

No. 635,144.

Patented Oct. 17, 1899.

W. MORRISEY.

GUARD RAIL.

(Application filed July 5, 1899.)

(No Model.)

Fig. 1.

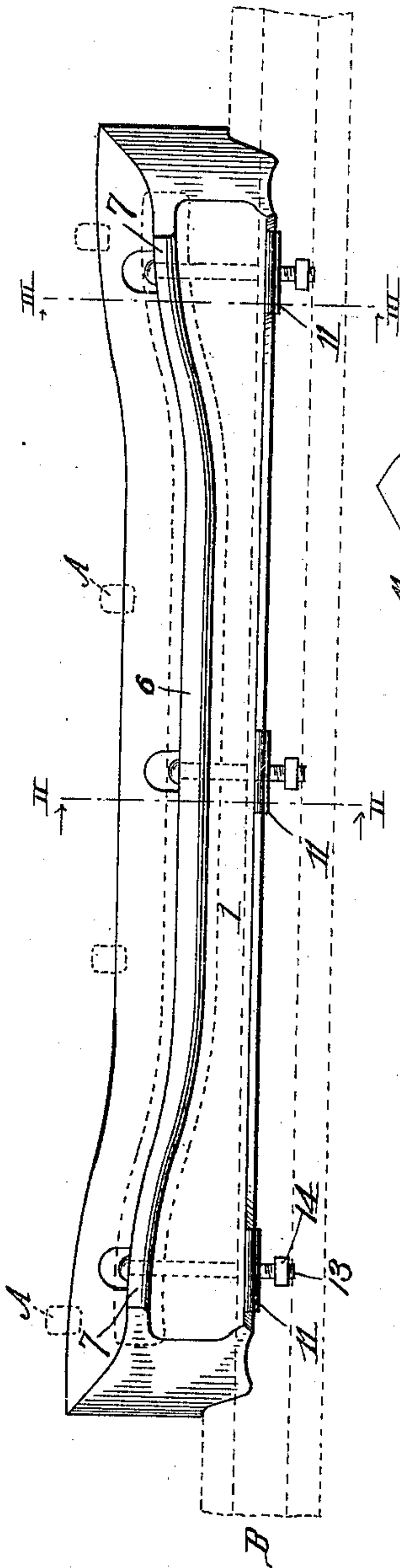


Fig. 2.

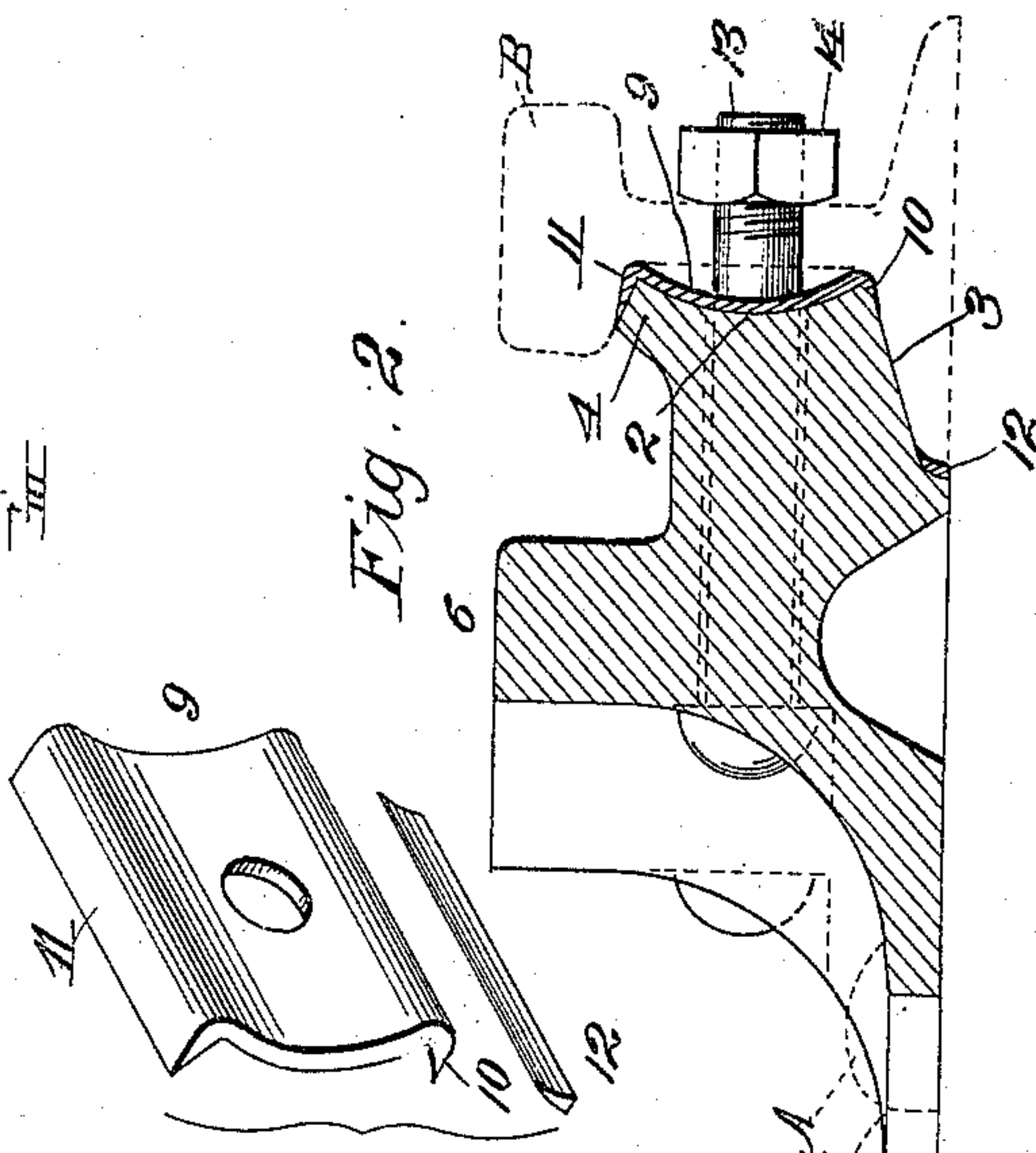
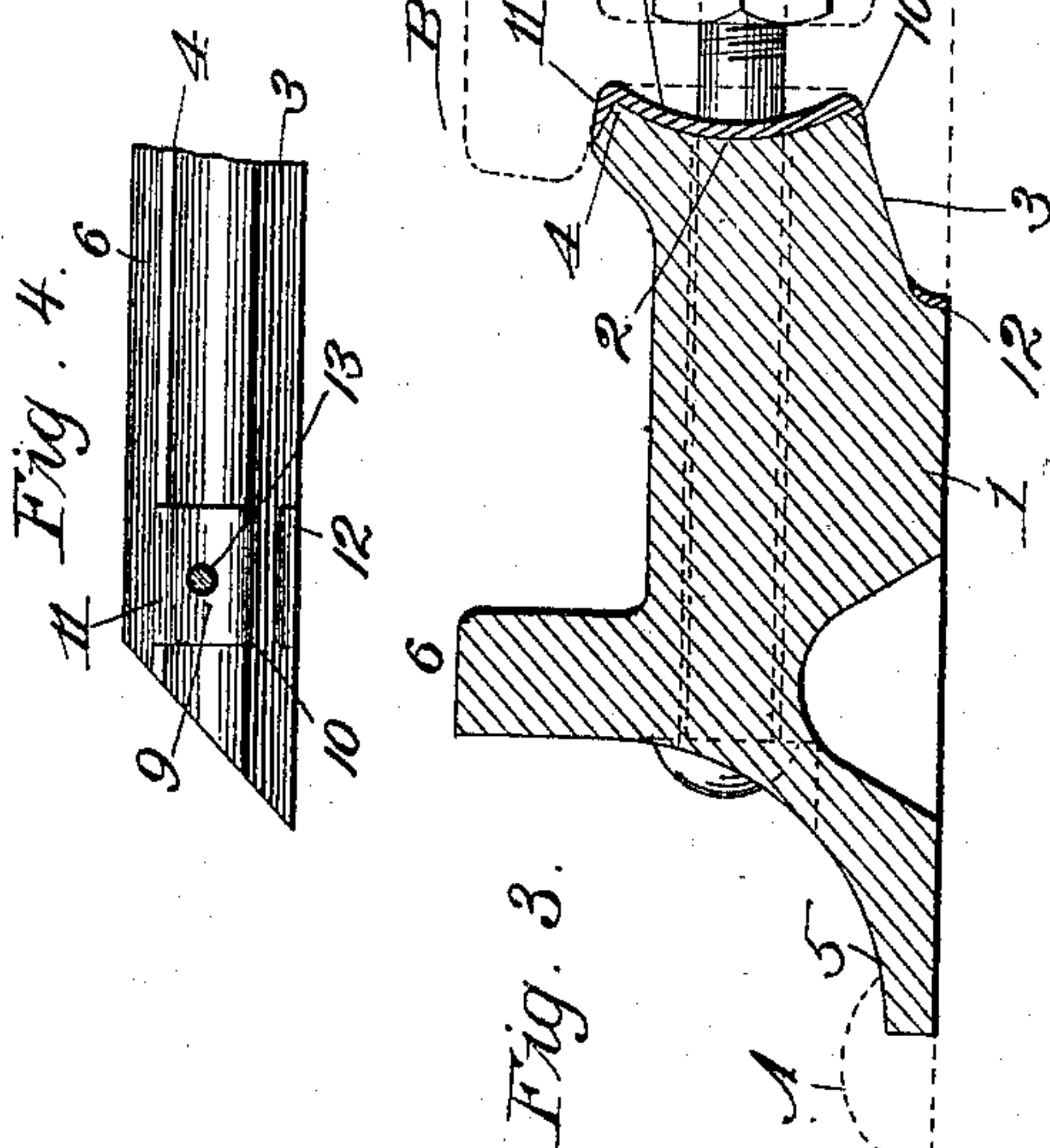


Fig. 3.



Witnesses:

H. C. Rodgers.  
M. R. Remley.

Inventor

Wm. Morrisey

By Higdon, Fischer & Thorne  
Attys.



# UNITED STATES PATENT OFFICE.

WILLIAM MORRISEY, OF TOPEKA, KANSAS.

## GUARD-RAIL.

SPECIFICATION forming part of Letters Patent No. 635,144, dated October 17, 1899.

Application filed July 5, 1899. Serial No. 722,806. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM MORRISEY, of Topeka, Shawnee county, Kansas, have invented certain new and useful Improvements in Guard-Rails, of which the following is a specification.

My invention relates to guard-rails to prevent the derailment of trains or cars; and my object is to produce as a new article of manufacture a guard-rail which acts as a strong and reliable anchor to prevent movement of the rail to which it is joined, as well as to maintain the wheels of the passing cars upon said track.

The invention consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 represents a top plan view of a guard-rail embodying my invention. Fig. 2 is an enlarged cross-section taken on the line II II of Fig. 1. Fig. 3 is an enlarged cross-section taken on the line III III of Fig. 1. Fig. 4 is an inner face view of a portion of the guard-rail. Fig. 5 is a perspective view of the wear-plates adapted to be interposed between the track-rail and the guard-rail.

In the said drawings, 1 designates the guard-rail, having its inner face concave, as shown at 2, and formed with a sloping downwardly-disposed shoulder 3 and an upwardly-disposed shoulder 4, said shoulders occurring, respectively, below and above the concave face 2.

At its outer side the guard-rail is formed with a foot-flange 5, adapted to be engaged by the spikes A, said spikes serving to anchor the guard-rail to and prevent it from moving away from the track-rail B, upon the foot-flange of which the shoulder 3 bears and against the ball or head of which the shoulder 4 bears.

Projecting upward from the upper side of the guard-rail, at a suitable distance therefrom, at its middle, as shown at 6, and curving divergently outward away from the rail at its ends, as shown at 7, is the guard-flange of the rail. The portions 7 are sufficiently remote from the track-rail to permit the flange of a wheel to enter between them at an angle and then deflect said wheel outward to-

ward the track-rail as the wheel-flange strikes the flange 7, thereby causing the flange to enter the narrow passage between the track-rail and the portion 6 of the guard-flange and resume its movement in a plane parallel to the track-rail, as will be readily understood.

In order to provide for wear and a consequent increase in the distance between the track and the parallel portion 6, I provide a centrally-perforated, concave plate 9 to fit snugly in the concave face 2 of the guard-rail, said plate having an outwardly-projecting flange 10 at its lower margin to underlap slightly the shoulder 3 and an outwardly-projecting flange 11 at its upper margin to overlap the shoulder 4. I also provide a segmental washer-strip 12 of the same length as plate 9 and arrange it between the outer or rounded edge of the foot-flange of the rail and the rounded terminal of shoulder 3 of the guard-rail.

To secure this guard-rail in position with relation to a track-rail, it is arranged, as shown in the drawings, with the plates 9 and 12 interposed between it and the track-rail, with the perforations of the plates 9 in position to receive the clamping-bolts 13, said clamping-bolts being fitted from the inside through the guard-rail plates 9 and the web portion of the track-rail, the threaded ends of said bolts being engaged by the clamping-nuts 14, as shown clearly in the drawings, and after the guard-rail is thus clamped in position the spikes A are driven home in the cross-ties (not shown) of the track.

In practice it is obvious that the grinding of the wheel-flange upon the flange of the guard-rail would in the course of time widen the narrow passage between the portions 6 and the track-rail to a dangerous extent—that is, to such an extent that derailment would be possible. To avoid this contingency, before the flange is ground away to a dangerous extent the spikes A are extracted and the clamping-nuts removed in order to permit the guard-rail to be moved a sufficient distance from the track-rail to withdraw the bolts 13 from the latter. The plates 9 are then removed from the bolts, the plates 12 withdrawn, and the guard-rail fitted back to its original position, with the exception that the shoulder 4 now comes directly into engagement with



the ball or head of the rail and the upper and lower edges of the concave face bear against the web of the rail, and thus bring the operative or outer face of the flange 6 as near the track-rail as such face was before being ground away by the action of the wheels. The clamping-nuts are now reengaged with the bolts and the spikes again driven home into the cross-ties to prevent any outward or tilting movement of the guard-rail, as will be readily understood.

From the above description it will be seen that I have produced a guard-rail which embodies the features of advantage enumerated as desirable in the statement of invention and which may be modified in some respects without departing from the spirit and scope of my invention or sacrificing any of its advantages.

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

1. The combination with a track-rail, of a guard-rail arranged inward of the track-rail and spiked to the track-bed, and provided with an inner concave face, a sloping shoulder 3, an upwardly-projecting shoulder 4, and a guard-flange 6, having curved terminals 7, perforated plates 9 corresponding to and fitting against the concave face of the guard-rail, and interposed between the same and the track-rail, and provided with outwardly-projecting flanges at its upper and lower ends interposed between the upwardly-projecting shoulder and downwardly-disposed shoulder, respectively, of the guard-rail and the head

and foot flange of the track-rail, a bolt extending through the guard-rail, the perforated plate, and the web of the track-rail, and a nut engaging said bolt and bearing against the outer side of the track-rail, substantially as described.

2. The combination with a track-rail, of a guard-rail arranged inward of the track-rail and spiked to the track-bed, and provided with an inner concave face, a sloping shoulder 3, an upwardly-projecting shoulder 4, and a guard-flange 6, having curved terminals 7, perforated plates 9 corresponding to and fitting against the concave face of the guard-rail, and interposed between the same and the track-rail, and provided with outwardly-projecting flanges at its upper and lower ends interposed between the upwardly-projecting shoulder and downwardly-disposed shoulder, respectively, of the guard-rail and the head and foot flange of the track-rail, a segmental strip 12 interposed between the curved edge of the foot-flange of the rail and the curved termination of said sloping shoulder, a bolt extending through the guard-rail, the perforated plate, and the web of the track-rail, and a nut engaging said bolt and bearing against the outer side of the track-rail, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM MORRISEY.

Witnesses:

GILBERT SLUSHER,  
MADDIS JACOBS.