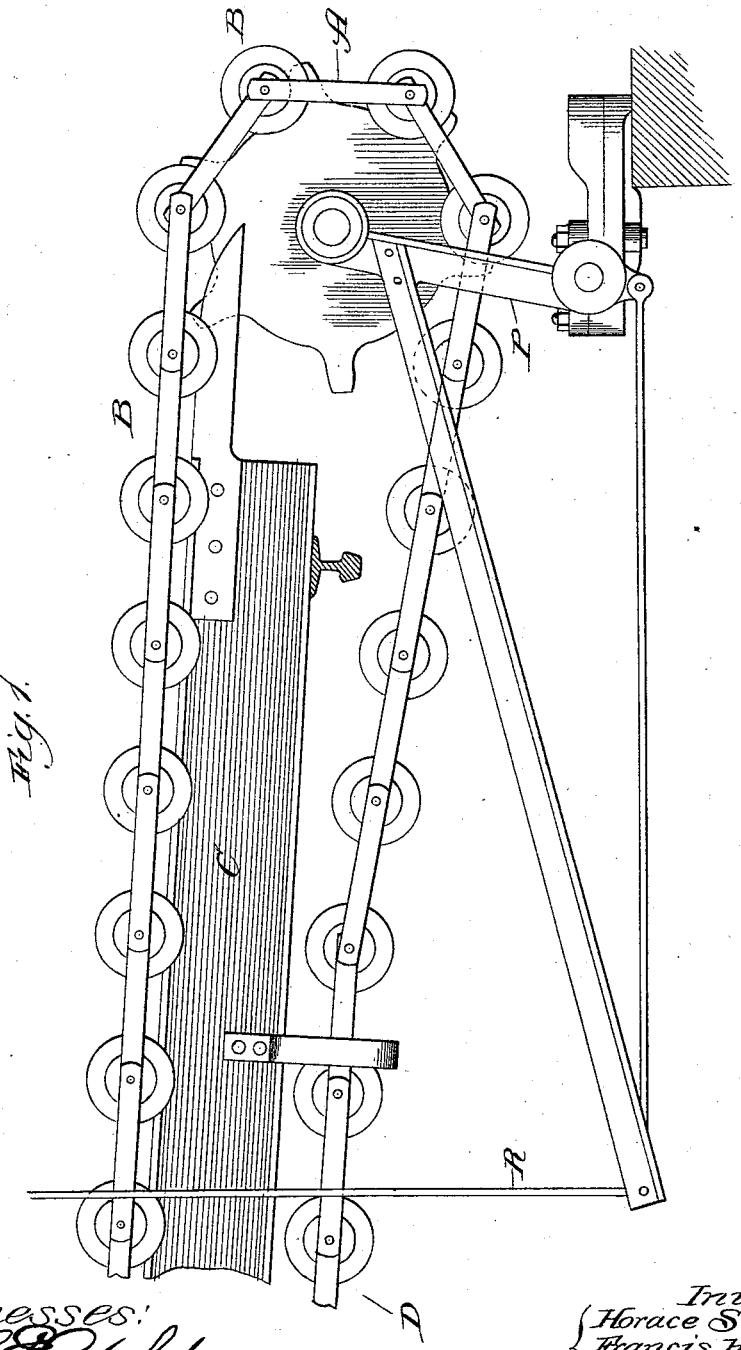

Fig. 1.

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Clifford G. White.

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(No Model.) 3 Sheets—Sheet 2.

H. S. SMITH, F. H. TREAT & C. PETTIGREW.

BILLET CONVEYER.

No. 455,062. Patented June 30, 1891.

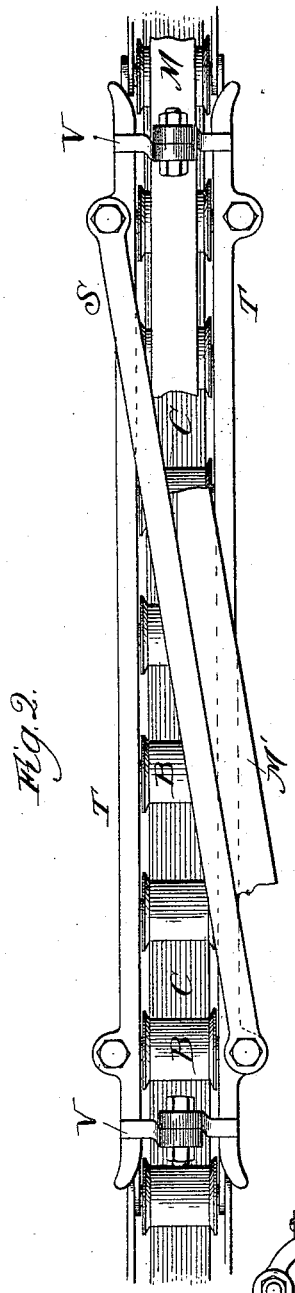

Fig. 2.

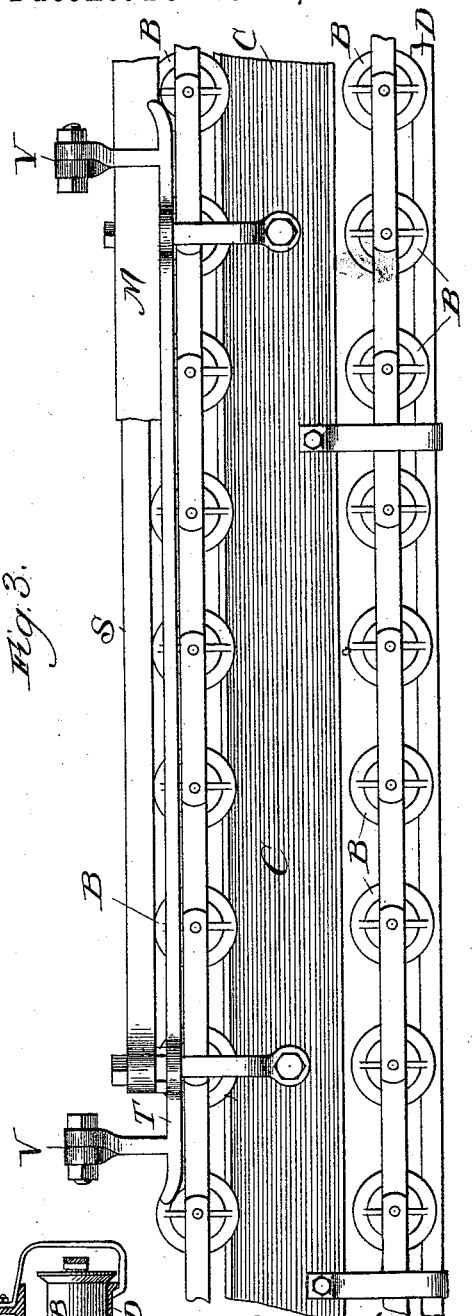

Fig. 3.

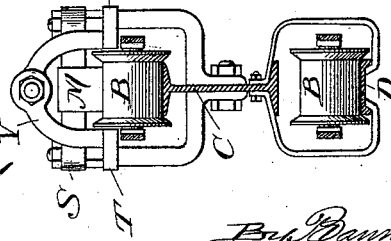

Fig. 4.

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Att'ys

(No Model.) 3 Sheets—Sheet 3.

H. S. SMITH, F. H. TREAT & C. PETTIGREW.

BILLET CONVEYER.

No. 455,062. Patented June 30, 1891.

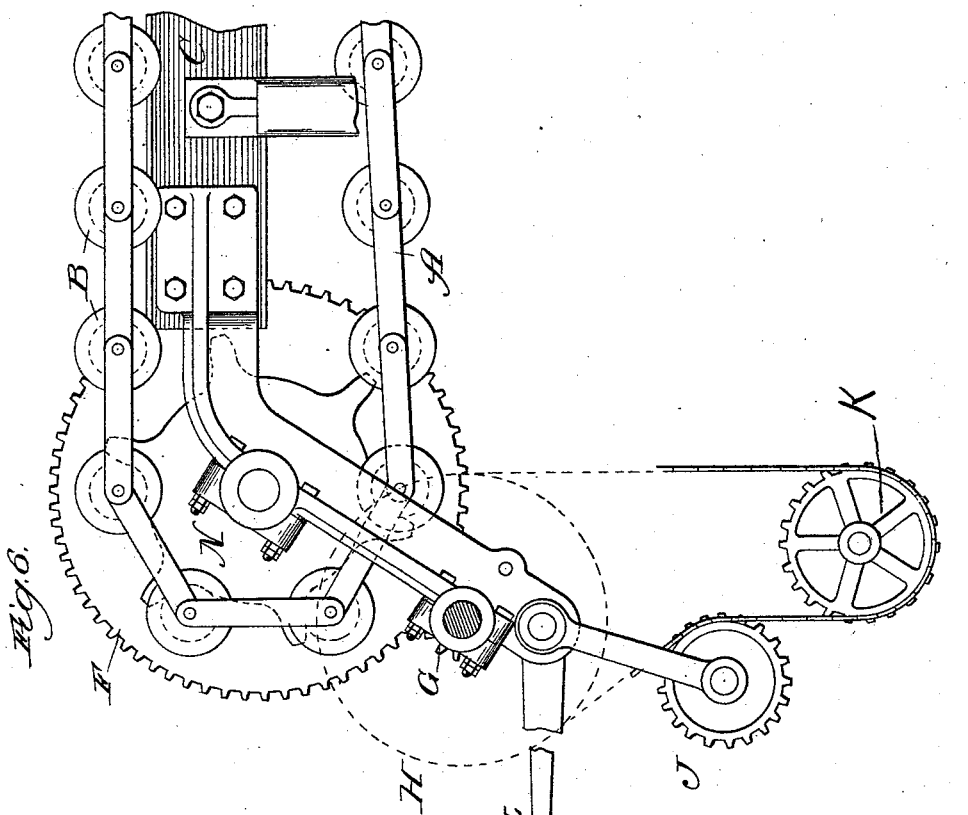

Fig. 6.

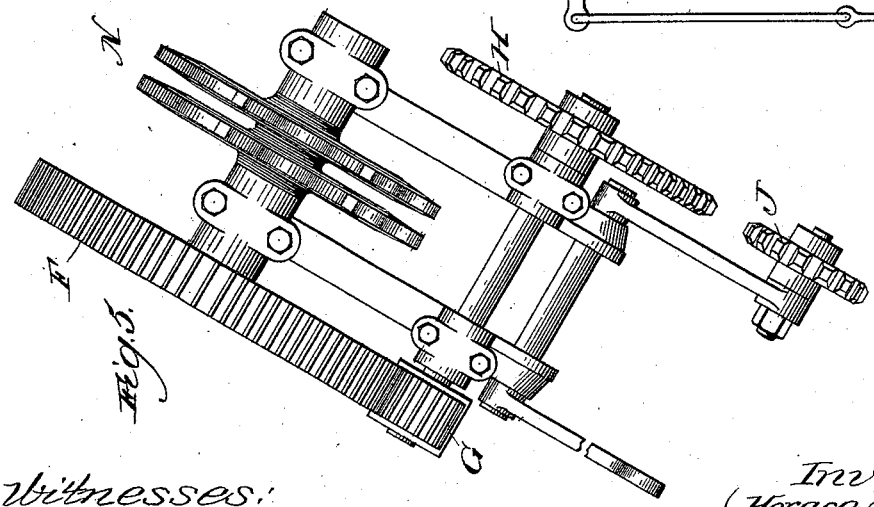

Fig. 5.

Witnesses:
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Attys.

UNITED STATES PATENT OFFICE.

HORACE S. SMITH AND FRANCIS H. TREAT, OF CHICAGO, AND CHARLES PETTIGREW, OF JOLIET, ASSIGNORS TO THE ILLINOIS STEEL COMPANY, OF CHICAGO, ILLINOIS.

BILLET-CONVEYER.

SPECIFICATION forming part of Letters Patent No. 455,062, dated June 30, 1891.

Application filed July 18, 1890. Serial No. 359,152. (No model.)

To all whom it may concern:

Be it known that we, HORACE S. SMITH and FRANCIS H. TREAT, both of Chicago, Cook county, Illinois, and CHARLES PETTIGREW, of Joliet, Will county, Illinois, have invented a new and useful Improvement in Billet-Conveyers, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

This invention relates to an improvement in apparatus for conveying bodies, especially billets or heated metallic blocks, to distant points and there automatically delivering them.

Our invention is especially designed to convey heated billets as they are cut off by a billet-shears and to deliver them at a distant point for subsequent operations.

Our conveyer consists, generally, of an endless chain carrying metallic rollers and supported as indicated in the drawings.

Our invention will be readily understood from the accompanying drawings, in which—

Figure 1 represents a vertical elevation of the receiving end of the conveyer; Fig. 2, a horizontal view of the conveyer, showing the shunting mechanism; Fig. 3, a vertical elevation of the same; Fig. 4, an end view showing the billet upon the rollers; Fig. 5, a plan view of the driving mechanism, and Fig. 6 a vertical elevation of the same.

In the drawings, A represents and endless chain carrying flanged rollers B, preferably of malleable iron. This endless chain passes over sprocket-wheels N O at either end of the conveyer. The conveying-rollers are carried upon a channel-iron D. The sprocket-wheels are preferably double, as shown in Fig. 5. The I-beam carrying the rollers is supported upon uprights in any suitable way and carried to any desired distance. The channel-iron D, upon which the rollers return, is supported by hangers beneath the I-beam. The sprocket-wheel O is supported upon a bell-crank lever P, which may be drawn upward by the cord R under constant tension, thereby tightening the endless chain. The driving sprocket-wheel may be turned in any suitable way. As shown, it is driven from the gear-wheel F, driven from the pinion G, itself turned by the sprocket wheel and chain, as shown, from the driving-wheel K. The tightener J, mounted upon the bell-crank lever, may be employed to keep this sprocket-chain constantly tight.

When it is desired to deliver the billets at some other point than at the terminal of the chain, a switching device S is employed. This device consists of a bar placed angularly across the path of motion of the billet, whereby the power is applied obliquely across the line of movement of the rollers, as shown in Fig. 2. This is preferably used in connection with the guide-bars T T, under which the ends of the rollers run, thereby preventing the derailing of the rollers. These guide-bars may be coupled together at the ends by the bolted arms V, thereby insuring steadiness. This switch is adjustable to any desired point on the beam, being suitably supported thereon, as shown.

The operation of our conveyer can now be readily understood. The billet being dropped upon the receiving end, the conveyer being in operation, the billet is forwarded along upon the rollers until it meets the switch S, when it is thrown from the conveyer upon the ground or other receptacle. The billets are long enough to rest at least upon two rollers at a time. By the revolution of the rollers the billets are caused to be forwarded at a rate twice as fast as the movement of the rollers and chain, and for this reason a rapid movement of the billets can be obtained, thus insuring the least possible wear upon the moving parts. The hot billets being kept in motion, cannot overheat at any point or destroy lubrication or otherwise injure it, and at the same time the entire weight of the billets, including the weight of the rollers, is carried upon rolling friction with a consequent small consumption of power.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. A billet-conveyer consisting of a continuous line of rollers coupled into an endless chain and driven by a power-wheel, said rollers resting upon a trackway, thereby enabling the forwarding of the billet at a rate

twice as great as the movement of the rollers, substantially as described.

2. In a billet-conveyer, the combination of a conveyer consisting of a line of rollers rolling along a trackway, and means whereby the billets are shunted off from said rollers, substantially as described.

3. In a billet-conveyer, the combination of a conveyer consisting of a line of rollers upon a trackway, and a switch-bar placed obliquely across the line of movement of said rollers and above their tops, whereby the billets are shunted off from said rollers, substantially as described.

4. In a billet-conveyer consisting of a continuous line of carrying-rollers coupled into an endless chain, a trackway for said rollers, consisting of an I-beam, beneath which is suspended an independent trackway for the return of the rollers, substantially as described.

5. In a billet-conveyer, the coupled rollers B B, provided with flanges and moving and returning upon a trackway, substantially as described.

6. In a billet-conveyer, the coupled rollers B B, moving upon the double sprocket-wheels N, provided with an automatic tightening device, substantially as described.

7. The combination, in a billet-conveyer, of the coupled rollers B B, driven by suitable power, the I-beam C, the guide-bars T, and the switch-bar S, substantially as described.

8. The billet-conveyer consisting of the suitably-driven coupled conveying-rollers B and the adjustable switch for throwing the billet from the rollers, adjustable to any point of the traverse of the billet, substantially as described.

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Witnesses:
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