No. 840,830.

PATENTED JAN. 8, 1907.

E. I. DODDS.

METHOD OF MAKING METALLIC SILLS FOR CARS.

APPLICATION FILED OCT. 30, 1905.

2 SHEETS—SHEET 1.

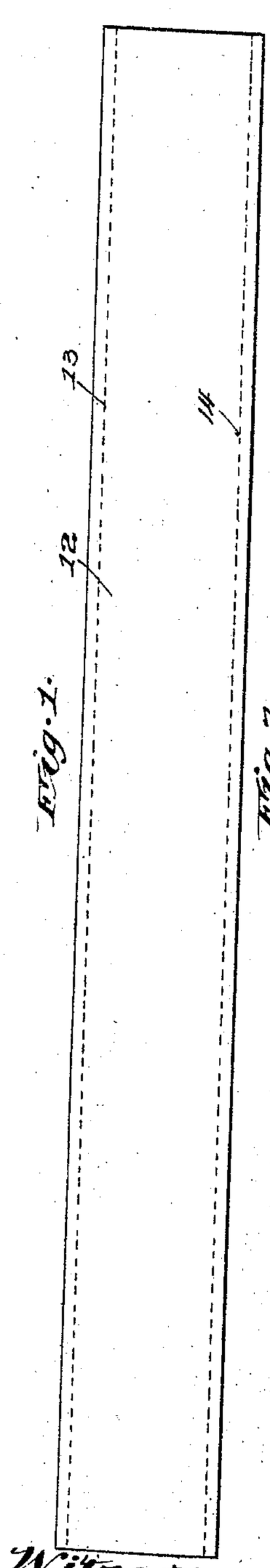


Fig. 1.




Fig. 7.



Fig. 3.




Fig. 5.




Fig. 9.




Fig. 10.



Fig. 2.


Fig. 4.




Fig. 6.

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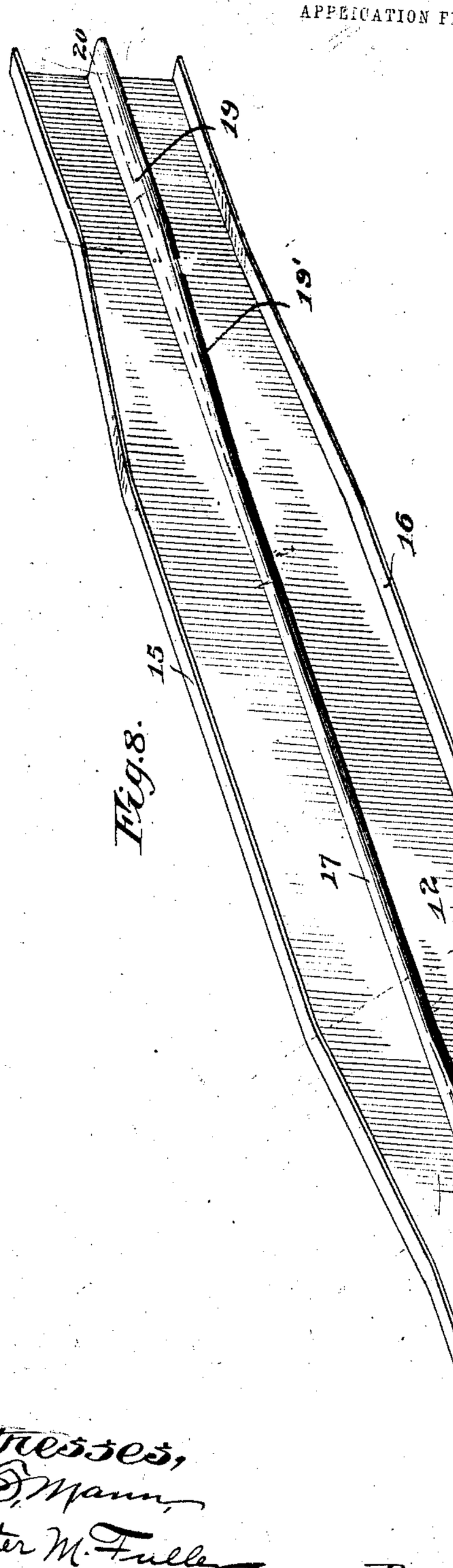
2 SHEETS—SHEET 2.

Fig. 8.

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# UNITED STATES PATENT OFFICE.

ETHAN I. DODDS, OF PULLMAN, ILLINOIS, ASSIGNOR TO THE PULLMAN COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## METHOD OF MAKING METALLIC SILLS FOR CARS.

No. 840,830. Specification of Letters Patent. Patented Jan. 8, 1907.

Application filed October 30, 1905. Serial No. 285,151.

*To all whom it may concern:*

Be it known that I, ETHAN I. DODDS, a citizen of the United States, residing at Pullman, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Methods of Making Metallic Sills for Cars, of which the following is a specification.

My invention pertains to a new and improved method of producing flanged bellied railway-car sills or bolsters at a small cost of manufacture, the number of operations or steps in the process being reduced to three or four.

I have illustrated my novel method of manufacturing car-sills in the accompanying drawings, like reference characters in all the figures referring to the same parts.

Figure 1 is a face view of a blank metal sheet from which two car-sills are produced by my method. Fig. 2 is an enlarged cross-section of the sheet after the first step in the operation, which consists in turning over flanges along the longitudinal edges of the blank. Fig. 3 is an edge view of the sheet after the second step in the operation, which involves the pressing of a uniform central longitudinal rib out of the plane of the sheet. Fig. 4 is an enlarged cross-section of the sheet after the second step. Fig. 5 is an edge view of the sheet after the third step in the process, which involves the deepening of the central rib at its end portions. Fig. 6 is an enlarged cross-section of the sheet after the above-mentioned third step in the process. Fig. 7 is a face view of the sheet after the third step. Fig. 8 is an enlarged perspective view of the sheet shown in Figs. 5, 6, and 7; and Figs. 9 and 10 are face views of the sills made from the sheet, the two sills being separated by severing the outer portions of the central rib parallel to the plane of the sheet.

Referring first to Fig. 1, the rectangular metal-sheet blank 12 is bent over along the longitudinal parallel lines 13 and 14 to form the two marginal parallel flanges 15 and 16. The plate is then operated upon to provide the central longitudinal uniform rib 17, which may be embossed on or pressed out of the plane of the sheet by stamping or by rolling. The next step in the operation is the deepening of the end portions of rib 17, so as to form the parts 18 and 19. This step may be performed either by means of cam or eccentric rolls or by means of dies. It should be noted that the portions 18 and 19 taper at 18′ and 19′ for a portion of their length toward the center of the sheet, as will be clearly evident by an inspection of Figs. 5 and 8. This last step in the process draws in the metal at the end portions of the sheet, thus reducing their width, but leaving the center part its original width, so that the sills when severed will be bellied in shape. To separate the two sills, the irregular rib 17 18 19 is cut on line 20 20, which is parallel to the plane of the sheet, thereby removing the outer portion of the rib. A pair of bellied sills of the shape shown in Figs. 9 and 10 is thus produced, each having integral flanges along its opposite longitudinal edges.

Although I have illustrated and described the rib 17 18 19 as being pressed from the sheet on the same side that the flanges 15 and 16 are turned over, it will be evident that the flanges and rib may be formed on opposite sides of the sheet, so that when the sills are cut apart each will be of **Z** shape. Instead of first embossing, stamping, or rolling a uniform rib 17 from the sheet and then deepening the same at the end portions one of the shape including the parts 17, 18, and 19 may be pressed or rolled without he use of preliminary rib 17, thereby eliminating one step in the operation as described above. It will be apparent at uniform or unbellied sills may be produced by this method; but in that cas the center longitudinal rib would be of uavarying depth. Other minor variations of this method of making car-sills will suggest themselves to those skilled in the art; but my invention is not limited to the details shown and described, and for that reason is not restricted thereto except to the extent that such details are made the subject-matter of specific claims.

I claim—

1. The method of manufacturing car-sills, which consists in pressing a longitudinal rib out of the plane of a metal sheet on one side thereof, and longitudinally cutting said rib whereby two sills are formed, substantially as described.

2. The method of manufacturing metallic car-sills which consists in pressing a longitudinal rib out of the plane of a metal sheet on one side thereof and longitudinally cutting

said rib to remove a portion thereof thereby forming two sills, substantially as described.

3. The method of manufacturing metallic car-sills, which consists in turning over flanges along the longitudinal edges of a metal sheet, pressing a longitudinal integral rib out of the plane of one side of said sheet, and cutting off the outer portion of said rib thereby forming two sills each with an integral flange, substantially as described.

4. The method of manufacturing metallic car-sills, which consists in pressing out of the plane of a metal sheet on one side thereof a longitudinal rib deeper at its ends than at its central portion, and longitudinally cutting said rib thereby forming two bellied sills each with an integral flange, substantially as described.

5. The method of manufacturing metallic car-sills, which consists in pressing out of the plane of a rectangular metal sheet on one side thereof a longitudinal rib deeper at its ends than at its central portion, and longitudinally cutting said rib to remove the outer portion thereof thereby forming two bellied sills each with an integral flange, substantially as described.

6. The method of manufacturing metallic car-sills, which consists in turning over flanges along the longitudinal edges of a metal sheet, pressing out of the plane of said sheet on one side thereof a longitudinal integral rib deeper at its ends than at its central portion, and cutting off the outer portion of said rib, thereby forming two bellied sills each with integral flanges along its longitudinal edges, substantially as described.

7. The method of manufacturing metallic car-sills, which consists in pressing a longitudinal integral rib out of the plane of a metal sheet on one side thereof, deepening the end portions of said rib, and longitudinally cutting said rib, thereby forming two sills, substantially as described.

8. The method of manufacturing metallic car-sills, which consists in turning over flanges along the longitudinal edges of a metallic sheet, pressing a longitudinal integral rib out of the plane of said sheet on one side thereof, deepening the end portions of said rib, and cutting off the outer portion of said rib, thereby forming two bellied sills each with integral flanges along its longitudinal edges, substantially as described.

9. The method of manufacturing metallic car-sills, which consists in turning over flanges along the longitudinal edges of a rectangular metal sheet, pressing a central longitudinal integral rib of uniform depth out of the plane of said sheet on one side thereof, deepening and tapering the end portions of said rib, and severing the outer portion of said rib on a line parallel to said sheet thereby forming two bellied sills, each with integral flanges along its longitudinal edges, substantially as described.

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