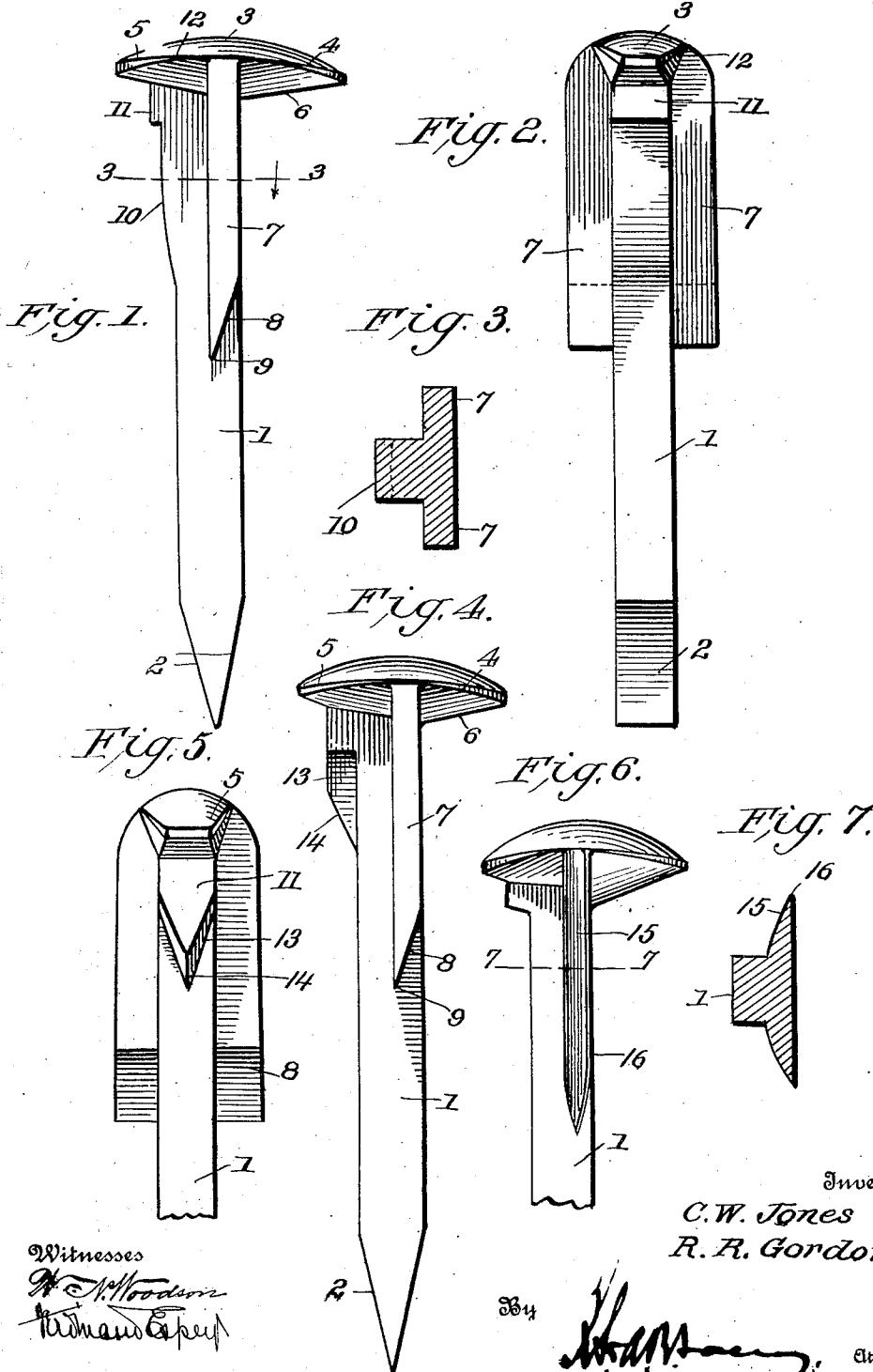


C. W. JONES & R. R. GORDON.
RAILWAY SPIKE.
APPLICATION FILED APR. 9, 1912.

1,059,875.

Patented Apr. 22, 1913.

2 SHEETS—SHEET 1.



Witnesses
H. E. Woodson
Edmund Capey

Inventors
C. W. Jones
R. R. Gordon

By *[Signature]* Attorney

C. W. JONES & R. R. GORDON.
RAILWAY SPIKE.
APPLICATION FILED APR. 9, 1912.

1,059,875.

Patented Apr. 22, 1913.

2 SHEETS—SHEET 2.

Fig. 8.

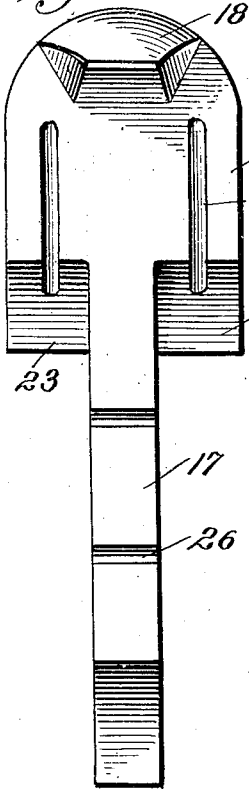


Fig. 9.

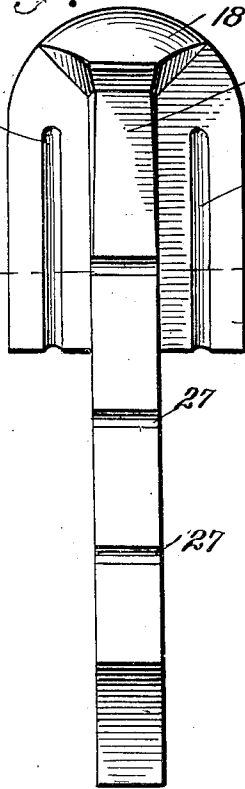


Fig. 10.

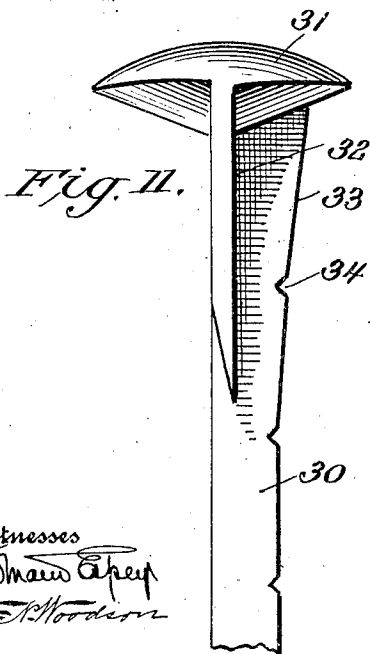
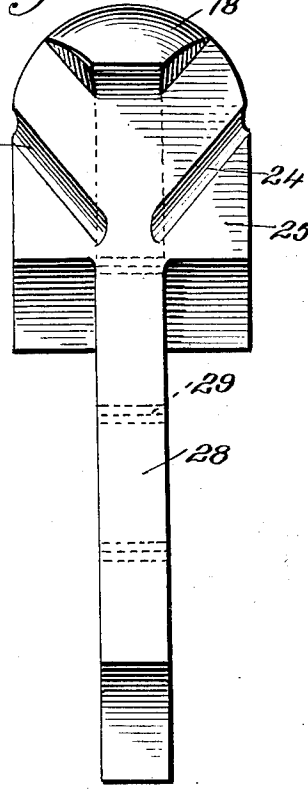
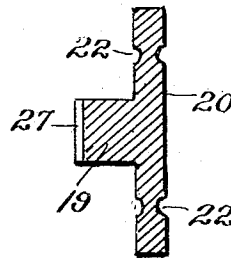


Fig. 12.



Witnesses
H. M. Arey
W. R. Gordon

Inventors
C. W. Jones.
R. R. Gordon.

By

H. M. Arey,

Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES W. JONES AND ROBERT R. GORDON, OF RICHMOND, VIRGINIA.

RAILWAY-SPIKE.

1,059,875.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed April 9, 1912. Serial No. 689,530.

To all whom it may concern:

Be it known that we, CHARLES W. JONES and ROBERT R. GORDON, citizens of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Railway-Spikes, of which the following is a specification.

This invention relates to railway spikes.

10 It is one aim of the invention to provide a spike which may be driven into the tie upon which the rail is supported so as to directly engage the base flange of the rail or so as to engage in the notches usually
15 found at the sides of the ordinary rail chair, and which will in the first instance firmly hold the rails against spreading and in the latter instance will, in addition to so holding them, prevent creeping of the rails.

20 Another aim of the invention is to so construct the spike that when driven into a tie, upon which the rail to be held is supported, it will be firmly forced against the base flange of the rail, thereby rigidly securing
25 the same in place.

A further aim of the invention is to provide a spike, the shank of which is formed with laterally projecting wings which, when embedded in the tie, prevent the shank
30 working laterally through the fiber of the tie when lateral pressure is exerted against the rails.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing, in
35 which:—

Figure 1 is a side elevation of one form of spike embodying the present invention. Fig. 2 is a rear elevation thereof. Fig. 3 is a
40 horizontal view on the line 3—3 of Fig. 1. Fig. 4 is a side elevation of a slightly modified form of spike. Fig. 5 is a rear elevation thereof. Fig. 6 is a side elevation of another form of spike. Fig. 7 is a horizontal
45 sectional view therethrough. Fig. 8 is a section in front elevation of a slightly modified form of spike. Fig. 9 is a rear elevation of this form. Fig. 10 is a view similar to Fig. 8 illustrating a further modification. Fig.
50 11 is a side elevation illustrating a still further modification. Fig. 12 is a horizontal sectional view on the line 12—12 of Fig. 9.

Corresponding and like parts are referred to in the following description and indicated
55 in all the views of the accompanying drawing by the same reference characters.

In the accompanying drawing, the numeral 1 indicates the shank of the spike which is oppositely beveled as at 2 to form the usual entering point.

The head of the spike is indicated by the numeral 3 and as illustrated in the drawing is convexed from side to side and from end to end. The head projects beyond opposite
60 sides of the spike as at 4 and 5 and the portion 4 has its under side inclined downwardly in the direction of the said shank as indicated at 6, at the proper angle to engage over the base flange of a rail which the
65 spike is to secure.

The shank of the spike is formed upon its side faces with laterally projecting vertically extending wings 7 and it will be observed by referring to Fig. 1 of the drawing, that these wings are relatively thin,
70 being of a thickness slightly less than one-half the width of the face upon which they are formed. The forward faces of the wings lie in the same vertical plane as does that side of the shank which the portion 4 of the
80 head 3 overhangs, and the rear faces of the wings lie in planes parallel to the planes occupied by the forward faces thereof, the said forward faces at the lower ends of the wings being beveled to form faces 8 which
85 are inclined downwardly and rearwardly from the forward faces of the wings to the plane occupied by the rear faces thereof. By thus forming the lower ends of the wings, an entering edge 9 is provided. By
90 referring to the said Fig. 1 of the drawing, it will be observed that that face of the shank of the spike which is located opposite the face which the portion 4 of the head of the spike overhangs is bulged throughout its
95 upper end portion as at 10 and the upper end of its bulged portion is formed with a rearwardly projecting lug 11 of the same width as the shank. This lug 11 extends beneath the portion 5 of the head of the
100 spike and at its rear end terminates short of the rear end of the said portion 5. It will be noted that the under side of the portion 5 of the head is beveled downwardly and inwardly toward the upper end of the shank
105 and the sides of the lug 11, as indicated at 12.

From the foregoing description of this form of the invention it will be understood that when the spike is to cooperate directly
110 with the base flange of a rail it is driven into the tie upon which the rail is supported,

with its head portion 4 presented toward the side of said rail. As the spike is driven into place the wings 7 will enter the tie and will firmly bear at their faces which are flush with the corresponding face of the spike shank, against the edge of the base flange of the rail. These wings, it will be readily understood, serve to firmly hold the spike against being forced laterally through the tie when lateral pressure is exerted against the rail secured thereby, in addition to affording a much wider bearing surface between the spike and rail base flange than would be afforded by the spike shank itself. It will further be apparent that due to the provision of the bulged portion 10, as the spike is driven into place it will be forced in the direction of the rail to be secured, and furthermore, due to the bevel 8 at the lower end of each of the wings, the tendency will be for the lower end of the shank of the spike to move away from the rail, so that the portion 4 of the head of the spike will be forced firmly down upon the side of the said base flange. When the spike is to secure a rail chair and rail seated therein, it is driven into the tie with its other side presented toward the said rail and chair, and it will be understood that the lug 11 will enter the notches usually formed in the rail chair and by such engagement will securely hold the rails seated in the chair against creeping.

The form of spike shown in Figs. 4 and 5 of the drawing is identical with that shown in the first three figures, except that the bulge 10 is omitted and the lug 11 instead of having its end and under faces located in planes at right angles to each other, is extended downwardly along the rear face of the shank of the spike and has its opposite sides beveled as at 13 and located in synclinal planes. By so locating the beveled sides of the lug, a sharp curved edge 14 is provided at the lower end of the said lug and the lug at the said lower end is designed to enter the tie as the spike is driven into place. It will be understood that the beveled portions 13 and the curved edge 14 of this lug perform the same function as does the bulged portion 10 in the first described form of spike, in addition to holding the spike against lateral displacement in the tie.

The spike shown in Figs. 6 and 7 of the drawing is identical with that shown in the first three figures of the drawing, except that the wings 7 have their rear faces transversely convexed as indicated at 15. By so forming the wings, they are provided each with a sharp lateral edge 16, which cuts through the fiber of the tie as the spike is driven into place.

The spike shown in Figs. 8 and 9 of the drawing comprises a shank 17 and a head 18, the said shank and head being substantially

of the form shown in Fig. 1 of the drawing, except that the rear side of the shank is gradually inclined outwardly and upwardly as at 19 and is not provided with the shoulder 11. The shank is formed upon each side with laterally projecting wings 20 which correspond in location to the wings 7, previously described, and each of these wings is formed upon its forward face with a channel 21 and upon its rear face with a channel 22. The channels 21 and 22 of each wing are correspondingly located and all of the channels extend vertically and in parallel relation. It will be observed by referring to Fig. 8 of the drawing that the lower ends of the channel 21 merge into the beveled faces of the wings, whereas the channels 22 in the rear sides of the wings extend to an extreme lower edge thereof.

The spike shown in Fig. 10 of the drawing is formed in its forward face with grooves 24 which extend upwardly in diverging lines with respect to each other and have their lower ends terminating substantially at the upper ends of the bevels of the wings which in this figure are indicated by the numeral 25. The upper and outer ends of the channels terminate at the lateral edges thereof and substantially at points co-incident with the under side head of the spike.

The form of spike shown in Figs. 8 and 9 has the forward and rear sides of its shank 17 formed with transverse notches 26 and 27 respectively, and the rear side of the shank of the spike shown in Fig. 10, indicated by the numeral 28, is formed with transversely extending notches 29. By forming the channels in the faces of the wings 20 and 25, in the two forms of the spike above described, the spike is more firmly held when driven into the tie, by reason of the fact that the fiber of the tie will sink into the said channels, and particularly is this true of the spike shown in Fig. 10.

The spike shown in Fig. 11 is substantially identical with the one shown in Figs. 8 and 9 except that the wings thereof are not provided with the channels 21 and 22 and the shank of this spike is indicated by the numeral 30, the head by the numeral 31 and the wings by the numeral 32. The rear side of the shank 30 is gradually inclined upwardly and outwardly from a point substantially co-incident with the lower or entering edges of the wings 32 as indicated at 33 and is formed at intervals with transversely extending notches 34.

Having thus described the invention what is claimed as new is:—

1. A spike comprising a shank and a head, and wings projecting laterally from each side of the shank, the said wings being formed with channels terminating short of the upper edges of the wings.

2. A spike comprising a shank and a head, and wings projecting laterally from each side of the shank, the said wings being formed in their opposite faces with channels terminating short of the upper edges of the wings.

3. A spike comprising a shank and a head, the shank being formed upon opposite sides with laterally projecting wings and the said wings being formed in corresponding faces with grooves, the said grooves extending at an angle with respect to each other and opening at their upper ends at the edges of the wings.

4. A spike comprising a shank having a head, the head of the shank being formed upon opposite sides with laterally projecting wings and the said wings being formed with upwardly and outwardly inclined grooves opening at their upper ends at the edges of the wings.

5. A spike comprising a shank having a head and formed upon opposite sides with laterally projecting wings, the lower ends of the wings being beveled to form enter-

ing edges and one face of each wing being formed with an upwardly and outwardly inclined channel terminating at its lower end substantially at the upper end of the adjacent bevel and having its upper end opening at the lateral edge of the respective wing.

6. A spike comprising a shank having a head, the head having oppositely downwardly inclined under surfaces, and the said shank projecting downwardly from one of the said surfaces and offset with relation to the other surface, the shank being provided with laterally projecting wings extending downwardly from the under side of the head at the line of juncture of the said surfaces and flush with the inner face of the shank.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES W. JONES. [L. S.]

BERT GORDON. [L. S.]

Witnesses:

E. K. WALKER,

JAMES SWEENEY.