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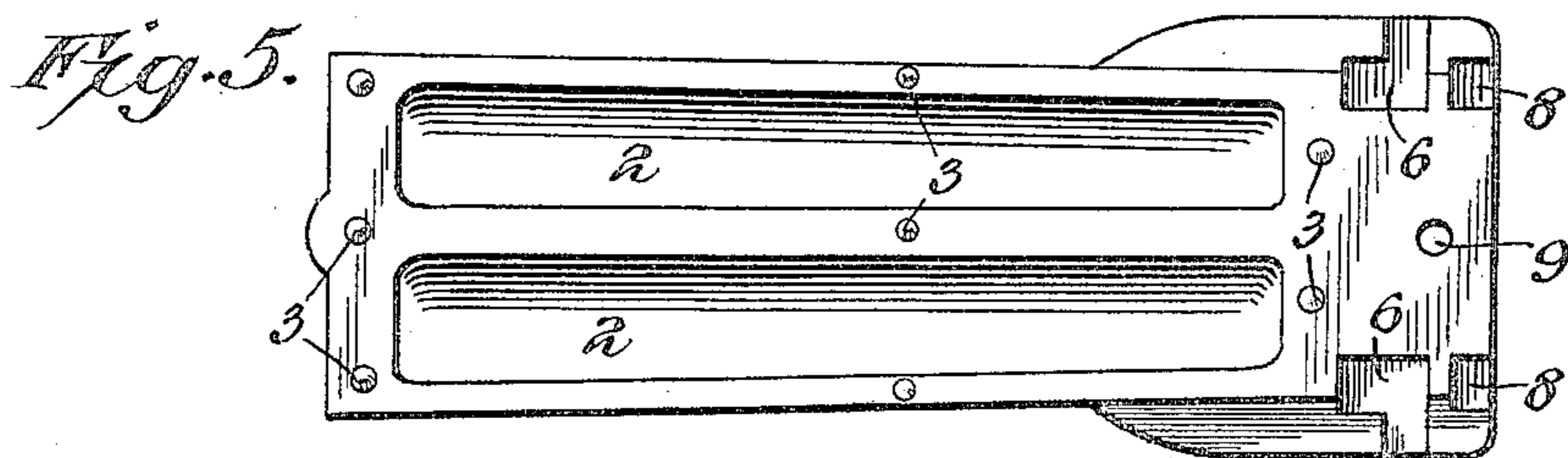
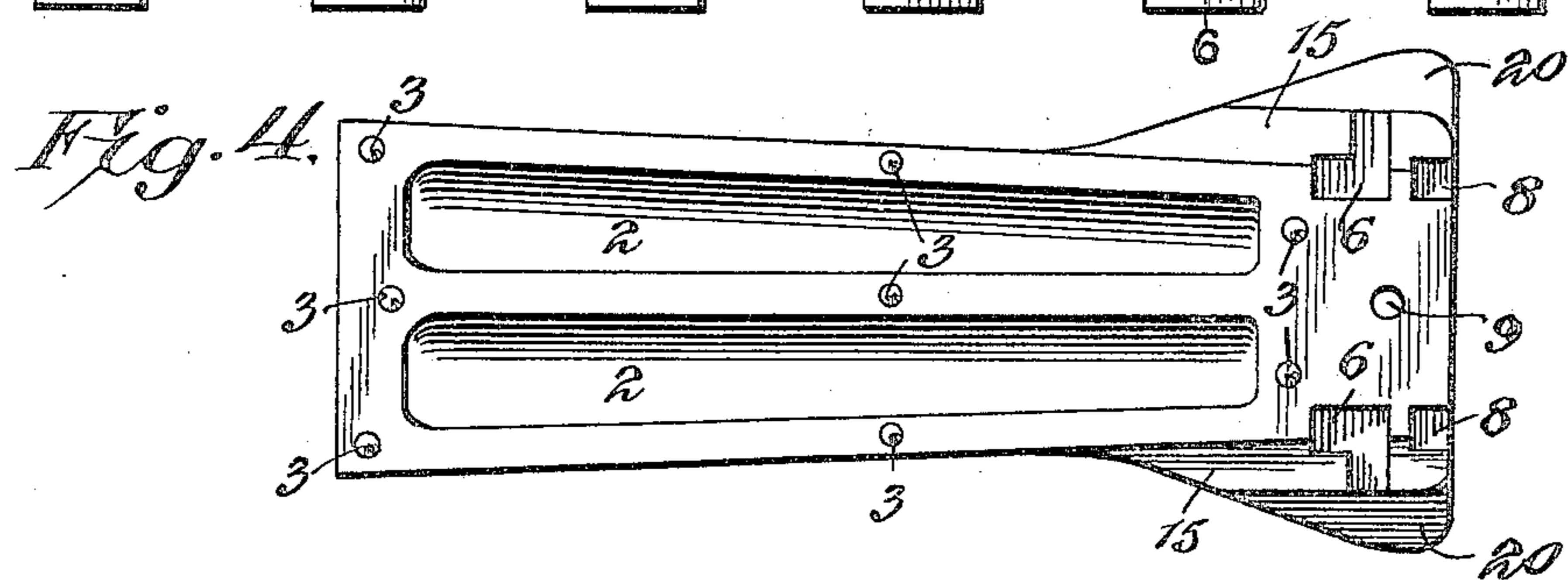
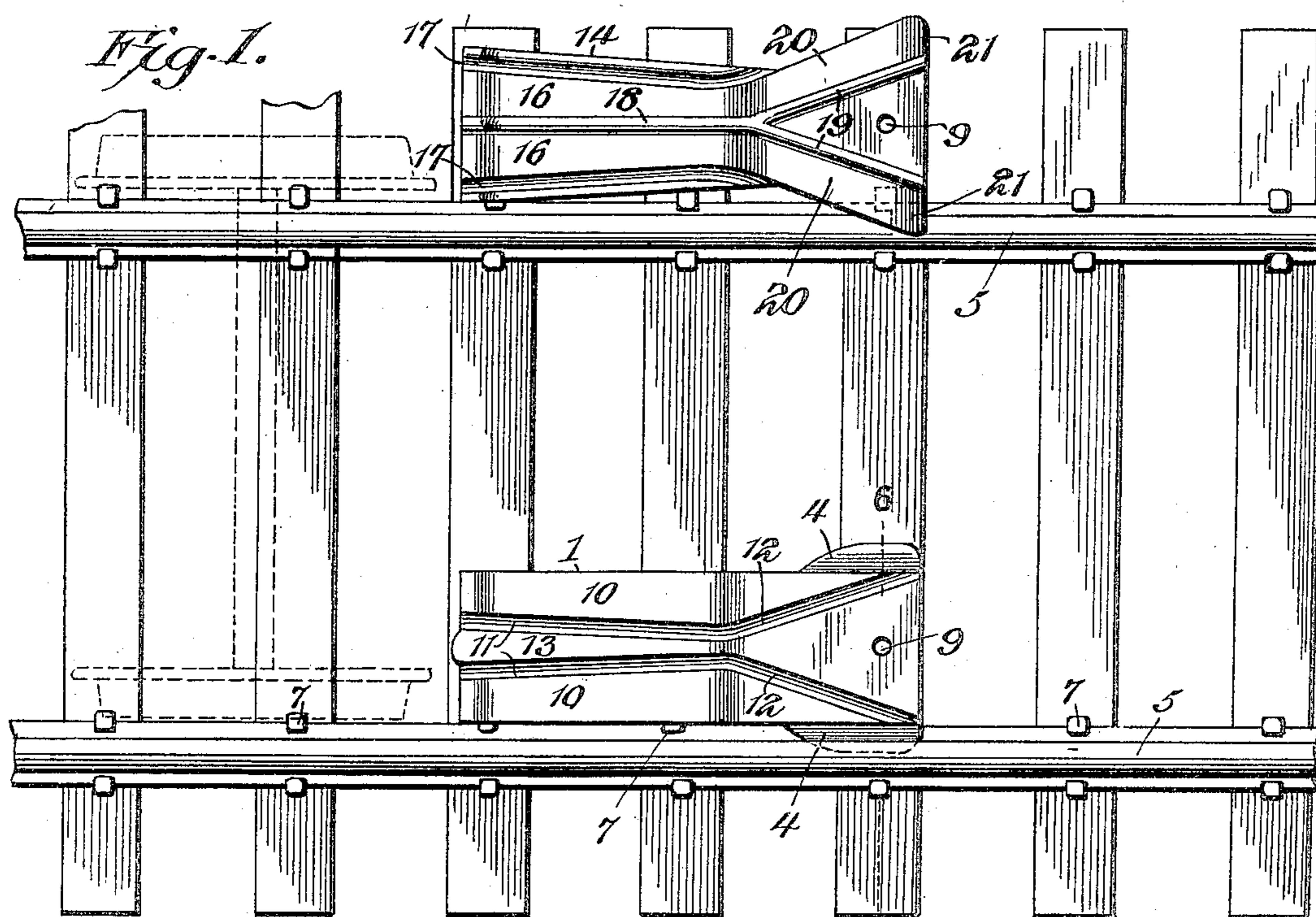
PATENTED JUNE 5, 1906.

S. C. JOHNSON & G. H. MILLER.

CAR REPLACER.

APPLICATION FILED NOV. 23, 1905.

2 SHEETS—SHEET 1.



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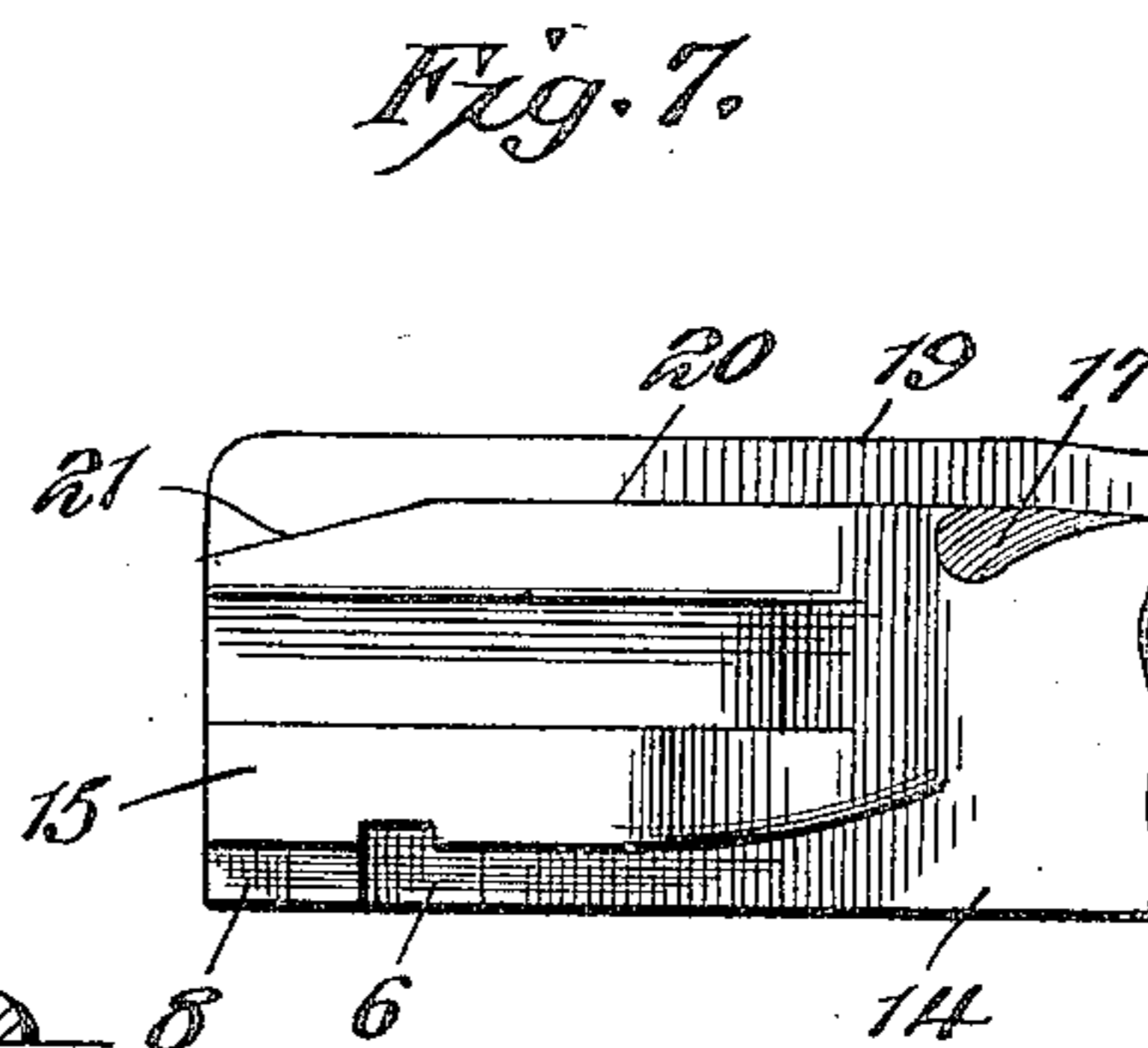
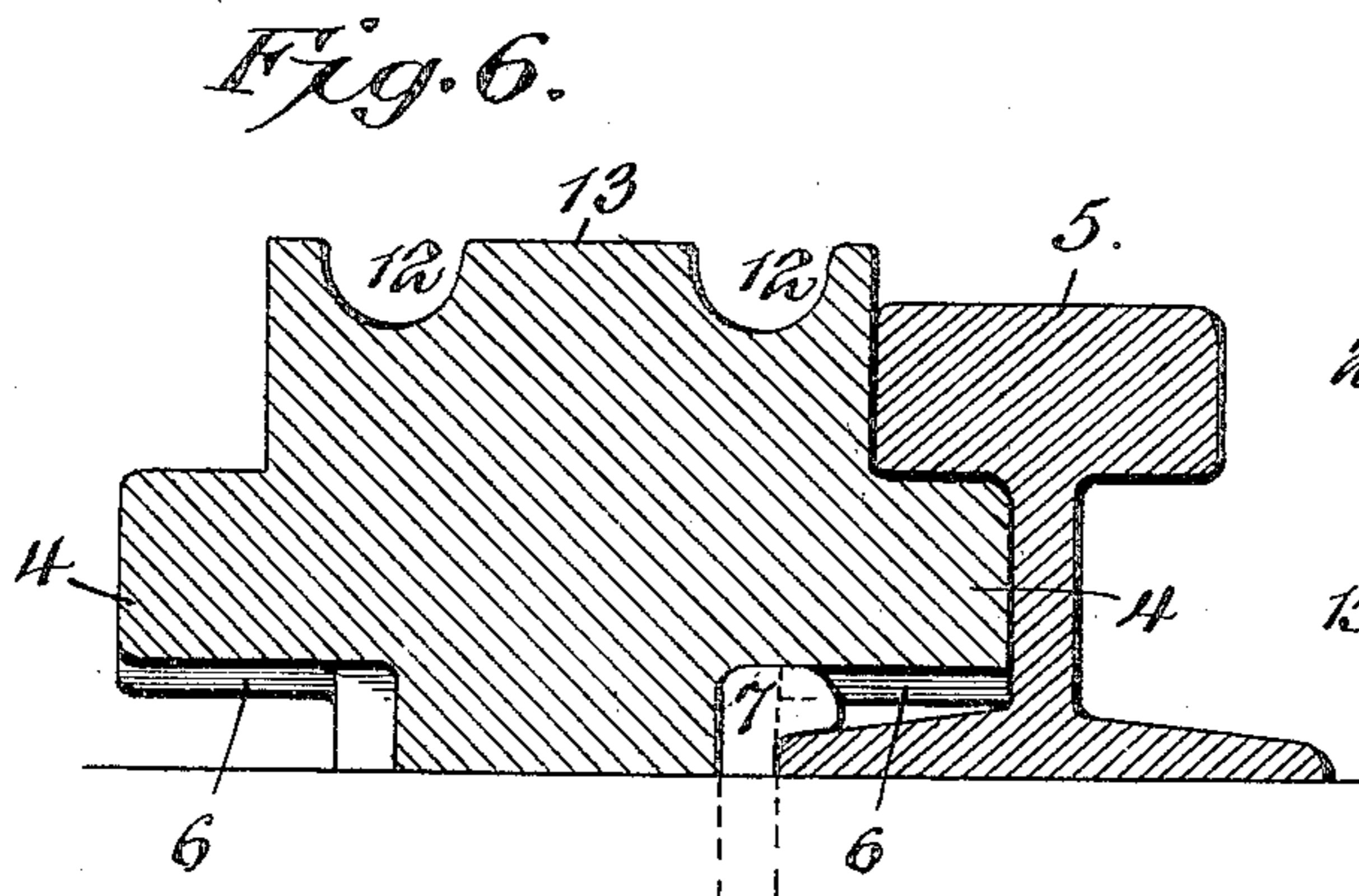
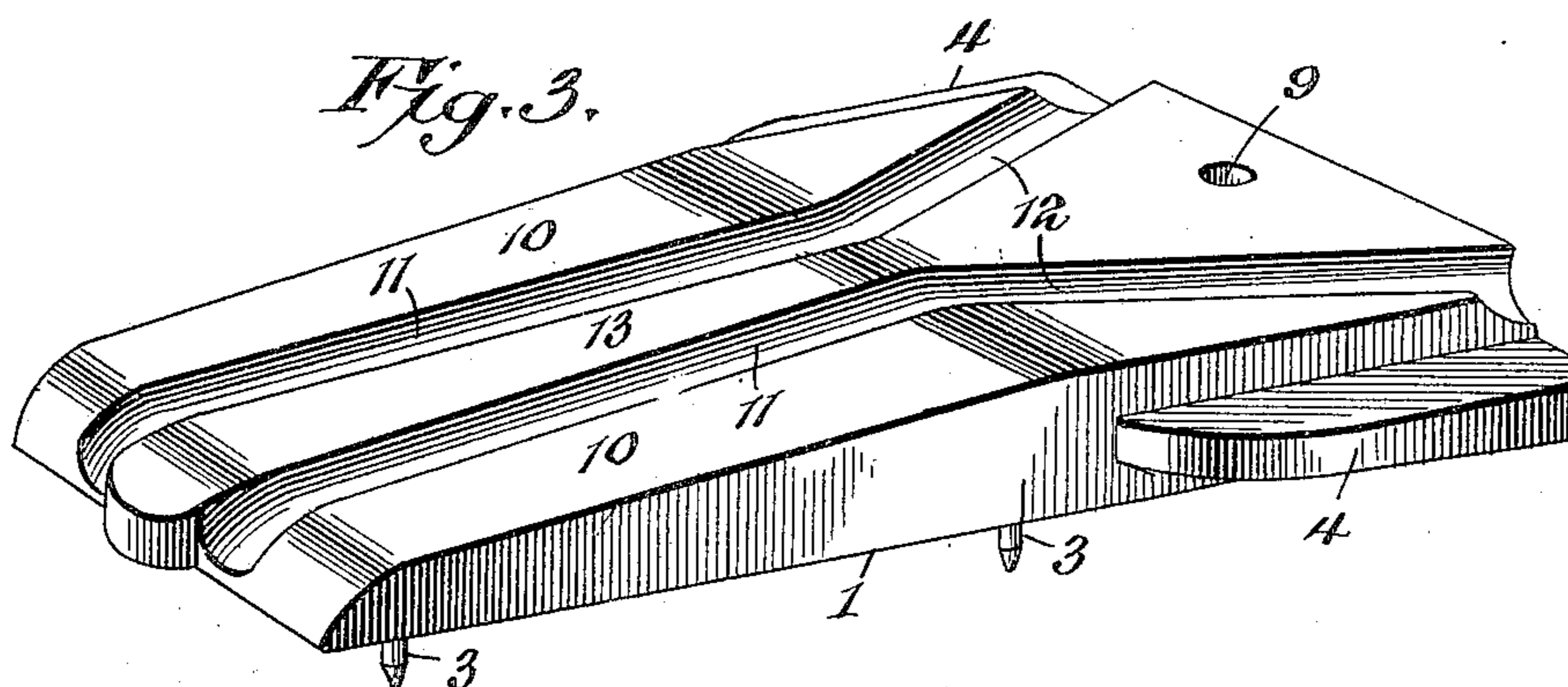
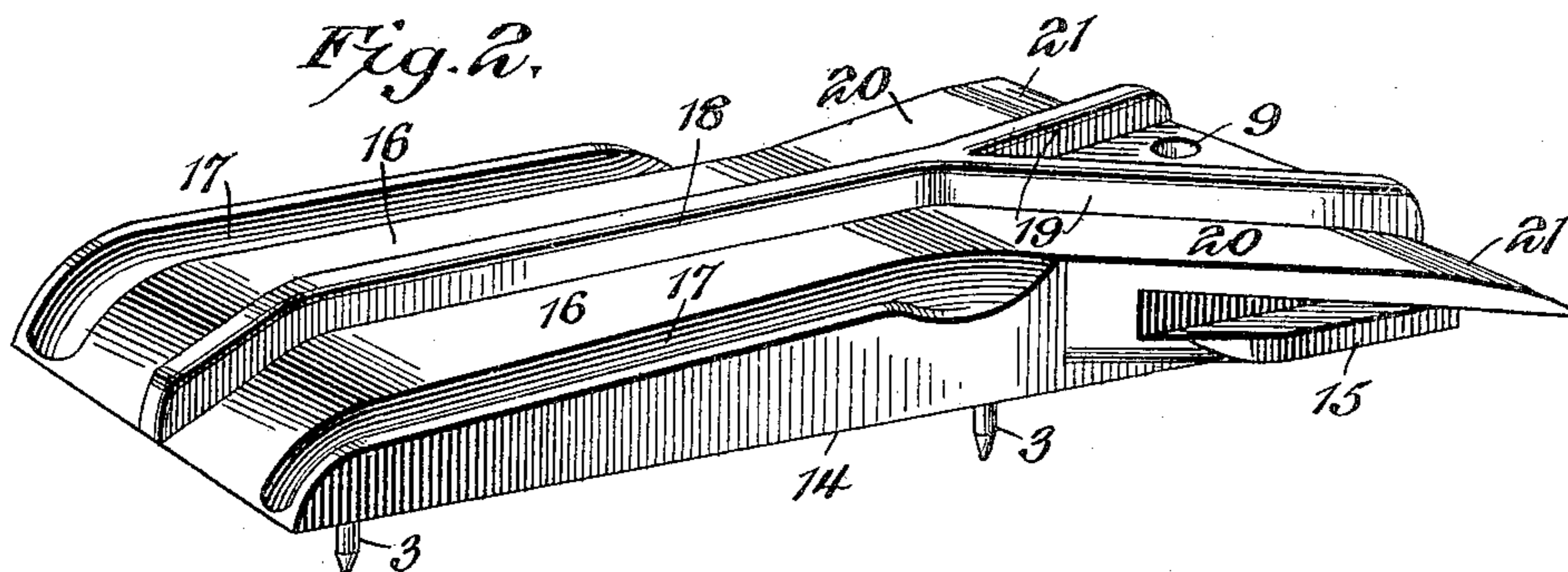
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UNITED STATES PATENT OFFICE.

SIMON C. JOHNSON AND GEORGE H. MILLER, OF DE KALB, ILLINOIS.

CAR-REPLACER.

No. 822,669.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed November 23, 1905. Serial No. 288,756.

To all whom it may concern.

Be it known that we, SIMON C. JOHNSON and GEORGE H. MILLER, citizens of the United States, residing at De Kalb, in the county of Dekalb and State of Illinois, have invented a new and useful Car-Replacer, of which the following is a specification.

The invention relates to improvements in car-replacers.

The object of the present invention is to improve the construction of car-replacers and to provide a simple and comparatively inexpensive car-replacer which will be light, strong and durable, and capable of ready adjustment to suit the position of the derailed wheels.

A further object of the invention is to provide a device of this character having inner and outer wheel-replacers adapted to be arranged at either side of a track and provided with means for engaging the rails and the spikes thereof, whereby the inner and outer wheel-replacing devices are effectually prevented from slipping sidewise or forward or tipping over.

Another object of the invention is to provide an outer replacer having guides for engaging both the flange of a wheel and the body thereof, whereby a wheel will be effectually carried across the tread of the rail when the wheel moves forward.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion, size, and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a plan view of a car-replacer constructed in accordance with this invention and shown applied to a portion of the track. Fig. 2 is a perspective view of the outer wheel-replacing device. Fig. 3 is a similar view of the inner replacing device. Fig. 4 is a reverse plan view of the outer wheel-replacing device. Fig. 5 is a similar view of the inner wheel-replacing device. Fig. 6 is a transverse sectional view taken substantially on the line 6 6 of Fig. 1. Fig. 7 is a side view of the front portion of the outer wheel-replacing device, illustrating

the arrangement of the laterally-extending wing and the laterally-projecting flange.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates an inner wheel-replacing device constructed of suitable metal and consisting of a block or piece provided at its lower face with longitudinal grooves or channels 2, adapted to lighten the device and at the same time form a flanged construction for increasing the strength of the same. The lower face of the wheel-replacing device is also provided at intervals with suitable projections 3, adapted to engage the cross-ties, whereby the wheel-replacing device is effectually prevented from slipping forward or sidewise. The inner wheel-replacing device, which is reversible and adapted to be arranged at the inner side of either rail 5, is provided at opposite sides with laterally-projecting flanges 4, which extend longitudinally from one end of the device and which are tapered both in thickness and toward their rear ends, as clearly illustrated in Fig. 3 of the drawings. The front ends of the laterally-projecting flanges are also rounded, as shown, to facilitate the adjustment of the device. The flange 4, which is horizontal, extends between the head of the rail and the bottom flange thereof and effectually prevents the device from tipping over when subjected to the weight of a car.

The particular form of the laterally-projecting longitudinally-disposed flanges 4 permits the wheel-replacing device to be arranged parallel with the rail or at various angles thereto to place the outer or rear end of the device to suit the position of the inner derailed wheel. The inner wheel-replacing device is provided in its lower face with substantially L-shaped or bayonet-shaped recesses 6, which are located at the front end of the device and which are adapted to permit the same to be interlocked with one of the spikes 7 of the contiguous rail. Each L-shaped or bayonet-shaped recess consists of an inner enlarged portion and a narrow transverse branch, which permits the head of a spike to be introduced into the enlarged inner portion by moving the device laterally. After the head of the spike is arranged in the enlarged inner portion of the recess the wheel-replacing device is capable of adjustment to arrange it parallel with the contiguous rail, as illustrated in Fig. 1 of the drawings, or at

any angle to the said rail. This interlocking of the wheel-replacing device with the rail and a spike thereof effectually prevents the device from slipping when subjected to the weight, strain, and pressure incident to replacing a car. The laterally-projecting flange 4, which extends between the head of the rail and the bottom flange, will prevent the head of the spike from becoming disengaged from the L-shaped or bayonet-shaped recess. As the tendency of a wheel is to force the replacing device forward and as the enlarged inner portion of the recess extends rearwardly from the transverse branch, there is no liability of such strain and pressure operating to disengage the device from the spike. The wheel-replacing device is also provided in advance of the recess with rectangular spike-receiving recesses 8, extending rearward from the front edge of the device and adapted to permit the same to be interlocked with a spike when the said device is arranged at too great an angle to interlock the spike and the device by means of an L-shaped or bayonet-shaped recess 6. Also a suitable spike-receiving opening 9 is provided at the front end of the device to enable the same to be spiked to a cross-tie when desired. The rear portion of the wheel-replacing device is substantially wedge-shaped to provide an inclined upper face 10, and guide-grooves 11 are provided in the upper face 10 at opposite sides of the center. The guide-grooves 11 have substantially parallel rear portions and diverging front portions 12 and are adapted to receive the flange of the inside wheel. The intervening portion 13 of the upper face 10 of the block is substantially Y-shaped and forms a solid guide for forcing the wheel toward the rail. The wheel-replacing device extends slightly above the tread of the rail, and it is adapted to allow the inside wheel to drop upon the same. The body portion of the inner wheel-replacing device is spaced from the head of the rail by the laterally-extending flange 4 to provide a space for the flange of the wheel as the latter leaves the wheel-replacing device, so that the wheel-replacing device will not interfere with the free movement of the wheel toward the rail.

The outer wheel-replacing device 14 is provided with longitudinal grooves or channels 2 and suitable projections 3, and it has L-shaped recesses 6 and rectangular recesses 8 located in advance of the L-shaped recesses. This construction permits the outer wheel-replacing device to be interlocked with a rail in the same manner as the inner wheel-replacing device heretofore described. A spike-receiving opening 9 is located between the opposite spike-receiving recesses to enable the outer wheel-replacing device to be spiked to a cross-tie when desired. The outer wheel-replacing device is also provided with opposite laterally-projecting flanges 15,

which extend longitudinally of the body of the wheel-replacing device at opposite sides thereof and which are adapted to project into the space between the head of the rail and the bottom flange to prevent the outer wheel-replacing device from tipping when subjected to the weight of a car and also to prevent the said device from becoming accidentally disengaged from a spike. The flanges, which are rounded at their front ends, are tapered in thickness and are provided with tapering rear portions.

The rear portion of the outer wheel-replacing device is tapered or wedge-shaped to provide an inclined upper face 16, which has short outer substantially parallel guide-grooves 17 and which is also provided with a central longitudinally-disposed substantially Y-shaped guide 18, consisting of a raised rib having diverging arms or portions 19, located at opposite sides of the front portion of the outer wheel-replacing device. The front portion of the outer wheel-replacing device is laterally enlarged to provide tapering wings 20, which have horizontal lower faces and which are adapted to rest upon the tread of the contiguous rail and to extend across the same, the angularly-disposed side edges of the wings forming guides for engaging the flanges of a wheel, whereby the latter is forced laterally onto the rail. The diverging arms of the raised guide 18 cooperate with the angularly-disposed side edges of the wing 20 and engage the body portion of the car-wheel at the rim for forcing the wheel laterally. A double guide is thus provided throughout the entire length of the outer wheel-replacing device for engaging the wheel at the flange and at the body portion of the same. The grooves terminate at the inner or rear end of the guiding edges of the wings or lateral extensions of the front portion of the wheel-replacing device to permit the flange to drop upon the tread of the rail. The tread or face of the wheel rides up the inclined face of the outer wheel-replacing device and rolls on the same between the flange-receiving groove 17 and the raised guide 18, and both guides operate to replace the wheel. Opposite treads are provided between these cooperating guides to receive the face of the wheel, the width of the tread-faces of the wheel-replacing device being of substantially the same width as the face of the wheel, so as to permit a wheel to be engaged by both the side and central guiding means. The outer wheel-replacing device is adapted to be arranged at various angles to suit the position of the outer wheel, and it is reversible to enable it to be arranged at the outer side of either rail. The outer wheel-replacing device extends above the tread of a rail a distance equal to the depth of the flange of a car-wheel, so that the latter is carried readily across a rail. The upper faces of the front

portions of the lateral extensions or wings 20 are beveled or inclined at 21 to permit the outer wheel to roll down upon the rail without jar.

5 Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A wheel-replacing device having means for guiding a wheel and provided at its lower 10 face with a spike-receiving recess consisting of an inner enlarged portion and a narrow entrance portion, said spike-receiving recess having a top wall and adapted to enable the device to be interlocked with a spike of a rail, 15 and means carried by the device for engaging the head of a rail.

2. A wheel-replacing device having means for guiding a wheel and provided with an L-shaped spike-receiving recess consisting of a 20 narrow laterally-extending branch, and an enlarged inner portion extending rearward from the branch.

3. A wheel-replacing device having guiding means and provided at its lower face 25 with a spike-receiving recess consisting of an inner narrow entrance portion or branch extending laterally of the said device, and an enlarged inner portion of a size to receive the head of the spike and to permit the device to 30 be moved along the rail to carry the narrow entrance branch away from the head of the spike, and a flange projecting laterally from the wheel-replacing device and engaging the 35 device is maintained in engagement with the spike.

4. A wheel-replacing device having guiding means and provided in its lower face with a spike-receiving recess having a top wall, 40 and a flange projecting from the side of the device in position to extend between the head and bottom flange of a rail and engaging the said head to hold the device against upward movement, whereby the said device is re- 45 tained in engagement with a spike and is prevented from tipping.

5. A reversible wheel-replacing device provided at opposite sides with laterally-projecting longitudinally-disposed rail-engaging 50 flanges having tapered inner or rear portions, said flanges being also tapered in thickness.

6. A wheel-replacing device having its upper face inclined at the rear portion and provided with a central substantially Y-shaped 55 guide and having grooves at opposite sides thereof.

7. A wheel-replacing device having its upper face inclined at the rear portion and provided with opposite wheel-receiving grooves, 60 said wheel-receiving grooves having substantially parallel rear portions and forwardly-diverging front portions and forming an intervening substantially Y-shaped guide.

8. A wheel-replacing device provided with 65 spaced cooperating guiding means arranged

to engage a car-wheel at both the flange and body portion of the wheel, the intervening space between the guiding means forming a tread and receiving the tread or face of the wheel.

9. A wheel-replacing device having a wheel-receiving groove terminating at its inner end at an intermediate point on the wheel-replacing device, the latter being also provided with a lateral extension arranged to rest upon 70 and extending substantially across the tread of a rail, and provided with an angularly-disposed guiding edge extending from the said groove to a point beyond the adjacent side of the rail. 75

10. A wheel-replacing device having a central raised substantially Y-shaped guide for engaging the body of a car-wheel and provided at the outer side of the raised guide with treads to receive the face of a car-wheel, 80 said wheel-replacing device being enlarged at the front portion to form laterally-extending tapering wings having angularly-disposed guiding edges for engaging the flange of a wheel. 85

11. A wheel-replacing device having a central raised substantially Y-shaped guide for engaging the body of a car-wheel and provided at the outer sides of the raised guide with treads to receive the face of a car-wheel, said wheel-replacing device being provided at its rear portion with opposite flange-receiving grooves and having its front portion enlarged to form laterally-extending tapering wings which have angularly-disposed 90 guiding edges extending from the front or inner ends of the grooves. 95

12. A wheel-replacing device provided with a central substantially Y-shaped guide consisting of a projecting rib having forwardly-diverging front portions, said guide being also 100 provided at its rear portion with flange-receiving grooves and having its front portion enlarged to provide tapering wings. 105

13. A wheel-replacing device provided with 110 projections on its under face and having an L-shaped spike-receiving recess which interlocks with the head of the spike.

14. A wheel-replacing device having a substantially Y-shaped guide provided in its upper face, and a wing arranged to rest upon the tread of a rail, and forming a guide and a tread. 115

15. A wheel-replacing device having a raised longitudinally-disposed substantially Y-shaped guide, and a guide-groove at one side 120 of the guide.

16. A wheel-replacing device provided in its upper face with a longitudinally-disposed substantially Y-shaped guide consisting of a 125 raised rib having diverging arms or portions, a tapered wing at that end of the device which has the diverging arms or portions, and a longitudinal guide-groove arranged along a portion of the device and terminating 130

at its front end at the point where the wing projects from the device.

17. A wheel-replacing device provided in its upper face with a longitudinally-disposed
5 substantially Y-shaped guide consisting of a raised rib having diverging arms or portions, a tapered wing extended from the device at that end thereof which is provided with the diverging arms or portions, a groove ar-
10 ranged along one side of the device and terminating at its front end at the point where the wing commences to project from the device, the said wing being constructed so as to overlap the head of a rail, and a flange pro-
15 vided on the device below the wing to engage the rail beneath the head thereof.

18. A wheel-replacing device having a projecting tapered wing to rest upon the tread of

a rail, and a laterally-projecting flange located below the wing and fitting in the space 20 between the head of the rail and the bottom flange thereof, the wing and flange cooperating in the manner substantially described, and the space between the flange and the wing being open at the outer side to permit 25 the device to be moved laterally into engagement with the rail.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

SIMON C. JOHNSON.
GEORGE H. MILLER.

Witnesses:

JOHN F. BERGGWIST,
ALFERD NILSON.