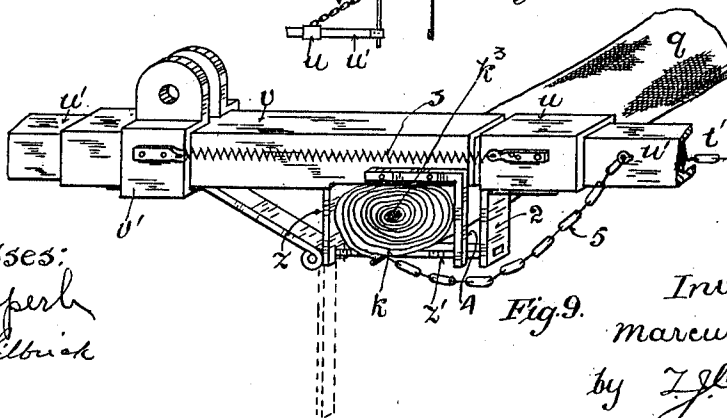
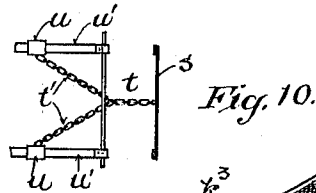
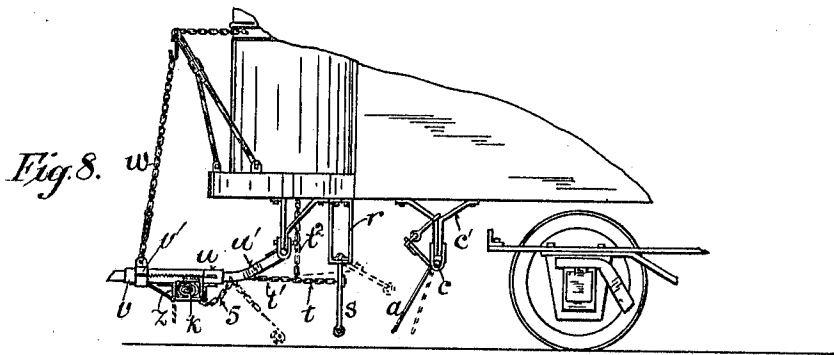
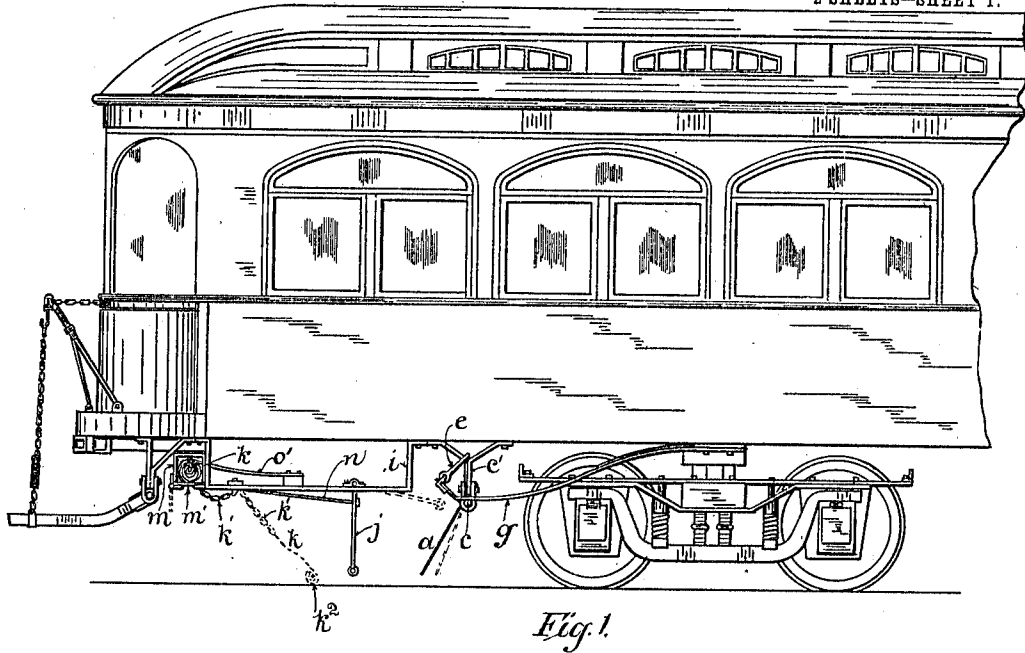


M. L. KEIZUR,
AUTOMATIC LIFE SHEET FENDER.
APPLICATION FILED APR. 26, 1909.

955,967.

Patented Apr. 26, 1910.

2 SHEETS—SHEET 1.



Witnesses:
John Sperl
J. M. Philbrick

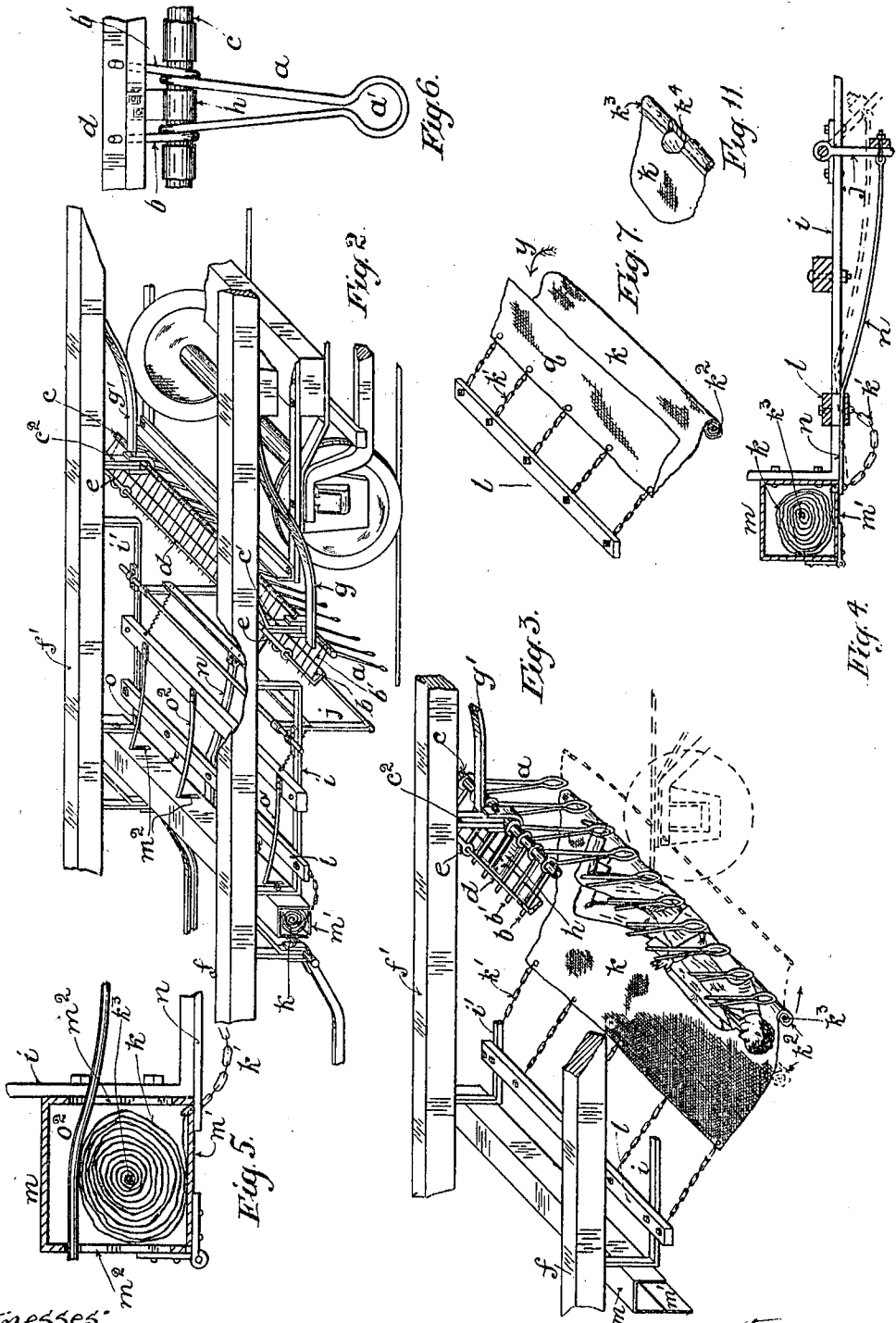
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

MARCUS L. KEIZUR, OF BAKER CITY, OREGON.

AUTOMATIC LIFE-SHEET FENDER.

955,967.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed April 26, 1909. Serial No. 492,380.

To all whom it may concern:

Be it known that I, MARCUS L. KEIZUR, a citizen of the United States, and a resident of Baker City, Baker county, Oregon, have
5 invented a new and useful Improvement in Automatic Life-Sheet Fenders, of which the following is a specification, reference being had to the accompanying drawings as constituting a part thereof.

10 This invention relates to fenders of the "pick-up" type, that is to say, of the class in which the person run down is picked up and carried by the fender until the car can be brought to a standstill; and my invention
15 has for its object to provide a fender of this type so arranged, and operating in such wise that the pick-up devices cannot, under any usual circumstances, skid, or pass over the person run down, but, on the contrary,
20 may be depended upon, under all usual circumstances, to properly perform their work; and, furthermore, my invention has for its purpose to provide pick-up means which will minimize the bruising of the person
25 picked up from the track.

To this end my invention, in its general aspect, resides in the combination with the car and a wheel-guard, arranged pendent in front of the wheel-truck, of a life-sheet fastened at one end under the car, in advance
30 of the wheel-guard, the free end of which life-sheet is preferably weighted and rolled, so as to unroll from the bottom of the sheet; means normally supporting said life-sheet
35 in its rolled state; a movable member pendent in advance of the wheel-guard, and means operated thereby arranged to release said rolled life-sheet and drop the same to the ground.

40 The life-sheet is made of any suitable material, and is so arranged that when released it will drop in front of the person lying across the car-track, in front of the wheel-guard, and will work under him while unrolling on the ground during the continuous forward movement of the car, and carry him along with the car until the latter can be brought to a standstill. In other words,
45 when the life-sheet has been dropped, and has worked under the person lying across the car-track, it will operate as a litter, carrying said person until the car can be stopped.

50 In order that the life-sheet may perform its described work, it is necessary that the same be rolled as illustrated in the drawing,

for if rolled in reverse direction it will not work.

The arrangement of the contrivances by which my object is obtained are illustrated
60 in the drawings, in which:

Figure 1 is a side elevation of the front end of a car provided with my improved fender; Fig. 2 is a perspective detail of the construction shown in Fig. 1; Fig. 3 is a
65 perspective detail of my fender, showing the life-sheet as having been dropped and in the act of unrolling under, and carrying along, the person run down, who is swept forward during such instance by the wheel-guard; Fig. 4 is a longitudinal, sectional
70 detail, illustrating the arrangement of a box extending cross-wise and supported under the car-sills, and in which box the life-sheet is normally carried in its rolled state; this
75 figure also illustrates the withdrawing of the latch by which the drop-bottom of the box is normally supported; Fig. 5 is a cross-sectional detail, on a larger scale than
80 Fig. 4, showing more particularly the construction of said box in which the life-sheet is normally carried as mentioned, and further showing the provision of spring arms for the purpose of firmly holding the life-sheet in place and forcibly ejecting the same
85 from its containing box the instant the drop-bottom of the box is released; Fig. 6 is a detail of construction of a type of wheel-guard; Fig. 7 is a detail illustrating the provision of a cover attachment for the life-sheet, so arranged as to be wrapped around
90 the exterior of the latter when rolled up, for the purpose of protecting the life-sheet from the weather and dust, when it is not practical to normally carry the life-sheet in
95 an inclosing box; Fig. 8 is a partial side elevation of the front end of the car, illustrating my invention as applied to a car of the short-end type and provided with a projecting fender, and my life-sheet is shown as
100 attached to and carried under such projecting fender instead of being attached and carried under the body of the car, as shown in the illustration of Fig. 1; Fig. 9 is a
105 larger-scale perspective detail of the arrangement of the parts shown in the modified example of Fig. 8; the ends of the life-sheet in this figure are shown flush with its supports, but in practice they would project beyond; Fig. 10 is a diagrammatic
110 detail of construction, more fully described in the body of the specification; and Fig. 11 is

a detail of the rolled-up end of the life-sheet showing the same as made with a hem or loop at the end, and a metal cable inserted therein as a weight to hold said end on the ground, when unrolled.

Referring in the first instance to the type of my invention illustrated in Figs. 1, 2 and 3: the same comprises a wheel-guard *a*, of any convenient type, adapted to sweep the track-surface in advance of the front wheel-truck and thus prevent anyone from getting under the wheels. A simple and convenient way of constructing the wheel-guard is shown in Figs. 2, 3 and 6. It consists of a series of rods *a'*, arranged pendent by being bent double, as shown in elevation in Fig. 6, and the upper ends of the two members *b*, *b'* being bent around a transverse shaft *c*, supported from the car-sills *f*, *f'* by hangers *c'*, *c''*. The hangers *c'*, *c''* are arranged to allow the shaft *c* some vertical play against the spring arms *g*, *g'*, fastened to the car-sills and normally holding the shaft *c* down, so as to normally keep the bottom ends of the arms of the wheel-guard, *a*, close to the ground. The ends *b*, *b'* are extended through a perforated angle-iron *d*, suspended by stirrups *e* fastened to the hangers *c'*, *c''*.

In order to hold the angle-iron *d* more securely in place, I connect the same with the shaft *c* by straps *h*, one near each end of said shaft; such straps being bent around the shaft *c*, and the outer ends of said straps being bolted to the angle-iron *d*.

In front of the wheel-guard there are affixed, to the car-sills *f*, *f'*, hangers *i*, *i'*, and from said hangers is pivotally suspended a movable member or trip-bar *j*, adapted to be swung back by contact with the person lying across the track and having connections arranged to release the life-sheet when the trip-bar is swung back.

The life-sheet *k* is made of canvas, or any material having a surface capable of clinging to the clothing of the person run down, and simultaneously unrolling on the ground under the person. One end of said life-sheet *k* is attached by chains *k'*, or otherwise as convenient, to a bar *l*, and the life-sheet is rolled in the form of a roll and normally carried in a box *m*, having a drop-bottom *m'*, which is normally retained in place by a latch-bar *n*, connected at one end to the trip-bar *j*. The box *m* is fastened to the hangers *i*, *i'*.

In order to insure that the life-sheet *k* will be instantly thrown upon the ground, the moment the drop-door *m'* is released by the pulling from under thereof the latch-bar *n*, I provide spring-arms *o*, *o'*, *o''*. The front and rear walls of the box *m* are provided with slots *m''*, as illustrated in Figs. 2 and 5, for the spring-arms *o* to project through, and act as mentioned. Said spring arms

also hold the rolled life-sheet against becoming unrolled by the vibration of the car in travel.

The operation of my fender is as follows: Supposing that the person having fallen across the track has passed under any projecting fender with which the car may be equipped, he will, in the next instant, come in contact with the trip-bar *j*, swinging the latter back and thus drawing the latch-bar *n* from under the drop-door *m'* of the box *m* and releasing the life-sheet *k*, which immediately drops on the ground in front of the person on the track. The life-sheet *k* is rolled in such manner as to unroll, as illustrated by *k''* in Fig. 3. The instant after the movable, pendent member or trip-bar has been swung back, as illustrated in dotted outline in Fig. 1, the person lying across the track will come in contact with and be swept forward by the wheel-guard. The same instant the dropped and unrolling end of the life-sheet will have reached the person, and as the car continues to move forward, the roll will pass under the person, and thereupon the life-sheet will operate as a litter, carrying the person forward with the car. I find it advisable to make the life-sheet of such length as to extend some distance back under the wheel-guard, as shown in dotted outline in Fig. 3.

The described operation of the life-sheet is illustrated in Fig. 3.

It is apparent that while the person carried along on the life-sheet may be bruised to some extent by the roughness of the surface over which he is being dragged, nevertheless he is greatly protected by the life-sheet, *k*, lying under him, and particularly so by reason of the front end of the life-sheet rising above the ground and causing the same to have a sort of skidding motion over the ground.

It should be noted that the body makes no forward progress whatever on the life-sheet after the instant of contact, as would be the case if the body were swept onto an outspread sheet; on the contrary, through the impinging weight of the body on the unwinding sheet and the consequent forcible adhesion of the surfaces of the sheet with the pavement, the roll can do naught but pass under the body, presuming, of course, that the body is being swept forward on the pavement by the wheel-guard. The unrolling of the rolled end of the life-sheet also acts to cause the latter to work itself under, as it were, and to lift up on the roll any projected arm or leg of the person picked up. Even if the rolled end of the life-sheet should fall partially on the body, it will roll off, and act as described. For since the life-sheet, in the act of unrolling on the pavement, in the direction of the wheel-guard, in reality travels forward, it will consequently

have a tendency to roll off the body and then go under, as the weight of the body tightens on the unrolling sheet.

In Fig. 7 I have shown the life-sheet as provided with an exterior wrapping sheet *g*, made of such material and so arranged that when the life-sheet is rolled up, the wrapping sheet will incase the former and protect it from dirt and weather. The rolled-up end of the life-sheet is provided with a hem or fold or loop *k*³, in which is inserted a piece of cable or chain *k*⁴ (see Fig. 11) so as to give said rolled end some weight, facilitating the dropping thereof on the ground, and also holding the same end on the ground, notwithstanding strong head winds. I prefer to use a flexible, instead of a rigid weight for the rolled end of the life-sheet. The attachment of the front end of the life-sheet by chains *k*¹ allows any head winds to get over the top of the sheet, and the weight of the chains *k*¹ also contributes to the dropping and holding of the life-sheet on the ground.

The arrangement of my fender contrivances, as shown in Figs. 7 to 10 inclusive, is substantially the same as already described, except that in this instance by reason of the wheel-trucks being so near the front end of the car, it is necessary to so modify my fender as to suit such conditions imposed upon it.

The wheel-guard, *a*, is of the same construction as has been described.

From the bottom of the car is suspended a hanger *r*, in which is supported the swinging trip-bar *s*. Said trip-bar is connected by a chain *t*, having branches *t*¹, with the sliding sleeves *u* on the projecting frame-members *u*¹. The last described arrangement is diagrammatically illustrated in Fig. 10. A pendent piece of chain *t*², prevents sagging of chain lengths *t*, *t*¹.

The frame-members *u*¹ have each a box-clamp *v*, and a clip *v*¹ to which the suspending chain *w* of the projecting fender-frame is fastened; and under each of the box-clamps *v* is provided a short box *z* for the ends of the life-sheet *k* to normally lie in; said box *z* being provided with a drop-bottom *z*¹, the extremity of which is inserted in the perforation of a pendent keeper 2, fastened under the sleeve *u*, and the latter and therewith said keeper are held in their normal places by a spring 3. An angle-bar 4 prevents the rolled life-sheet *k* from bearing against the keeper 2, which would have a tendency to prematurely unlatch the drop-bottom *z*¹. The life-sheet *k* is connected by chains 5 (the equivalents of chains *k*¹) to the fender frame-members *u*¹; and since the boxes *z* merely inclose the two ends of the life-sheet roll *k*, in this instance the outer protecting sheet *g* comes into good stead, as a protection against weather and dust.

I claim:

1. The combination with a car and a pendent wheel-guard, of a life-sheet fastened at one end under the car in advance of the wheel-guard, the free end of said life-sheet being so rolled as to unroll from the bottom when released, means normally supporting the life-sheet in its rolled state, a movable member pendent in advance of the wheel-guard and arranged to be operated by contact with a body lying across the car-track, and means operated by said pendent member and arranged to release the supporting means of the rolled life-sheet.

2. The combination with a car and a pendent wheel-guard, of a life-sheet fastened at one end under the car in advance of the wheel-guard, the free end of said life-sheet being so rolled as to unroll from the bottom when released, a weight fastened to the free end of the life-sheet, means normally supporting the life-sheet in its rolled state, a movable member pendent in advance of the wheel-guard and arranged to be operated by contact with a body lying across the car-track, and means operated by said pendent member and arranged to release the supporting means of the rolled life-sheet.

3. The combination with a car and a pendent wheel-guard, of a life-sheet fastened at one end under the car in advance of the wheel-guard, the free end of said life-sheet being so rolled as to unroll from the bottom when released, a box provided with a drop-bottom and a latch normally holding said drop-bottom, said life-sheet being normally contained in its rolled state in said box, a movable member pendent in advance of the wheel-guard and arranged to be operated by contact with a body lying across the car-track, and means operated by the pendent member and arranged to withdraw the latch of the drop-bottom of said containing box.

4. The combination with a car and a pendent wheel-guard, of a life-sheet fastened at one end under the car in advance of the wheel-guard, the free end of said life-sheet being so rolled as to unroll from the bottom when released, a weight fastened to the free end of the life-sheet, a box provided with a drop-bottom and a latch normally holding said drop-bottom, said life-sheet being normally contained in its rolled state in said box, a movable member pendent in advance of the wheel-guard and arranged to be operated by contact with a body lying across the car-track, and means operated by the pendent member and arranged to withdraw the latch of the drop-bottom of said containing box.

5. The combination with a car and a pendent wheel-guard, a life-sheet and means by which the life-sheet is fastened at one end under the car in advance of the wheel-guard, said fastening means being arranged to sus-

pend said end of the life-sheet, when spread out, clear of the car-body, the free end of said life-sheet being so rolled as to unroll from the bottom when released, means normally supporting the life-sheet in its rolled state, a movable member pendent in advance of the wheel-guard and arranged to be operated by contact with a body lying across the car-track, and means operated by said pendent member and arranged to release the supporting means of the rolled life-sheet.

6. The combination with a car and a pendent wheel-guard, a life-sheet and means by which the life-sheet is fastened at one end under the car in advance of the wheel-guard, said fastening means being arranged to suspend said end of the life-sheet, when spread out, clear of the car-body, the free end of said life-sheet being so rolled as to unroll from the bottom when released, a weight fastened to the free end of the life-sheet, means normally supporting the life-sheet in its rolled state, a movable member pendent in advance of the wheel-guard and arranged to be operated by contact with a body lying across the car-track, and means operated by said pendent member and arranged to release the supporting means of the rolled life-sheet.

7. The combination with a car and a pendent wheel-guard, of a life-sheet fastened at one end under the car in advance of the wheel-guard, the free end of said life-sheet being so rolled as to unroll from the bottom when released, an exterior wrapper attached to the life-sheet and adapted to inclose the same in its rolled state, means normally supporting the life-sheet in its rolled state, a movable member pendent in advance of the wheel-guard and arranged to be operated by contact with a body lying across the car-

track, and means operated by said pendent member and arranged to release the supporting means of the rolled life-sheet.

8. The combination with a car and a pendent wheel-guard, of a life-sheet fastened at one end under the car in advance of the wheel-guard, the free end of said life-sheet being so rolled as to unroll from the bottom when released, means normally supporting the life-sheet in its rolled state, a movable member pendent in advance of the wheel-guard and arranged to be operated by contact with a body lying across the car-track, means operated by said pendent member and arranged to release the supporting means of the rolled life-sheet, and means preventing the unrolling of the life-sheet while contained in its support.

9. The combination with a car and a pendent wheel-guard, of a life-sheet fastened at one end under the car in advance of the wheel-guard, the free end of said life-sheet being so rolled as to unroll from the bottom when released, a weight fastened to the free end of the life-sheet, means normally supporting the life-sheet in its rolled state, a movable member pendent in advance of the wheel-guard and arranged to be operated by contact with a body lying across the car-track, means operated by said pendent member and arranged to release the supporting means of the rolled life-sheet, and spring arms arranged to normally prevent the life-sheet becoming unrolled while contained in its carrier, said spring arms also being adapted to eject the rolled end of the life-sheet when released.

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Witnesses:

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