No. 731,721. PATENTED JUNE 23, 1903.

E. TRAINER.

THILL COUPLING.

APPLICATION FILED OCT. 18, 1902.

NO MODEL.

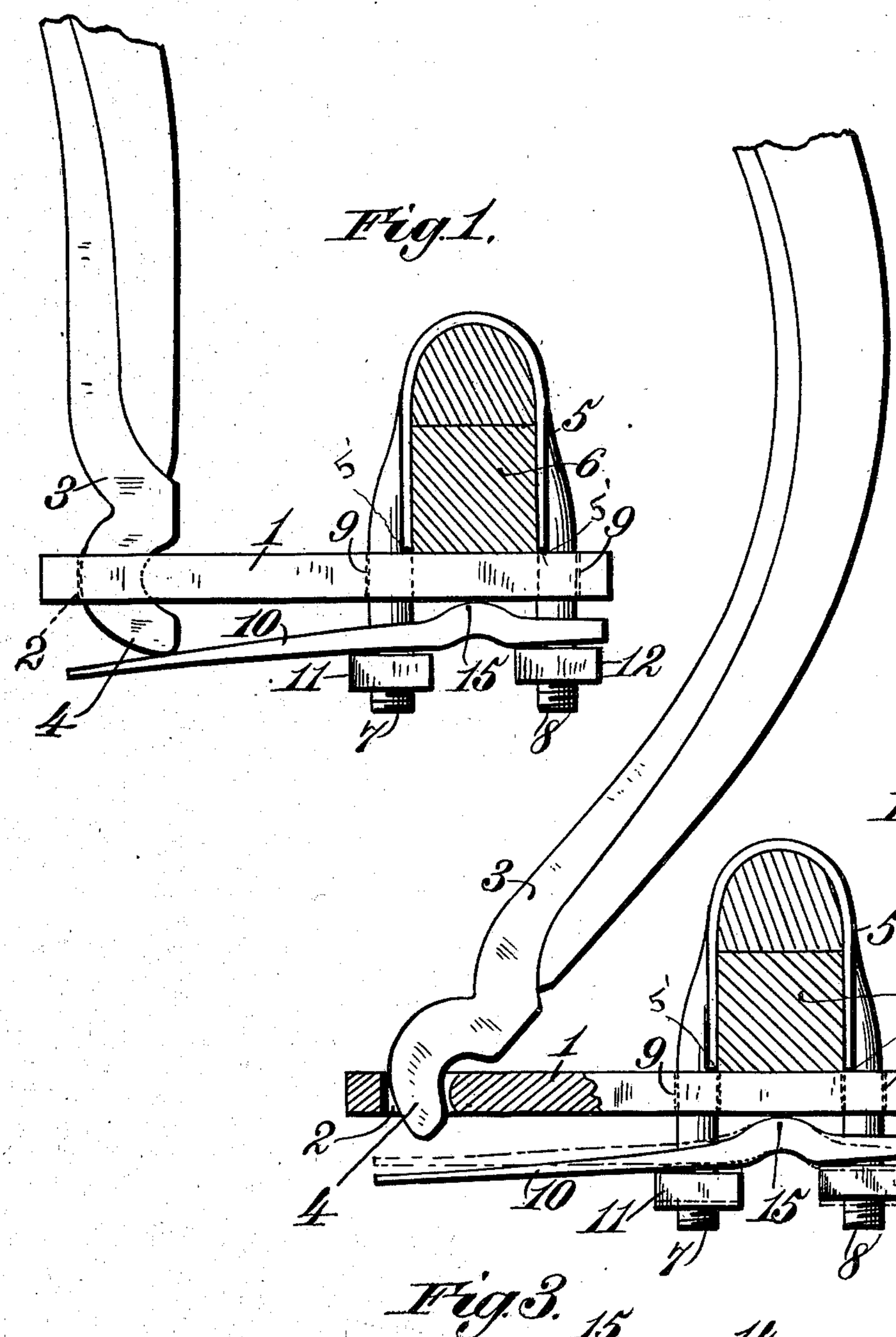

Fig. 1.

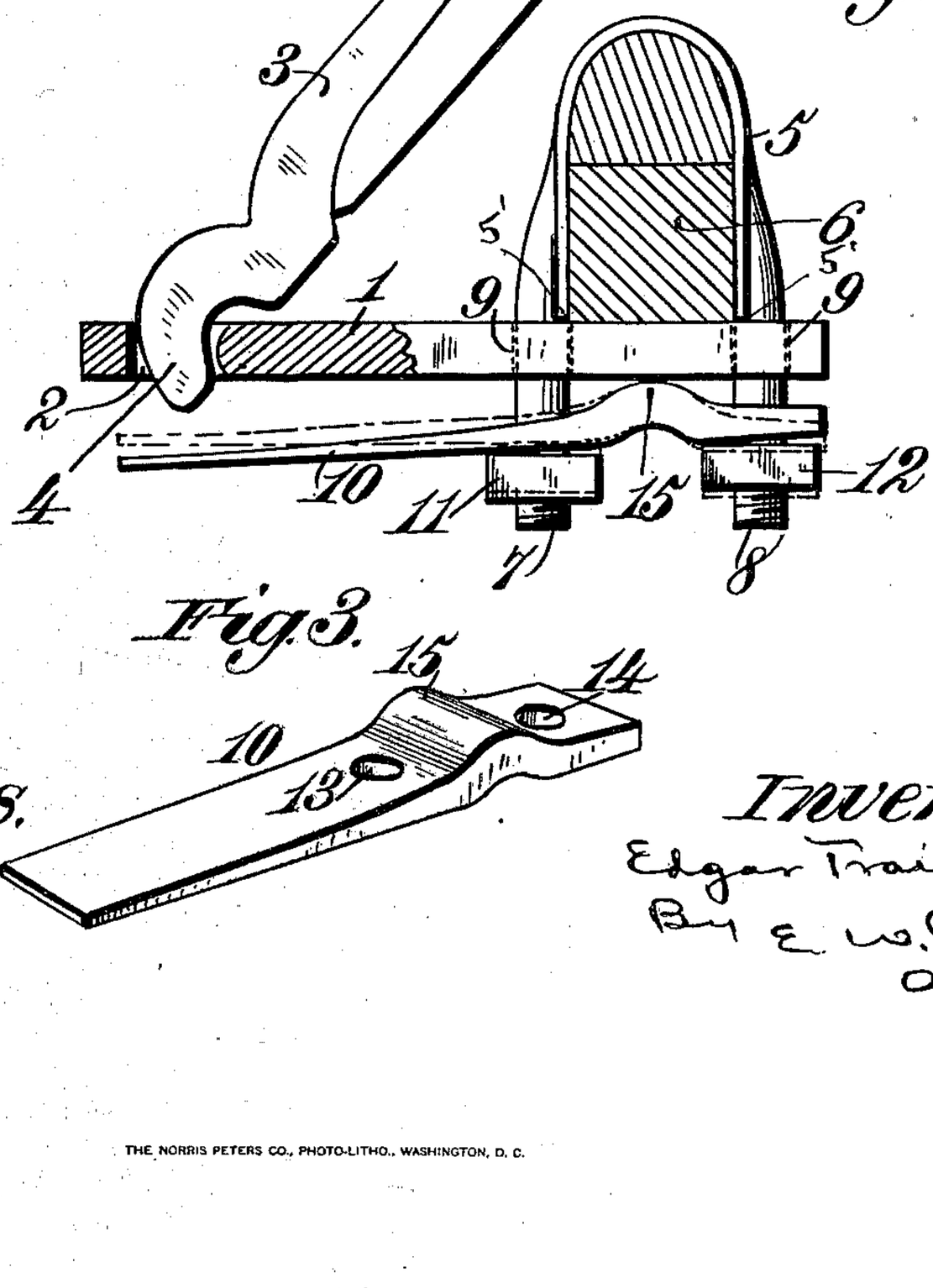

Fig. 2.

Fig. 3.

Witnesses.
Robert Evatt.
O. b. Wilson

Inventor:
Edgar Trainer
By E. W. Cady
Atty.

No. 731,721. Patented June 23, 1903.

UNITED STATES PATENT OFFICE.

EDGAR TRAINER, OF SAN ANTONIO, TEXAS.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 731,721, dated June 23, 1903.

Application filed October 18, 1902. Serial No. 127,855. (No model.)

To all whom it may concern:

Be it known that I, EDGAR TRAINER, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to devices for preventing the rattling of thills for vehicles, known as "antirattlers" for thills, and has for its object to provide a device of this character which will be efficient, durable, and economical. These devices generally consist of a piece of rubber or metal so placed between the rear end of a thill and the connection of the thill with the axle of a vehicle as to have a cushioning effect and prevent the thill from rattling.

This invention consists of an antirattler for thills constructed and arranged as hereinafter set forth and claimed.

Referring to the accompanying drawings, in which similar figures of reference refer to like parts, Figure 1 is a side view of the coupling. Fig. 2 is a detail view with parts broken away. Fig. 3 is a detail view of the spring-plate.

In carrying out this invention a metallic plate 1 is provided which will be termed the "draft-plate" and which is formed at its forward portion with an opening 2, through which extends the rear curved portion of a thill 3, having at its end a curved portion 4 for a purpose hereinafter explained.

5 is a U-shaped strap mounted on a vehicle-axle 6 and having its depending ends 7 and 8 extending through holes 9 in the rear portion of the plate 1.

10 is a spring-plate of metal which is located beneath the plate 1 and which is held in place by nuts 11 and 12 on the depending ends 7 and 8 of the straps 5, projecting through holes 13 and 14 in the rear portion of the plate 10. At the rear portion of the plate 10 on its upper surface it is preferably formed with a transverse rib or band 15, which bears against the under side of the plate 1 and serves as a fulcrum for the plate 10, as more fully hereinafter set forth. The forward portion of the plate 10 projects beneath the forward parts of the plate 1 and serves as a yielding or elastic bearing for the rear end of the thill 3, its curved portion 4 resting thereon and in the movement of the thill adapted to rock thereon, the opening 2 being of such a size as to permit of this movement. At the same time of this movement the plate 10, in addition to its elastic or spring movement at its forward end, has a rocking movement, due to the ribs 15 serving as a fulcrum, the holes 13 and 14 in the plate 10 permitting of this rocking movement. By this means the yielding movement of the plate 10 is enhanced, while the elasticity of the forward portion of the plate 10 serves to produce a cushioning effect in the thill 3. Should the plate 10 become loose by wear or should a greater or less tension or elasticity be required for the spring-plate 10, this may be effected by the adjustment of the nut 11.

It will be seen that by means of this invention not only is a simple, effective, and economical device provided, but also that the thill may be connected to the axle by simply slipping it into place without any nut or extra fastening being required, and that in the same way it may be quickly and readily detached. So, also, if the spring-plate 10 becomes worn out or broken a new plate may be readily supplied, which is also true of the plate 1.

The thill 3 is detached from the plate 1 simply by raising its forward end up sufficiently to enable its rear end to be drawn through the opening 2 in plate 1 and is put back in place by a reverse operation.

The plate 1 is termed the "draft-plate," since, as will be seen, it serves as the draft connection between the thill and axle.

If desired, the spring-plate may be used simply as a spring-plate and the rocking feature dispensed with by changing the bead to a square shape.

The strap 5 is formed with shoulders 5′, which rest on the plate 1 and prevent the strap from slipping or turning on the axle, thereby maintaining the spring-plate 10 in its proper position.

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

1. The combination with a vehicle-axle, of a detachable draft-plate, having an opening adjacent to its forward end; a detachable spring-plate, located beneath said draft-plate; and a thill having a curved rear end projecting through, and engaging the forward end of the draft-plate, and bearing upon the forward part of the spring-plate, substantially as herein set forth.

2. The combination with a vehicle-axle, of a draft-plate, having an opening adjacent to its forward end; a spring-plate, located beneath said draft-plate, and fulcrumed on the latter adjacent to its rear end; and a thill, having a curved rear end, projecting through, and engaging the forward end of the draft-plate, and bearing on the forward end of the spring-plate, substantially as herein set forth.

3. The combination with a vehicle-axle, of a U-shaped strap, having depending ends, a detachable draft-plate, mounted on said ends, and having an opening adjacent to its forward end; a detachable spring-plate, mounted on said depending ends, beneath the draft-plate; a thill having a curved rear end, projecting through, and engaging the forward part of the draft-plate, and bearing on the forward part of the spring-plate, and means for adjusting the position of the spring-plate, substantially as herein set forth.

4. The combination with a U-shaped strap for axles, having depending ends, of a draft-plate mounted on said depending ends, and having an opening in its forward portion; a cushioning-plate mounted at its rear end on said depending ends beneath the draft-plate and having a bead on its upper side bearing as a fulcrum on the draft-plate, nuts on said depending ends holding the plates in place, one of which serves for adjustment of the cushioning-plate; and a thill having a curved rear portion extending through and interlocking with the draft-plate; and having a curved end bearing on the cushioning-plate, substantially as set forth.

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

EDGAR TRAINER.

Witnesses:
FRED KELLEY,
J. J. PETERSON.