

W. MORSEHEAD.
SAFETY GUARD FOR RAILROADS.

(Application filed July 18, 1902.)

(No Model.)

2 Sheets—Sheet 1.

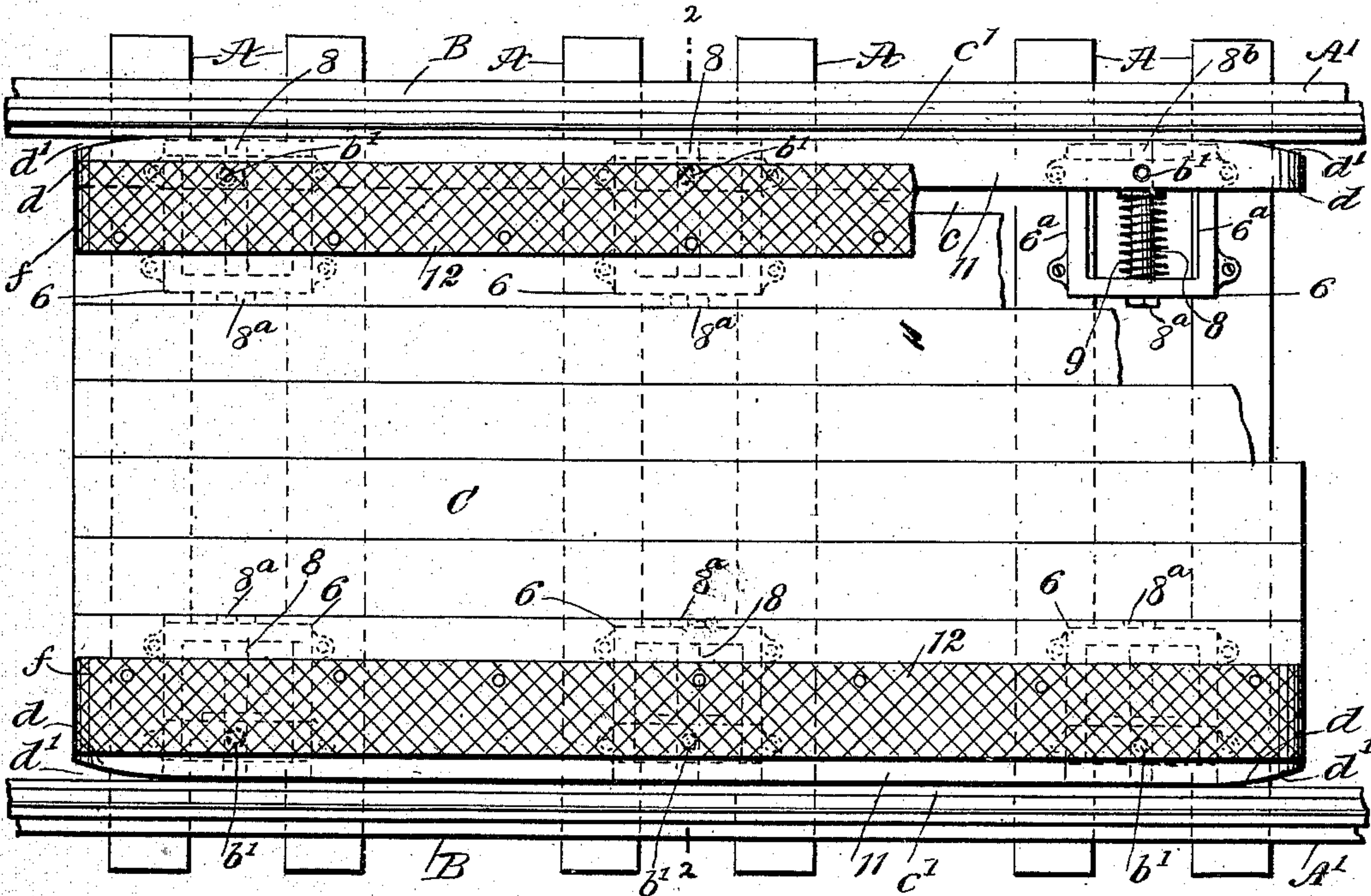


Fig. 1

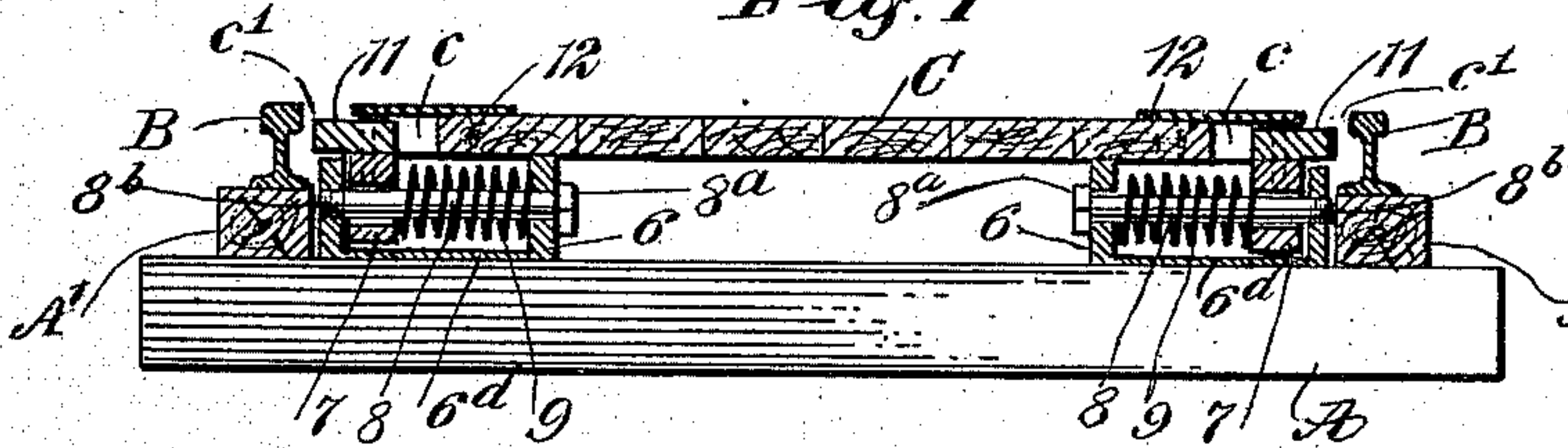


Fig. 2

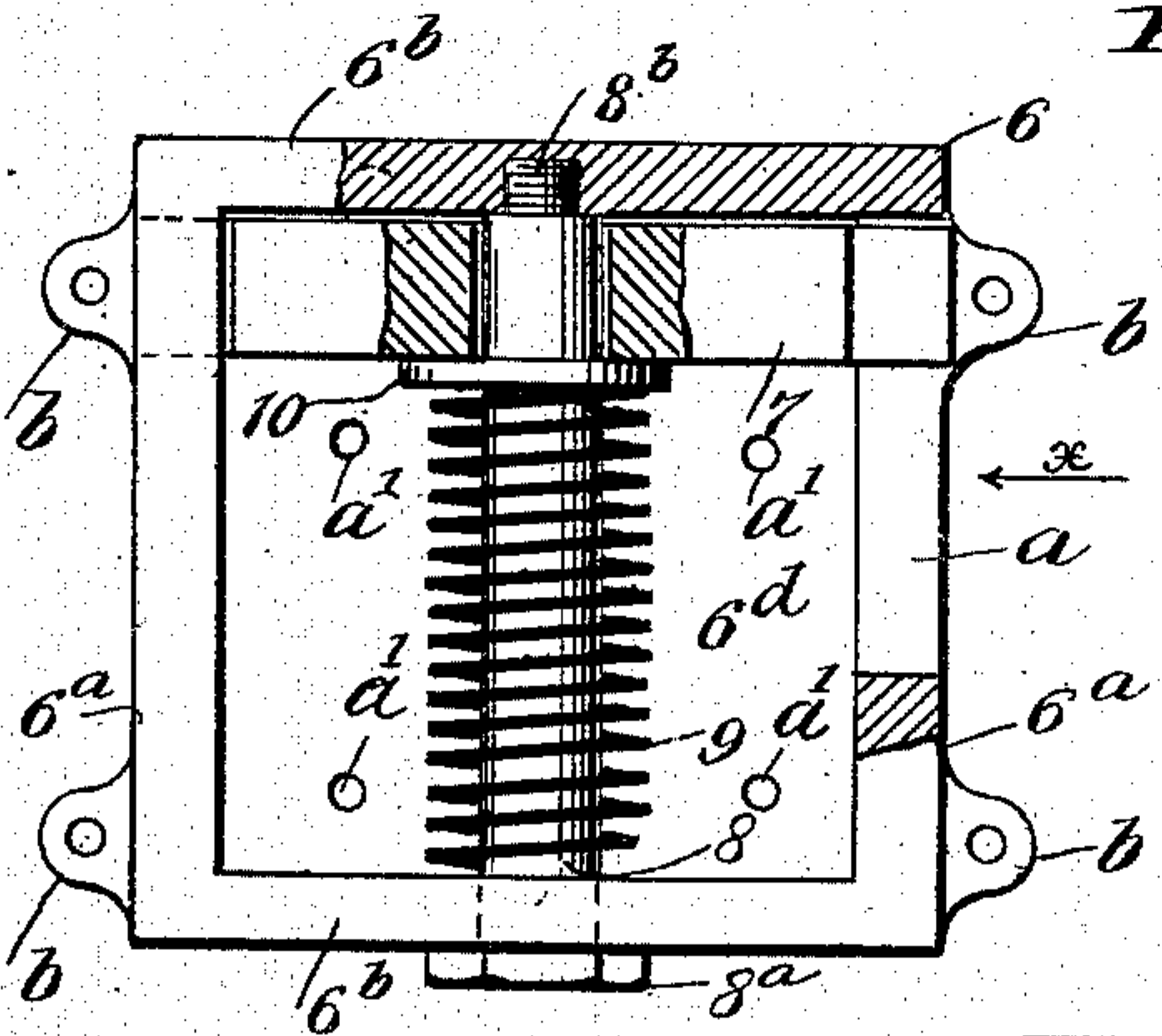


Fig. 3

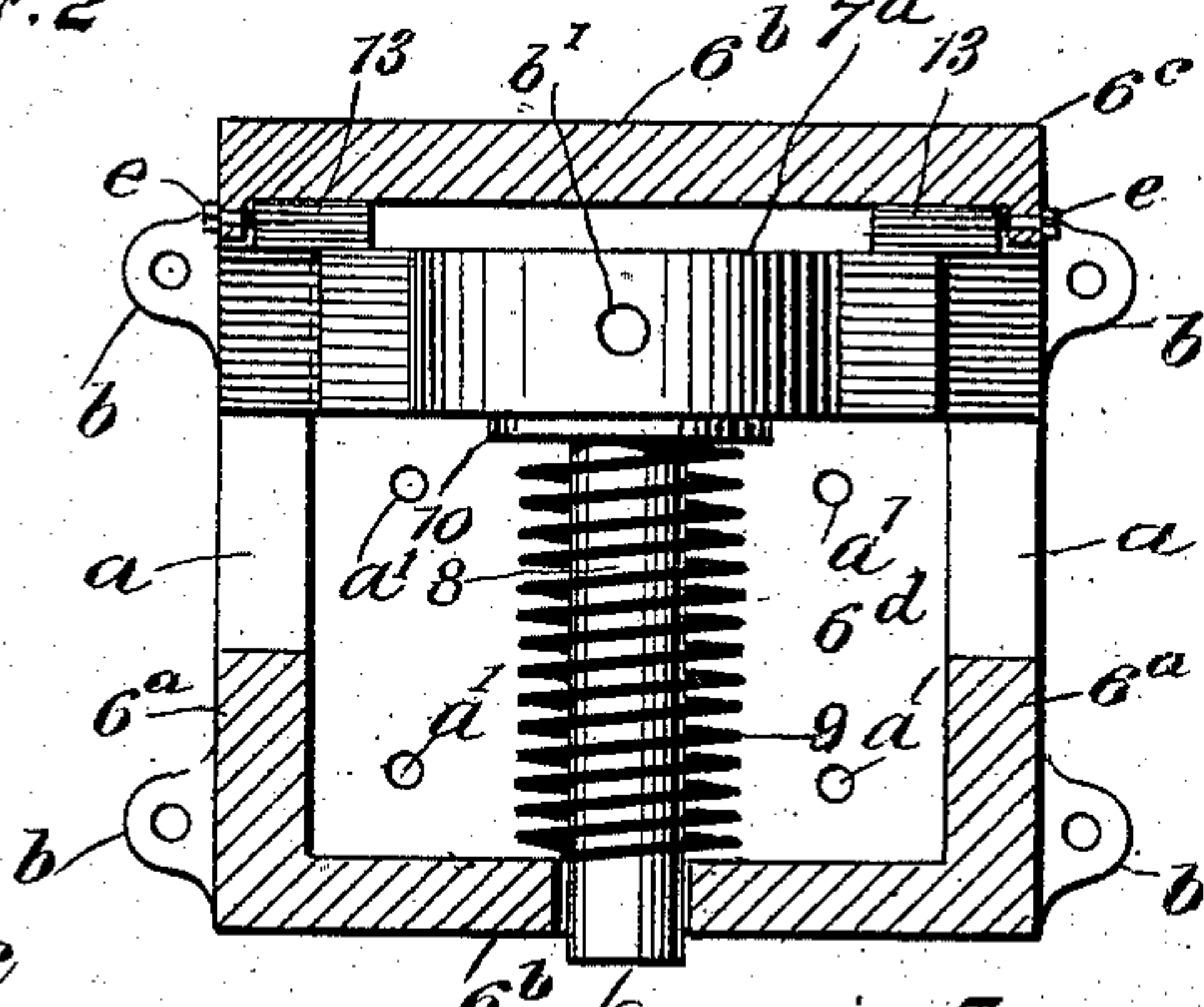


Fig. 5

WITNESSES:

John Simpson

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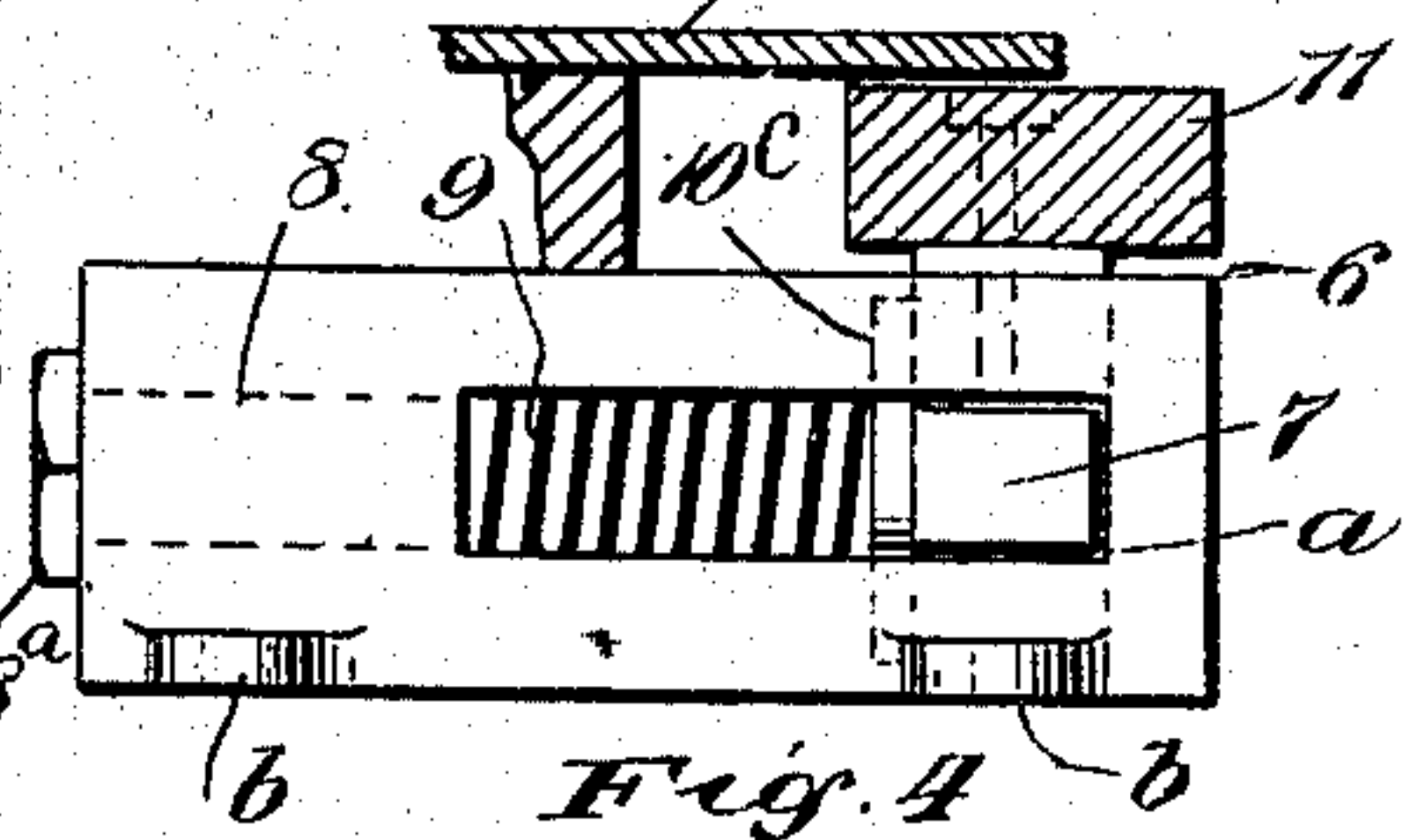


Fig. 4

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No. 714,507.

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2 Sheets—Sheet 2.

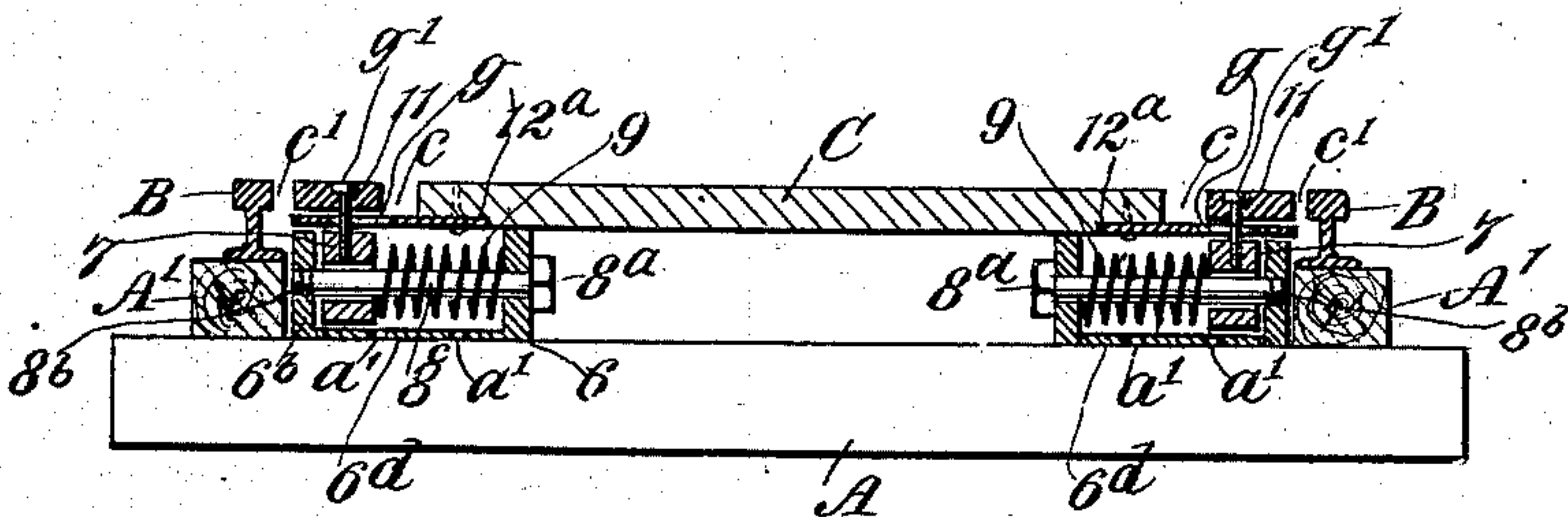


Fig. 6

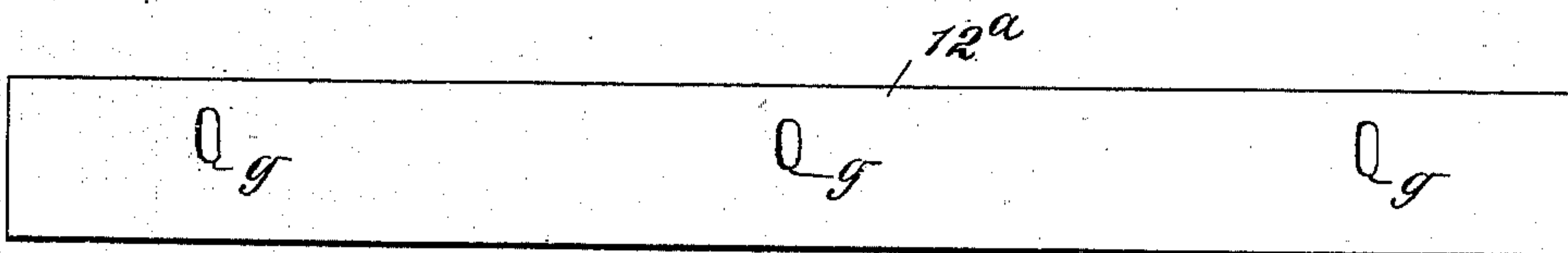


Fig. 7

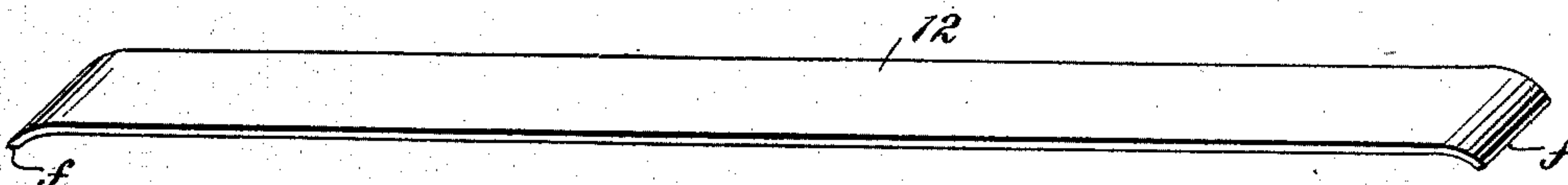


Fig. 8

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WILLIAM MORSEHEAD, OF YALE, MICHIGAN.

SAFETY-GUARD FOR RAILROADS.

SPECIFICATION forming part of Letters Patent No. 714,507, dated November 25, 1902.

Application filed July 18, 1902. Serial No. 116,070. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MORSEHEAD, a citizen of the United States, and a resident of Yale, in the county of St. Clair and State of Michigan, have invented a new and Improved Safety-Guard for Railroads, of which the following is a full, clear, and exact description.

This invention relates to means for the prevention of accidents at railroad-crossings and other points along a railroad-track caused by the retention of the foot of a person which may be inadvertently introduced between a track-rail and an adjacent edge of planking that covers such a crossing.

The object of the invention is to provide a novel device for the purpose indicated which is simple and practical and that will operate efficiently to prevent the insertion of a person's or animal's foot in a crevice between a track-rail and the planking that forms a wagon-road and footway across one or more railroad-tracks.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the safety device in place on a railroad-crossing, a portion of the planking being removed to expose details of the improvement. Fig. 2 is a transverse sectional view substantially on the line 2-2 in Fig. 1. Fig. 3 is an enlarged partly-sectional plan view of details of the invention hereinafter more particularly described. Fig. 4 is a side view of the details shown in Fig. 3, seen in the direction of arrow *x* in said figure. Fig. 5 is a partly-sectional plan view of a slightly-modified construction of the details shown in Figs. 3 and 4. Fig. 6 is a transverse sectional view of the applied improvement, showing a modified construction and arrangement of details. Fig. 7 is an enlarged plan view of a guard-plate slightly altered in construction and shown applied in Fig. 6, and Fig. 8 is a detached perspective view of one of the guard-plates shown applied in Fig. 1.

It is usual in the construction of planked crossings for railroads to render the top sur-

face of the planking level with the top surfaces of the track-rails, so that the latter will not become an obstruction to the free travel of vehicles over the crossing. As the flanges of the locomotive driving-wheels and also the flanges of car-wheels depend at the side of the track-rail heads when such wheels are rolling on the tracks, it is evident that sufficient space must be afforded between the adjacent edges of the planking that forms the crossing-road and the heads of the rails to accommodate the wheel-flanges, and as the channels thus provided are usually two or more inches wide the feet of children, or in some cases those of adults, have been caught and held in such crevices, so that escape from contact with a train or engine moving on the road is impossible and a serious accident results.

The safety device that I have provided reduces the width of the spaces between the edges of the road-planking and the heads of the track-rails so materially that the feet of children or adults cannot pass down therein and all danger of accident from such a cause is entirely obviated.

In the drawings that illustrate the details of the invention and their application, A represents the cross-ties of a railroad, and B the track-rails held thereon, as usual, by sleeper-timbers A'.

Assuming that the portion of the railroad shown is at a crossing for vehicles, persons, and animals, C indicates the planking, that is held in place between the track-rails to afford a roadway across the rails.

In carrying into effect my invention I provide a sufficient number of rectangular box-frames 6, that should be formed of metal open at the top, but having bottom walls 6^d, that are perforated, as at *a'*, for escape of water. In opposite sides 6^a of each box-frame 6 a slot *a* is formed, these slots receiving the ends of a slidable carrier-block 7.

In the construction represented in Figs. 1 to 5, inclusive, a guide-bar 8 is secured in the end walls 6^b of each box-frame 6, and said bar may with advantage be formed cylindrical in its body, having a head 8^a at one end and a short threaded portion 8^b at the opposite end. The guide-bar 8, as best shown in Fig. 3, passes through one end wall 6^b and screws into a tapped hole oppositely formed

in the other end wall, the perforations in the end walls that receive a guide-bar being preferably formed midway between the sides 6^a of the box-frame.

5 The carrier-block 7 is transversely perforated at its longitudinal center for the loose reception of the true cylindrical body of the guide-bar 8, and upon the latter a coiled spring 9 and washer 10 are mounted. In
10 some cases, however, the washer may be dispensed with, as indicated in Fig. 2. The washer 10 if employed bears against the carrier-block 7 and is thereto secured by suitable means, and the spring 9 presses between
15 an end wall of the box-frame 6 and said washer, so that the tension of the spring is exerted to normally hold the carrier-block against the opposite end wall of the frame, as shown in Figs. 2, 3, and 4 of the drawings.

20 Upon the cross-ties A at the inner sides of the track-rails B a series of the box-frames 6 is placed near each rail, said box-frames being properly spaced apart, resting on and secured to the cross-ties by bolts or spikes
25 which may engage with the perforated ears b, projected from the box-frames, as indicated in Fig. 3.

The box-frames at one track-rail are disposed in pairs oppositely from the series of
30 box-frames near the opposite track-rail, and upon each series of box-frames, or rather upon the carrier-blocks held to slide thereon, guard-rails 11 are mounted and secured, said rails being pivoted on the carrier-blocks 7 at their
35 centers, as shown at b' in Fig. 1.

The upper edges of the guard-rails 11 are flush with the upper surface of the adjacent track-rail heads, and the outer side of each
40 guard-rail is spaced slightly from said track-rail heads for a purpose that will be hereinafter explained. A sufficient space c is provided between the inner edge of each rail 11 and a near side edge of the planking C to allow for a proper reciprocation of the carrier-
45 blocks 7 and the guard-rails mounted thereon. The space c is bridged over by the guard-plates 12, that are projected over the guard-rails a suitable distance and secured near one side edge of each guard-plate upon the plank-
50 ing C, so that the free portion of each plate 12 has proper clearance from the guard-rail above which it is located. Preferably the guard-plates 12 are formed of metal and are roughened on their upper surfaces by cross-
55 grooving or other means, so as to provide for safe travel over said plates at all seasons of the year. Furthermore, the ends f of the guard-plates 12 are curved downwardly, as shown in Fig. 8, to prevent injury to the feet
60 of persons walking on the platform C.

The guard-rails extend to each side of the roadway formed by the planking C, and at each end of each rail a slope d is formed on the side nearest an adjacent track-rail B, this
65 taper on the ends of the rails affording an entering throat d' for the flanges on locomotive-wheels or on car-wheels that must traverse

the channel between the guard-rails and the rail-heads. The ends of the guard-rails 11 are bent downward slightly, as indicated in
70 Fig. 1, for a like purpose to that of the bends f on the plates 12.

As provision must be made for the free travel of hand-cars along the railroad, and such cars being provided with wheels having
75 but comparatively thin flanges, being so light that if the rails 11 were closed against the rail-heads the wheel-flanges could not pass along the flooring at a crossing, I have so arranged the box-frames 6 with regard to the
80 track-rails that the rails 11 are spaced therefrom sufficiently to permit the thin flanges on the wheels of hand-cars to pass through the narrow crevices c' thus provided; but it is to be understood that these crevices c' are not
85 wide enough to receive the feet of adults or children, so that there will be no danger of accident from such a provision.

It will be seen that the springs 9, having proper strength, will reliably return the
90 guard-rails 11 to normal positions near the track-rails after a locomotive or train of cars passes along the crossing and of course will press the guard-rails away from the track-
95 rails by an engagement of the wheel-flanges therewith, so that the rails 11 will always reliably close the spaces c between the planking and track-rails sufficiently to prevent the occurrence of accidents to persons or animals
100 traversing the flooring of a railroad-crossing, as hereinbefore described.

In Fig. 5 a modified construction of parts is shown, in which the guide-bars 8 are firmly secured by one end of each bar upon a re-
105 spective carrier-block 7^a at the longitudinal center of the block. In this construction the guide-bars are held to slide along with the carrier-blocks, and the heads that are provided on the guide-bars 8 may be dispensed
110 with. It will be apparent that the coiled springs 9 by their expansion will serve to return the beams or guard-rails 11 to their normal positions when pressure thereon is removed. For support of the guard-rails a pro-
115 jection from the upper surface of each carrier-block 7^a may be formed thereon, as indicated in Fig. 5.

As shown in Fig. 5, I may also provide cushion-blocks 13, to be held in place between the
120 carrier-blocks 7 or 7^a by screws e, these cushion-blocks serving to define the width of the spaces c', formed between the guard-rails 11 and the track-rails for the passage of thin flanges on car-wheels, and obviously these cushion-blocks may be made of any necessary
125 thickness.

In Figs. 6 and 7 another slight change in construction is shown, consisting in arrang-
130 ing the guard-plates 12^a so that these plates will be held stationary beneath the guard-rails 11 and the latter be adapted to reciprocate above said plates. To effect this arrangement of parts, the guard-plates 12^a are transversely slotted at intervals near one edge of

each guard-plate, as shown clearly at *g* in Fig. 7. Each guard-plate 12^a is supported near the lower side of the planking C, along each side portion of the same, and secured in place by suitable means, the guard-plates extending laterally below the guard-rails 11, that are held upon the blocks 7 by bolts *g'*, that pass down through the slots *g* into the carrier-blocks 7, whereby the guard-rails are held so as to be permitted to vibrate a proper degree at each end and the guard-plates 12^a be adapted to prevent injury, as the feet of persons or animals cannot become wedged between the planking C and guard-rail on account of the shallowness of the space between said parts that is left uncovered by this construction.

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

1. A safety-guard for a railroad-crossing, comprising a spring-pressed beam held to yield laterally, and define the maximum and minimum width of a crevice that is normally between the side of a track-rail, and a side edge of flooring that extends parallel with the track-rail.

2. A safety-guard for a railroad-crossing, comprising two beams sloped at each end, supports for the beams on which they rock laterally, springs pressing sidewise on the beams to normally adjust them parallel with and near to the track-rails, said spring-pressed beams being adapted to define the maximum and minimum width of crevices that are between the track-rails and the side edges of an intervening flooring.

3. A safety-guard for railroad-crossings, comprising two beams or rails sloped at each end, means for supporting said beams slightly

spaced from the inner sides of opposite track-rails, springs connected with the supports of the beams and adapted to normally press the beams near to the track-rails, a flooring between the track-rails and spaced therefrom, and guard-plates loosely lapped on the beams and lapped over the side edges of the flooring whereon they are secured, so as to cover the spaces between said edges and the track-rails.

4. In a device of the character described, the plurality of box-frames, the guide-bars mounted on the box-frames, the slidable carrier-blocks supported on the box-frames and engaging the ends of the guide-bars, beams or guard-rails secured on the carrier-blocks and spaced slightly from opposite track-rails, and springs on the guide-bars, pressing the beams or guard-rails toward the track-rails.

5. In a device of the character described, a plurality of rectangular box-frames, secured on the cross-ties of a railroad below a flooring, spaced at its side edges from the track-rails for the passage of the flanges of car and locomotive wheels, carrier-blocks working in the slotted sides of the box-frames, guide-bars disposed at right angles to the carrier-blocks and held on the box-frames, springs on the guide-bars, pressing upon the carrier-blocks, and guard-plates carried by the beams and lapping on the flooring, so as to cover the spaces between the edges of the flooring and the sides of the track-rails.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM MORSEHEAD.

Witnesses:

FRANK ANDREAE,
EDWARD ANDREAE.