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E. C. SOOY,
PLATFORM SCALE.
APPLICATION FILED FEB. 23, 1909.

Patented Mar. 21, 1911.

2 SHEETS—SHEET 1.

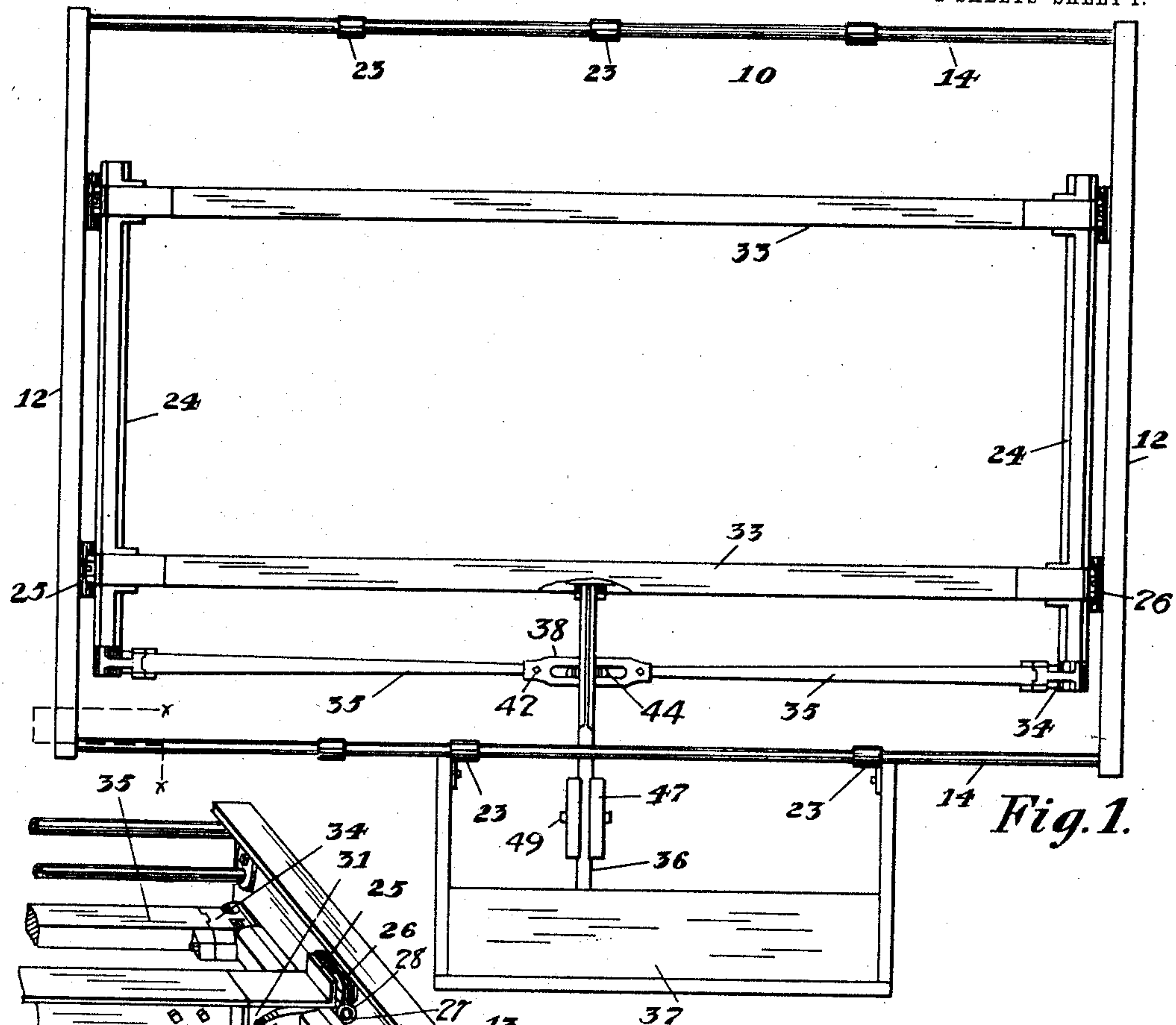


Fig. 1.

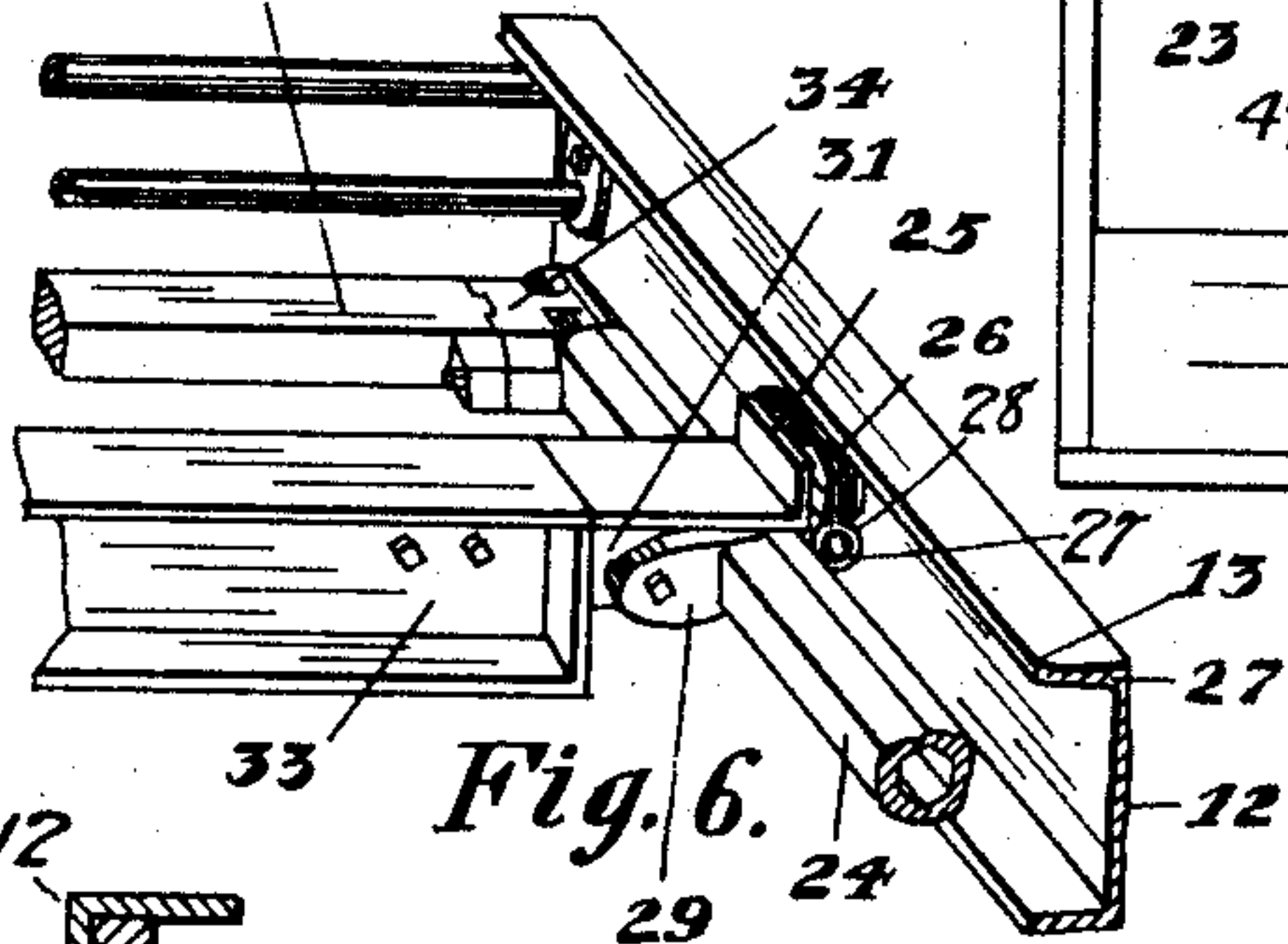


Fig. 6.

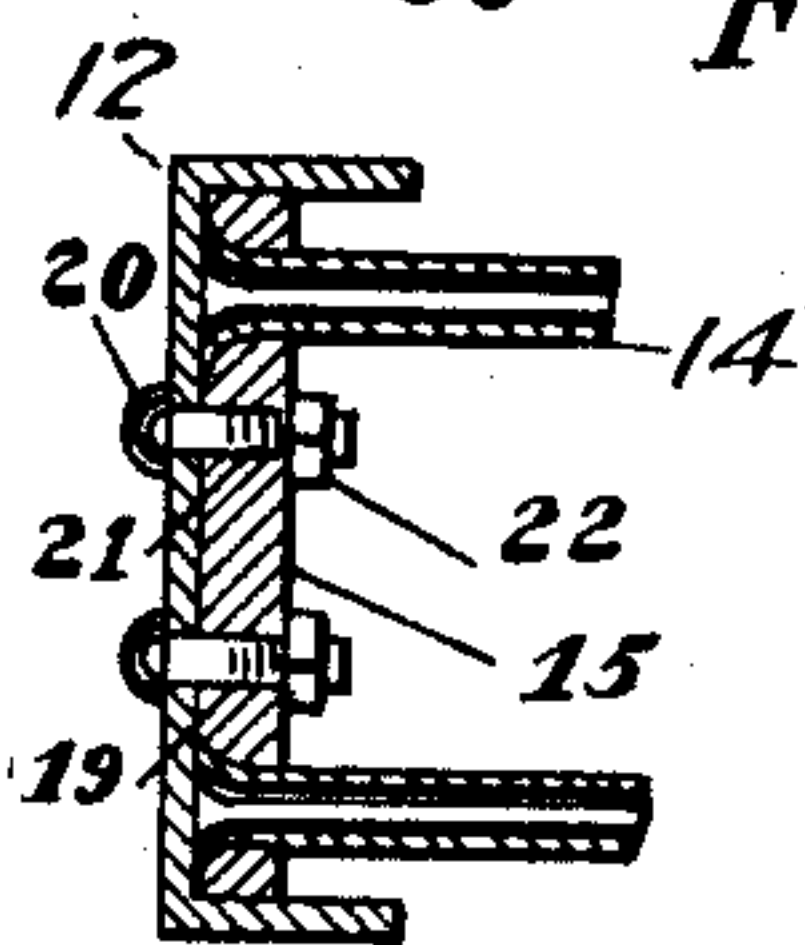


Fig. 3.

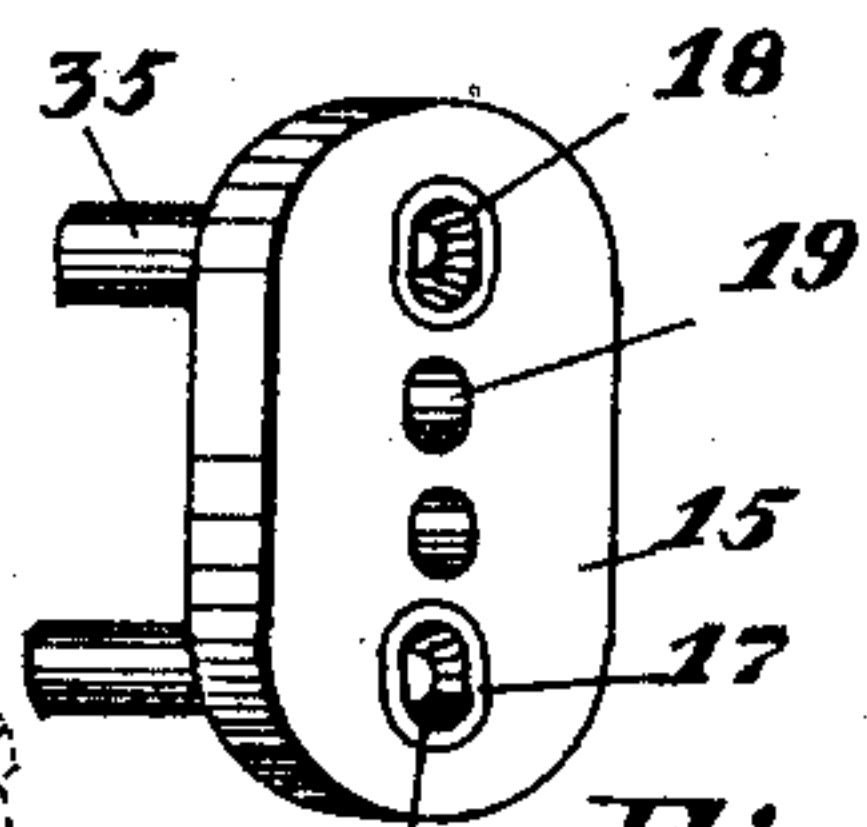


Fig. 4.

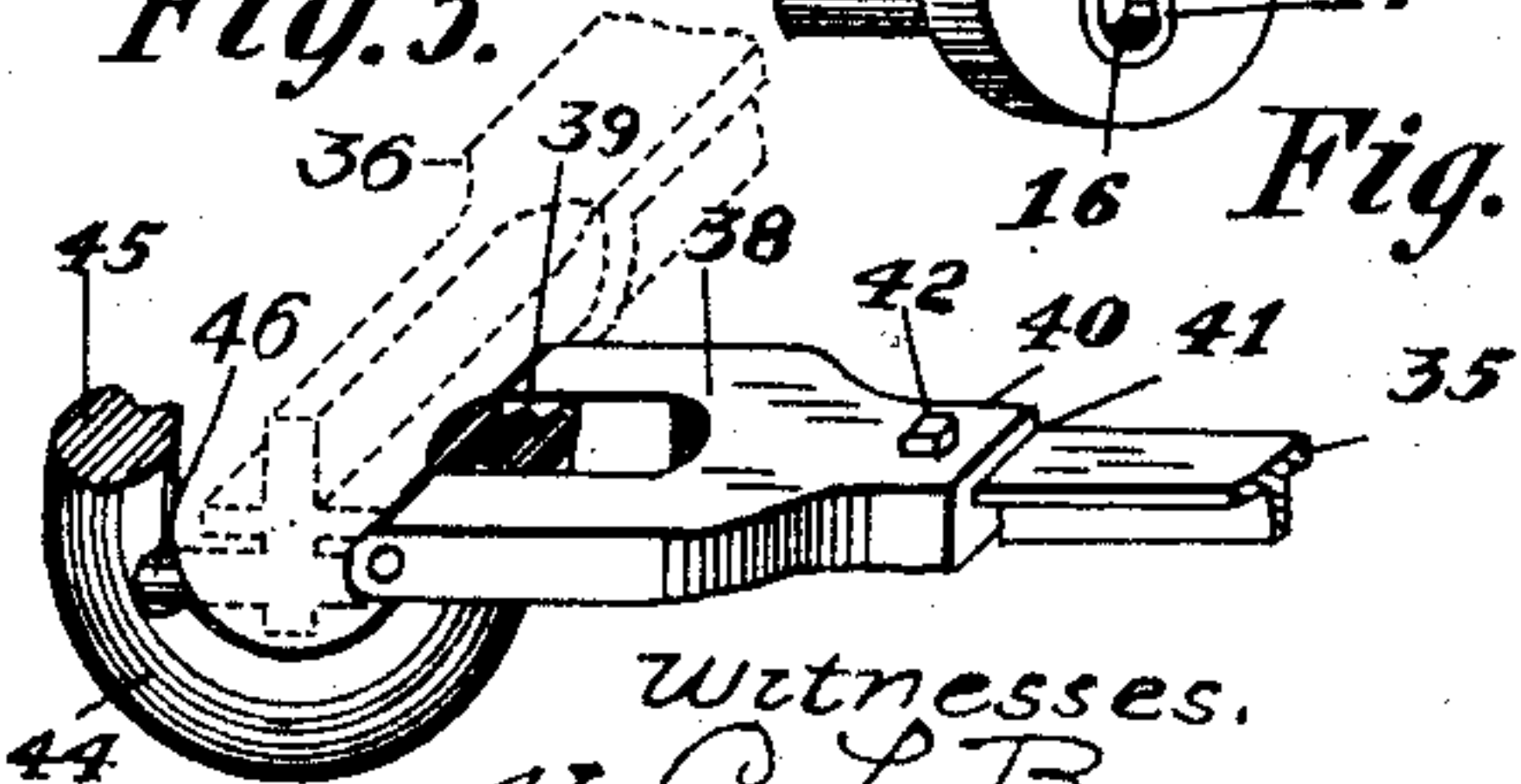


Fig. 5.

Witnesses.

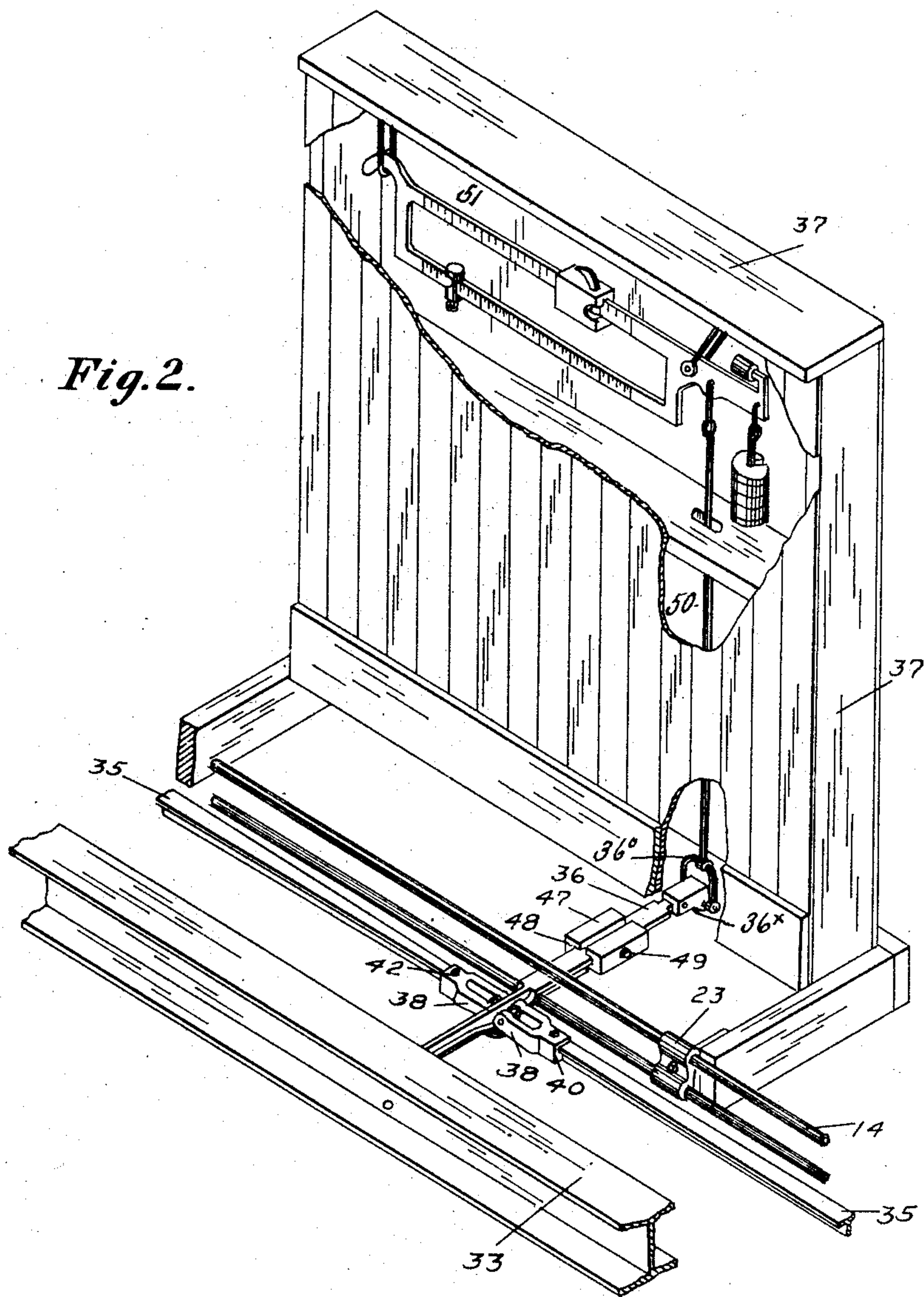
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2 SHEETS—SHEET 2.



Witnesses
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UNITED STATES PATENT OFFICE.

EPHRAIM C. SOOY, OF KANSAS CITY, MISSOURI.

PLATFORM-SCALE.

987,184.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed February 23, 1909. Serial No. 479,510.

To all whom it may concern:

Be it known that I, EPHRAIM C. SOOY, a citizen of the United States of America, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Platform-Scales; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The object of the invention, primarily, is to protect the connecting parts of the frame supporting the platform from corrosion, and increase the rigidity of the frame. Second, to afford an easy adjustment of the platform levers in their bearings. Third, to counterbalance the long end of the scale beam.

The invention consists in the novel construction and combination of parts, such as will be first fully described and then specifically pointed out in the claims.

In the drawings: Figure 1. is a plan view of a platform wagon-scale, with the platform removed, showing the invention. Fig. 2. is a broken, detail view, in perspective, of portions of the inner side bars of the frame, the I-beam supporting the platform, the cross lever and the box inclosing the weighing devices, the upper inner side portion being broken away, also showing portions of the inwardly-extended levers and the invention applied thereto and to the cross lever. Fig. 3. is a detail, vertical, sectional view, taken on the line *x, x*, on Fig. 1. Fig. 4. is a detail view, in perspective, of the clamping plate for the ends of the longitudinal side-bars, showing the countersunk openings. Fig. 5: is a detail view of the bearings on the inner ends of the inwardly-extended levers and cross-levers. Fig. 6. is a detail, broken view of one of the end channel beams and connected parts of the scale.

Similar numerals of reference indicate corresponding parts in all the figures of the drawing.

Referring to the drawing, 10 indicates the frame, similar to that constructed for supporting the platform in the ordinary wagon-scale, and commonly known as the "pitless" scale. In this class of scales the frame 10 rests upon supports slightly above the level of the ground, and comprises end-beams 12,

which are ordinary channel beams, the flanges 13 upon which extend inwardly. The longitudinal supports to the end-beams consist of pipes or tubes 14, of metal, and which are of considerable length. These tubes are preferably two in number, upon each side of the frame 10, and are connected with the end-beams in the following efficient and novel manner: A flat plate 15, of the proper length to fit in a vertical position between the upper and lower flanges 13, of the end-beams 12, are perforated at short distances from their ends, as at 16. (See Figs. 3 and 4). The plate 15 is narrow in width, and the perforations 16 of the proper size to receive the ends of the pipes or tubes 14. The sides of these openings from the surfaces flush with the ends of the tubular bars are recessed or counter-sunk at 17, and the ends of the pipes or tubes are enlarged and conical in form, to form the heads 18, the outer surfaces of the enlargement or heads being adapted to fit exactly the recessed or counter-sunk sides 17, of the openings 16. In the plate 15, between the upper and lower openings 16, are the perforations or openings 19, spaced apart equally distant from each other and the respective openings 16. In the ends of the end-beams 12, directly opposite the openings 19, are openings 20, corresponding in size to openings 19. The plates 15, with the heads of the tubular bars within the counter-sunk openings 16, are arranged in a vertical position and close in position to the inner surfaces of the respective end-beams 12, with the heads 18, of the tubular bars adjacent to said inner surfaces of the beams. The clamping bolts 21 are then inserted through the openings 20, from the direction of the outer surfaces of beams 12, and through the openings 19, in the plates 15 and upon said bolts are fitted the clamping nuts 22, which nuts draw the plates 15 closely to the inner surface of the end-beams 12, and so as to exclude moisture.

In the formation of the heads 18, to the side bars 14, the ends of the tubes may be heated in a forge and expanded when hot, previously connecting the plates 15 with the bars 14, or they may be forged in any desired manner. The frame thus connected together imparts great rigidity to the side-bars, and enables the bars to sustain pressure, accidental or otherwise, that may be brought to bear upon them. These bars 14 are linked together by links 23, as seen in

Fig. 2, and the links spaced apart as seen in Fig. 1.

24 indicates the rock-shafts on the inner side of the end-beams 12, which are connected with the arms 25, on the inner side of said beams, by means of the depending devices 26, in which the knife edge bearings 27, upon the arms 28, upon the inner side of the rock-shaft bear. Upon the other or outer side of the rock-shaft are the arms 29, to which are pivoted the extensions 31, on the ends of the I-beams 33, supporting the platform of the scale, as seen in Fig. 6. These suspensory devices for the rock-shafts, are the same as commonly employed in platform scales, and may be varied without departing from the invention. With the inner ends of the rock-shafts 24 are rigidly connected, at 34, the inner ends of the inwardly-extended levers 35. These inner ends of levers 35 extend to a position a short distance from the cross-lever 36, which lever is connected rigidly at its outer end in the ordinary manner, with the adjacent surface of the inner I-beam 33, and the outer end extends beneath the box 37, inclosing the weighing devices. Upon the said outer end of lever 36, is a casting 36* and pivotally connected therewith in the usual manner is a stirrup 36°. With the stirrup is pivotally connected the lower end of the rod 50, the upper end of which rod is pivotally connected with the inner short end of the scale beam 51, in the usual manner. Upon said inner ends of the levers 35 are forked extensions 38. Through said forked portions extend the pins 39, which form bearings, as further described. For purpose of adjustment, the said forked extensions 38 are detachably connected with the levers 35, the connecting portion 40 being larger than said bars and provided with a socket 41, within which the said outer ends of bars 35 are inserted. An adjusting screw 42 extends through the connecting portion 40, and secures said portions to the levers. Through the sides of the cross-lever 36 extends a pivot 43.

44 indicates a U-shaped casting or bracket, the ends of which extend upwardly on both sides of the cross-lever and to a position a slight distance above a line horizontal with the upper surface of said lever, and in said upper ends are downwardly-curved depressions 45. In the sides of the U-shaped support 44 are openings 46, within which extend the bearing pivot 43, in the sides of the lever 36. The pins 39, upon the forked extensions of levers 35, are placed in position in the depressions 45, in the U-shaped

support 44. This support enables an efficient adjustment to be made of the forked ends of the levers.

Upon the cross-lever 36 is an adjustable sliding weight 47. This weight is made hollow, with a longitudinal opening 48 extending therethrough, and adapted to receive the cross-lever 36. The weight 47 is arranged upon the portion of lever 36, between the supporting frame 10, for the scale platform, and the box 37, for the weighing beam, and is adapted to counterbalance the long end of the scale beam 51. An adjusting screw 49, extending through the weight bears upon the cross-lever 36, and secures the weight in its adjusted position as soon as the scale beam balances.

In the adaptability of the frame 10 to the surface of the ground, the ends are supported usually upon corner-posts, and the earth banked up against the end-beams 12. This affords an easy ascent to the scale platform. This weight bearing against the end-beams, the beams bear against the conical heads of the tubes. The common method of securing the ends of pipes within socket plates and fastening said ends by set screws is objectionable because the force of the screw bends the side of the pipe inwardly, and the pipe becomes disengaged. The conical head to the pipes or tubes obviates this objection, and in itself forms the attachment, and cannot become disengaged from the clamping plate.

Having fully described my invention, what I now claim as new and desire to secure by Letters Patent is:

1. In platform scales the combination with the platform and rock shafts and the cross-lever, and the inwardly-extended levers on the rock-shafts, of a bracket on the cross-lever, having upwardly-extended, recessed portions on the respective sides of the cross-lever, for the bearing ends of said inwardly-extended levers.

2. In platform scales the combination with the platform and rock-shafts and the cross-lever, of a U-shaped bracket pivotally connected with said lever and having end-portions extending upwardly and provided with recesses extending parallel with the cross-lever, inwardly extended levers connected with the rock-shafts, and forked ends to said levers and bearing devices on said arms within the recesses of said bracket.

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Witnesses:

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