

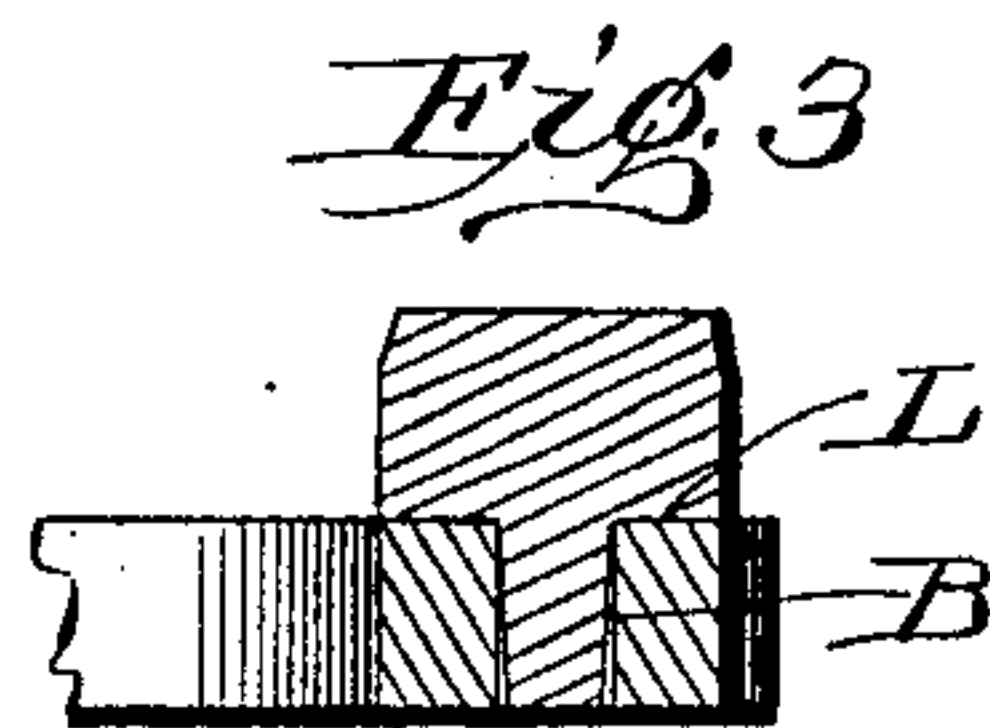
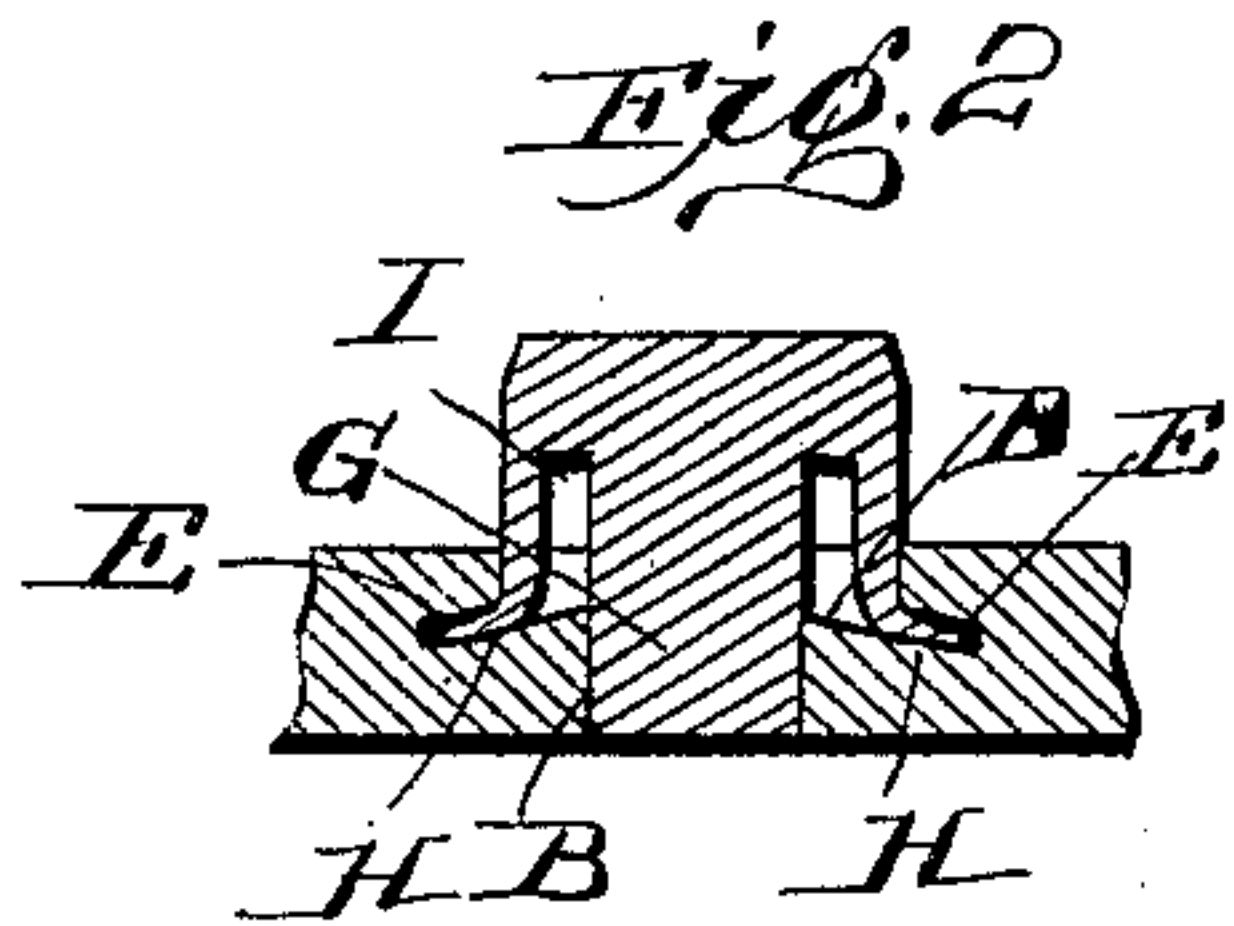
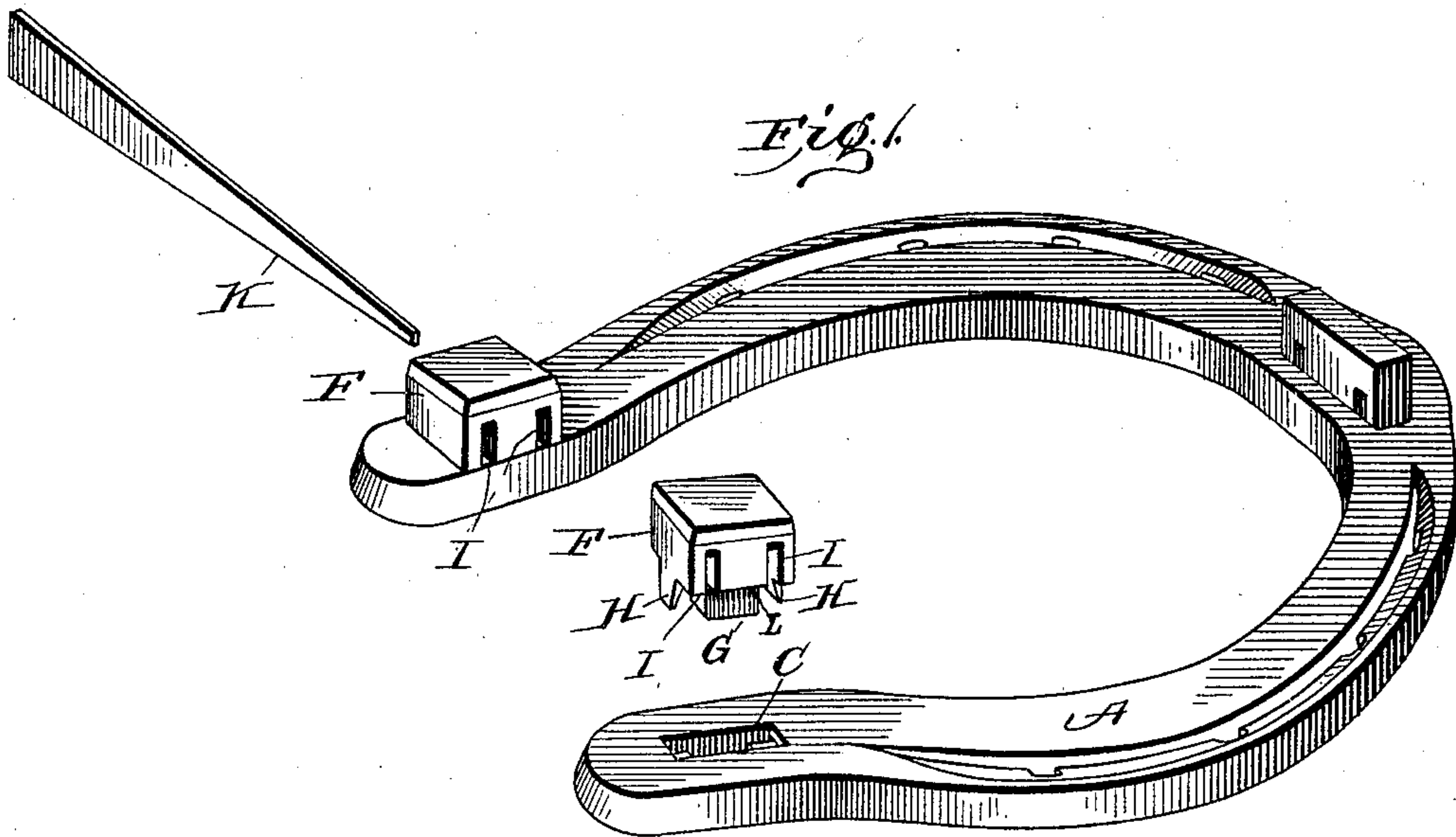
No. 683,084.

Patented Sept. 24, 1901.

M. R. THURBER.  
HORSESHOE.

(Application filed May 10, 1901.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

MILTON R. THURBER, OF LEHMAN, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO HENRY SMITH THOMAS, OF SAME PLACE, AND FRANK LOUDER STROUD, OF DALLAS, PENNSYLVANIA.

## HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 683,084, dated September 24, 1901.

Application filed May 10, 1901. Serial No. 59,643. (No model.)

*To all whom it may concern:*

Be it known that I, MILTON R. THURBER, residing at Lehman, in the county of Luzerne, State of Pennsylvania, have invented certain  
5 new and useful Improvements in Horseshoes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying  
16 drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in horseshoes, and has for its object to provide a practical shoe with renewable calks, where-  
15 by the calks may be readily renewed when worn or broken without removing the shoe from the horse's foot and whereby the newly-inserted calks will be held with great rigidity, so as to prevent accidental displacement or  
20 loss.

The invention consists in providing the shoe with openings extending through the same from bottom to top and adapted for the reception of the shanks of the calks, such  
25 opening being of greater diameter near the bottom of the shoe and provided with transversely-inclined deflecting-shoulders and retaining-recesses extending laterally therefrom, whereby calks having central shanks and  
30 side retaining-lugs may be inserted into said openings and the said retaining-lugs deflected by the inclined shoulders, so as to pass into the lateral retaining-recesses to hold the calks in position.

35 The invention further consists in certain novel details of construction and combinations and arrangements of parts, all as will be now described, and pointed out particularly in the appended claims.

40 Referring to the accompanying drawings, Figure 1 is a perspective view looking at the bottom of the horseshoe, with two calks mounted in position therein and the third calk in position ready for insertion. Fig. 2 is a longitudinal section through one of the calks,  
45 showing the position the retaining-lugs assume when the calk is inserted. Fig. 3 is a section at right angles to Fig. 2, showing the shoulders for limiting the movement of the  
50 calk-shanks.

Like letters of reference indicate the same parts throughout the several figures.

The body of the shoe is indicated by the letter A and, as usual in this class of devices, is made of metal of any desired or preferred shape both in contour and in cross-  
55 section.

At the heels and toe, or wherever it is desired to insert calks, openings are formed through the shoe, said openings being preferably rectangular. The portions B nearest the top of the shoe are of less diameter than the portions C near the bottom of the shoe. Inclined shoulders D are formed at the entrance to the narrower portions of the open-  
65 ings, such inclined shoulders being extended and constituting the upper walls of laterally-extending retaining-recesses E. The recesses E preferably incline at the same angle as the shoulders, although it will be understood that  
70 this is not essential, inasmuch as said recesses will guide the retaining projections after the said projections have once been directed into same by the shoulders.

The calks F, which, it will be understood, 75 may be flat mud-calks or sharpened ice-calks, as desired, are formed with central shanks G, adapted to fit into the narrower portions of the openings, and also with retaining-lugs H, the ends of which retaining-lugs are  
80 adapted to strike the inclined shoulders and be deflected thereby into the retaining-recesses. The inner sides of the retaining-lugs are inclined or beveled outwardly, making the ends of said lugs more or less sharp and  
85 adapting them to be more readily bent outward into the retaining-recesses, while the slots I between the retaining-lugs and the shank are extended into the body of the calk a sufficient distance to leave openings below  
90 the lower surface of the shoe, whereby they are adapted for reception of the point of a withdrawing wedge or tool K, as indicated in Fig. 1.

In the preferred construction side shoulders L are provided on the calks for limiting  
95 the inward movement of the shanks, said shoulders seating against the surface of the shoe. These shoulders not only perform the function just mentioned, but also constitute 100



a firm seat for withstanding the shock and pound when the shoe is in use. It will be understood, of course, that the wearing ends of the calks may be hardened, while the retaining-lugs and shank may have the temper drawn so as to facilitate the operation of insertion and removal, and said shank and retaining-lugs are made of sufficient cross-sectional area to withstand the lateral strain incident to the use of the shoe.

With this construction shoes having calk-openings and calk, as described, may be manufactured in quantities and supplied to the trade. The horseshoer may heat said shoes and fit them to the horse's feet readily and subsequently insert the calk by a few blows of the hammer, or, if he so desires, he may first insert the calk and then fit the shoes to the horse's feet. Should said calks become worn or dulled, they may be readily removed by means of a wedge or instrument driven into the openings provided for this purpose and new calks inserted without removing the shoes from the horse's feet and without material inconvenience, inasmuch as in practice it is found that a few comparatively light taps with a hammer are sufficient to seat the calks, and subsequent pounding incident to use serves to still further seat and tighten the same in position.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a horseshoe having openings for the calk-shanks extending through the same from the bottom of the shoe to the top, the bottom portions of said openings being of greater diameter than the top portions, with inclined deflecting-shoulders at the entrance to said narrow portions and retaining-recesses extending laterally from said deflecting-shoulders, of calks having central shanks seated in the narrow inner portions of the openings, and side retaining-lugs seating against and deflected into the retaining-recesses by the inclined shoulders; substantially as described.

2. The combination with a horseshoe having openings for the calk-shanks extending through the same from the bottom of the shoe to the top, the bottom portions of said openings being of greater diameter than the top portions with inclined deflecting-shoulders at

the entrance to said narrower portions and retaining-recesses extending laterally from said deflecting-shoulders, of calks having central shanks seating in the narrow inner portions of the openings, shoulders seating against the shoe for limiting inward movement of the shanks, and side retaining-lugs seating against and deflected into the retaining-recesses by the inclined shoulders; substantially as described.

3. The combination with a horseshoe having openings for the calk-shanks extending through the same from the bottom of the shoe to the top, the bottom portions of said openings being of greater diameter than the top portions with inclined deflecting-shoulders at the entrance of said narrow portions and retaining-recesses extending laterally from said deflecting-shoulders, of calks having central shanks seated in the narrow inner portions of the openings, and side retaining-lugs seating against and deflected into the retaining-recesses by the inclined shoulders, the spaces between the central shank and retaining-lugs being extended beyond the bottom surface of the shoe to form openings for the insertion of a withdrawing-wedge; substantially as described.

4. The combination with a horseshoe having openings for the calk-shanks extending through the same from the bottom of the shoe to the top, the bottom portions of said openings being of greater diameter than the top portions, with inclined deflecting-shoulders at the entrance to said narrower portions and retaining-recesses extending laterally from said deflecting-shoulders, of calks having central shanks seating in the narrow inner portions of the openings, shoulders seating against the shoe for limiting inward movement of the shanks, and side retaining-lugs seating against and deflected into the retaining-recesses by the inclined shoulders, the spaces between the central shank and retaining-lugs being extended beyond the bottom surface of the shoe and shoulders on the calks to form openings for the insertion of a withdrawing-wedge; substantially as described.

MILTON R. THURBER.

Witnesses:

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