No. 887,680. PATENTED MAY 12, 1908.

J. C. MARTIN.

FLANGE LUBRICATING DEVICE.

APPLICATION FILED MAR. 13, 1907.

2 SHEETS—SHEET 1.

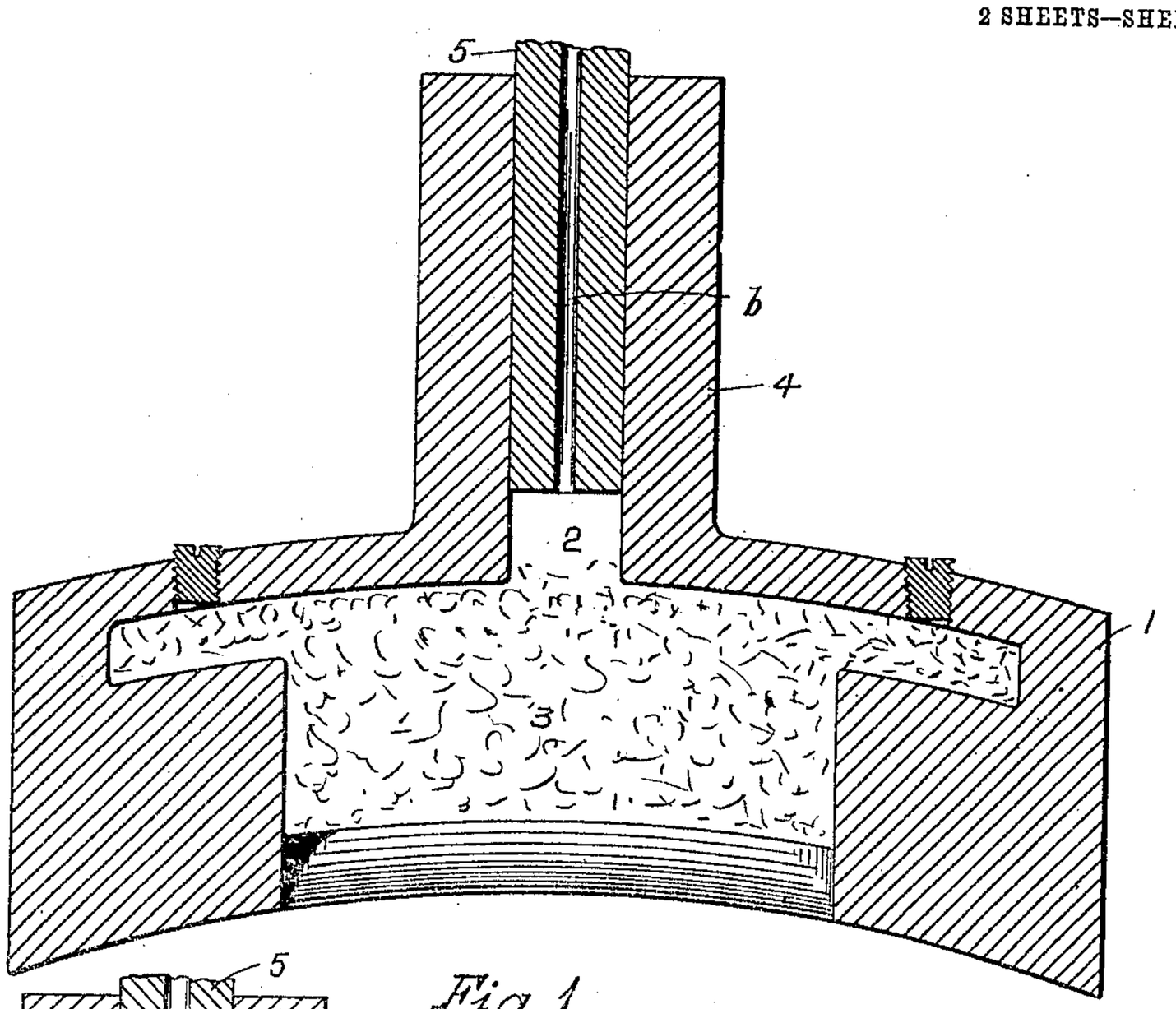

Fig. 1.

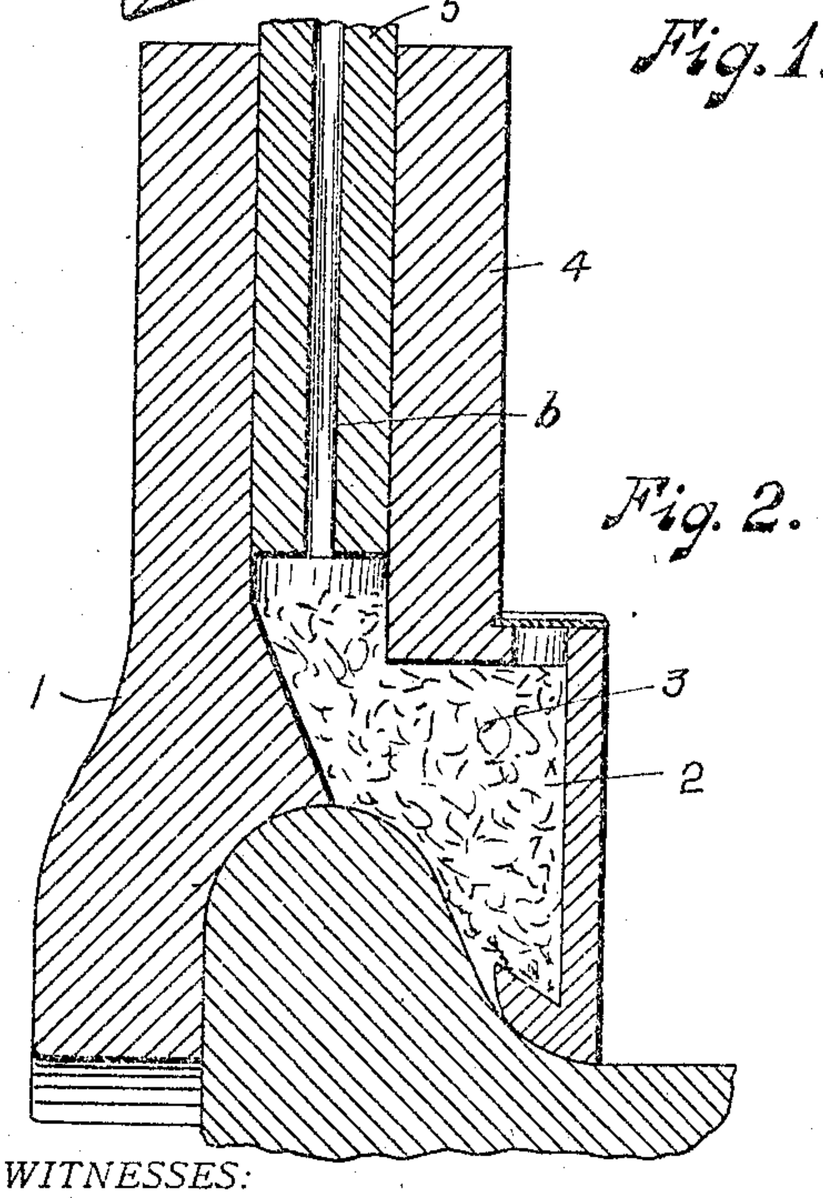

Fig. 2.

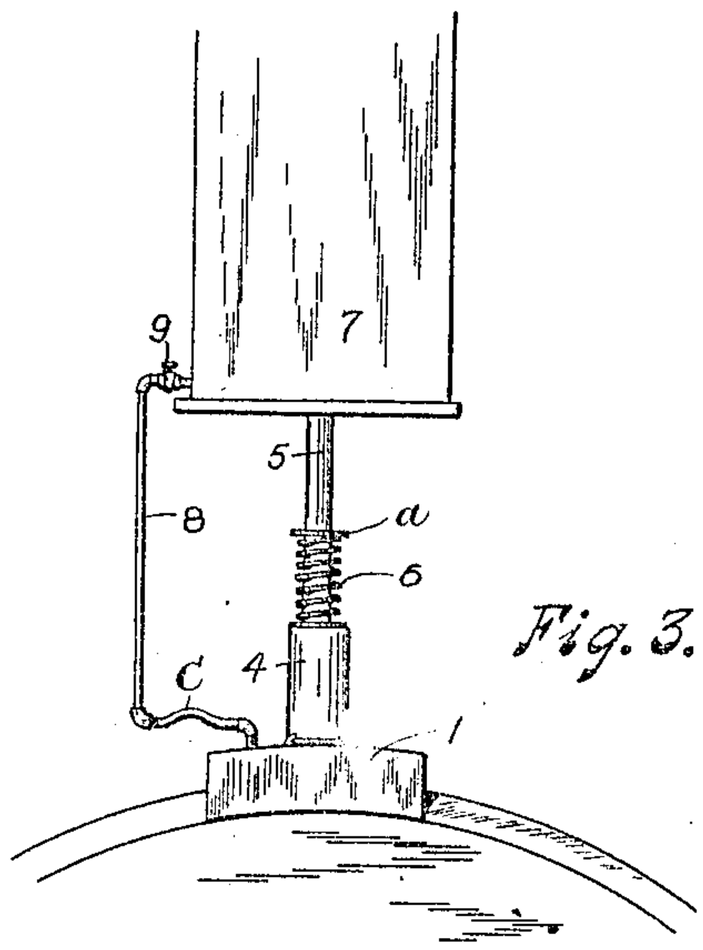

Fig. 3.

WITNESSES:

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Jos. H. Ridgeway.

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2 SHEETS—SHEET 2.

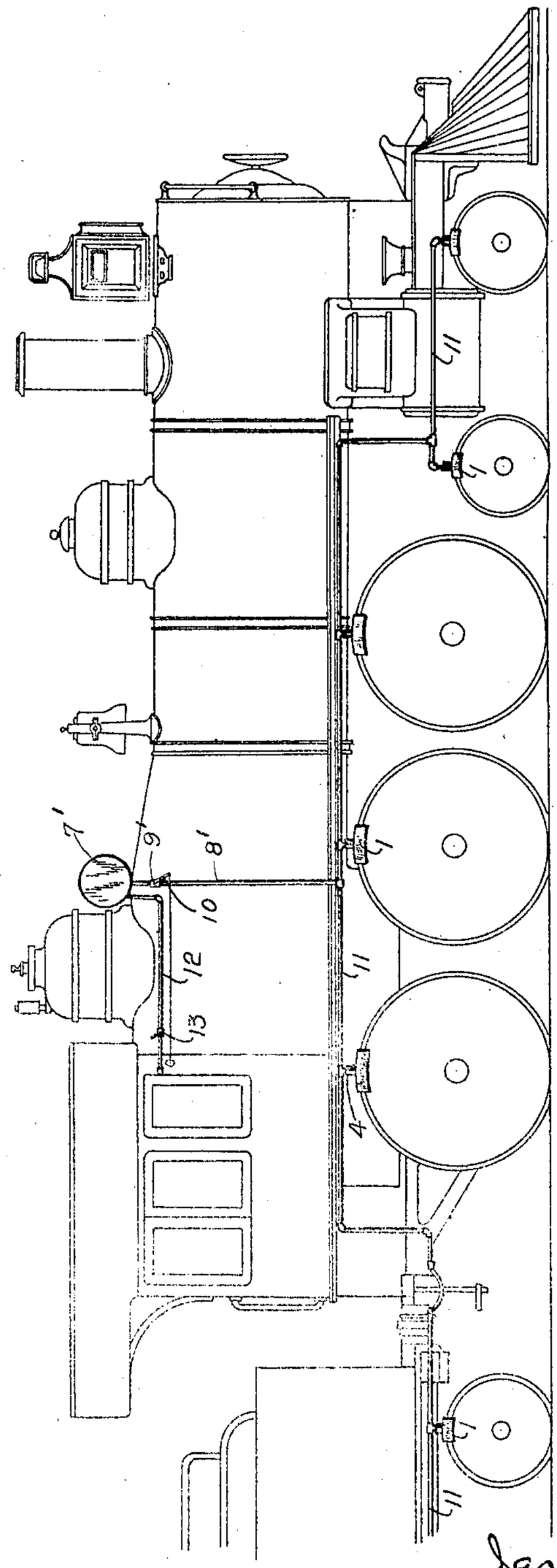

Fig. 4.

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FLANGE-LUBRICATING DEVICE.

No. 887,680. Specification of Letters Patent. Patented May 12, 1908.

Application filed March 13, 1907. Serial No. 362,156.

To all whom it may concern:

Be it known that I, JESSE C. MARTIN, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented a Flange-Lubricating Device, of which the following is a specification.

This invention relates to a device for prolonging the effective service or life of flanged wheels of rail road rolling stock.

One of the sources of wear and deterioration of flanged wheels is the friction between the flange and the side of the track. Indeed the expense of renewal and repair due to this source alone forms a large percentage of the total repair and renewal of the wheels, for it frequently occurs in practice, that wheels otherwise good must be removed, machined, and reset, involving considerable expense not alone from the actual cost of repairs, but the incidental loss due to the removal from service of the locomotive or other stock, which otherwise may be in good repair.

The object of the invention is to provide means for applying lubricant, locally to the wearing surface of the flanges of rolling stock and especially to those of the locomotive. This object is accomplished by means of devices illustrated in the accompanying drawings, in which

Figure 1 is a sectional elevation of a detail of the lubricating shoe on a large scale. Fig. 2 is a transverse section of Fig. 1. Fig. 3 is an elevation of one form of my device on a smaller scale than the foregoing figures. Fig. 4 shows a side view of my device in position as applied to a locomotive.

Referring now to the drawings for a fuller description of this invention, 1 indicates a shoe or chambered receptacle conforming in shape to the flange of a wheel, being formed as an inverted Y or saddle in transverse section, so as to straddle a small arc of the flange. It is provided with a chamber or recess 2 on the inner side of one of the arms of the Y or saddle. The portion of the saddle forming the side walls of the recess 2 is shaped to conform approximately to the contour of the flange. In the recess is provided a packing or swab 3 of preferably absorbent material.

Extending radially from this saddle like shoe is an adjustable connection, shown in the drawings as consisting of a sleeve 4 loosely fitting and movable upon a suitable bar 5, which is adapted to be attached by bolts or other suitable devices to any convenient part of the frame or structure of the locomotive, car etc. Between the bar 5 and the sleeve 4 a spring 6 is provided to effect a downward resilient pressure upon the shoe to maintain the same in proper relation with the flange of the wheel, one end of the spring 6 bearing against a collar *a* on the bar 5, and the other end of the spring engaging the upper end of the sleeve 4. The bar 5 which is provided with a passage *b* extending therethrough to conduct lubricant to the interior of the shoe 1, as shown in Fig. 3 of the drawings communicates directly with a lubricant receptacle 7 suitably mounted on the frame of the locomotive, car etc., but where a number of these devices are used, as for example on the various wheels of a locomotive or train, as illustrated in Fig. 4 of the drawings, the bars 5 leading through the shoe are connected by a pipe or pipes 11 to a main supply pipe 8′ leading to a lubricant receptacle 7′ suitably mounted on the frame of the locomotive or car. Pipe 8′ is provided with a valve 9′ to control the supply of lubricant to the shoes, said valve having an operating handle extending to the cab.

A pressure pipe 12 connects the boiler or other source of pressure with a receptacle 7′, and a valve 13 is provided suitably situated to control the admission of pressure to the lubricant.

In the arrangement illustrated in Fig. 3 an additional conduit for the lubricant to the interior of the shoe is provided by a pipe 8 connecting the receptacle 7 and the shoe, and said pipe is provided with a valve 9 and with a lower flexible portion C to accommodate for the vertical play of the shoe.

In practice the swab or filling of the chamber 2 is kept supplied by the manner shown or other suitable means, with a heavy lubricant, and by its loose contact transfers a portion of this lubricant to the wearing surface of the flange and consequently to the portion of the rail in contact therewith. At curves or other places of exceptional friction pressure may be admitted to the oil receptacle so as to force an increased supply of oil onto the flange or track, at the discretion and control of the engineer.

Having thus described this invention what I claim is.

1. In a flange lubricating device a shoe supported closely adjacent the face of a flange and having a chamber for lubricant, said chamber having a delivery outlet arranged

adjacent the flange and of a size and shape corresponding to a portion of the face of the flange.

2. In a flange lubricating device, a shoe supported closely adjacent the face of a flange and having a chamber for lubricant, said chamber having a delivery outlet arranged adjacent the flange and of a size and shape corresponding to a portion of the wearing face of the flange.

3. In a flange lubricating device, the combination of a shoe or receptacle for lubricant, means comprising a Y or saddle shaped section for effecting the loose contact of the lubricating shoe surface with the wearing surface of the flange, resilient means for holding the device in working relationship to the flange and means to apply lubricant to the flange, a receptacle or retainer for lubricant communicating with the shoe and means for applying pressure to the lubricant therein.

4. In a flange lubricating device, a shoe yieldably supported closely adjacent the face of a flange and having a chamber for lubricant, said chamber having a delivery outlet arranged adjacent the flange and of a size and shape corresponding to a portion of the face of the flange.

5. In a flange lubricating device, a shoe supported closely adjacent the face of a flange and having a chamber for lubricant, said chamber having a delivery outlet arranged adjacent the flange and of a size and shape corresponding to a portion of the face of the flange and absorbent material in the chamber.

6. In a flange lubricating device, a shoe shaped to straddle a flange and provided with a chamber for lubricant said chamber being provided with a delivery orifice arranged adjacent to and corresponding in size and shape to a portion of the surface of the flange.

7. In a flange lubricating device the combination of a shoe or receptacle formed of Y or saddle section to straddle the flange, there being a pocket or chamber in one of the arms of the Y, and a swab or absorbent material in the pocket adapted to apply a lubricant to the wearing surface of the flange.

8. In a flange lubricating device, a supply container for lubricant, a shoe to be supported closely adjacent the face of a flange and having a chamber for lubricant, said chamber having a delivery orifice arranged adjacent the flange and of a size and shape corresponding to a portion of the face of the flange, a conduit to carry lubricant from the supply container to the chamber of the shoe and having a sliding connection with the shoe, and a spring to maintain the shoe in working relationship to the flange.

9. In a flange lubricating device, a supply container for lubricant, a shoe to be supported closely adjacent the face of the flange and having a chamber for lubricant, said chamber having a delivery orifice arranged adjacent the flange and of a size and shape corresponding to a portion of the face of the flange, a conduit to carry lubricant from the supply container to the chamber of the shoe, and means for applying pressure to the lubricant in the supply container.

10. In a flange lubricating device a supply container for lubricant, a shoe to be supported closely adjacent the face of a flange and having a chamber for lubricant, said chamber having a delivery orifice arranged adjacent the flange and of a size and shape corresponding to a portion of the face of the flange, a conduit to carry lubricant from the supply container to the chamber of the shoe and means for regulating the supply of lubricant from the container to the chamber of the shoe.

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Witnesses:
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