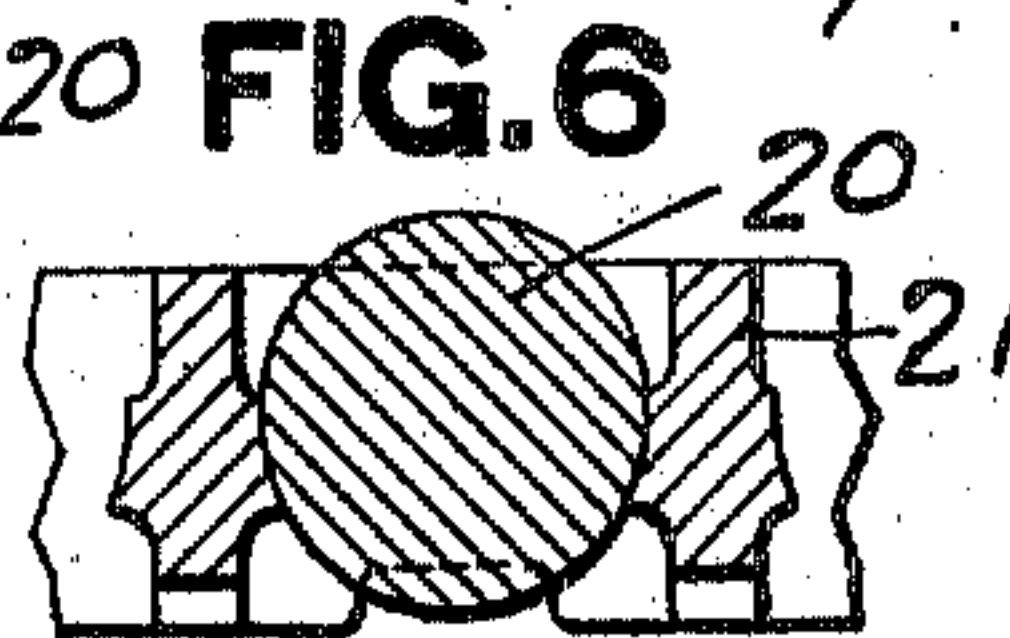
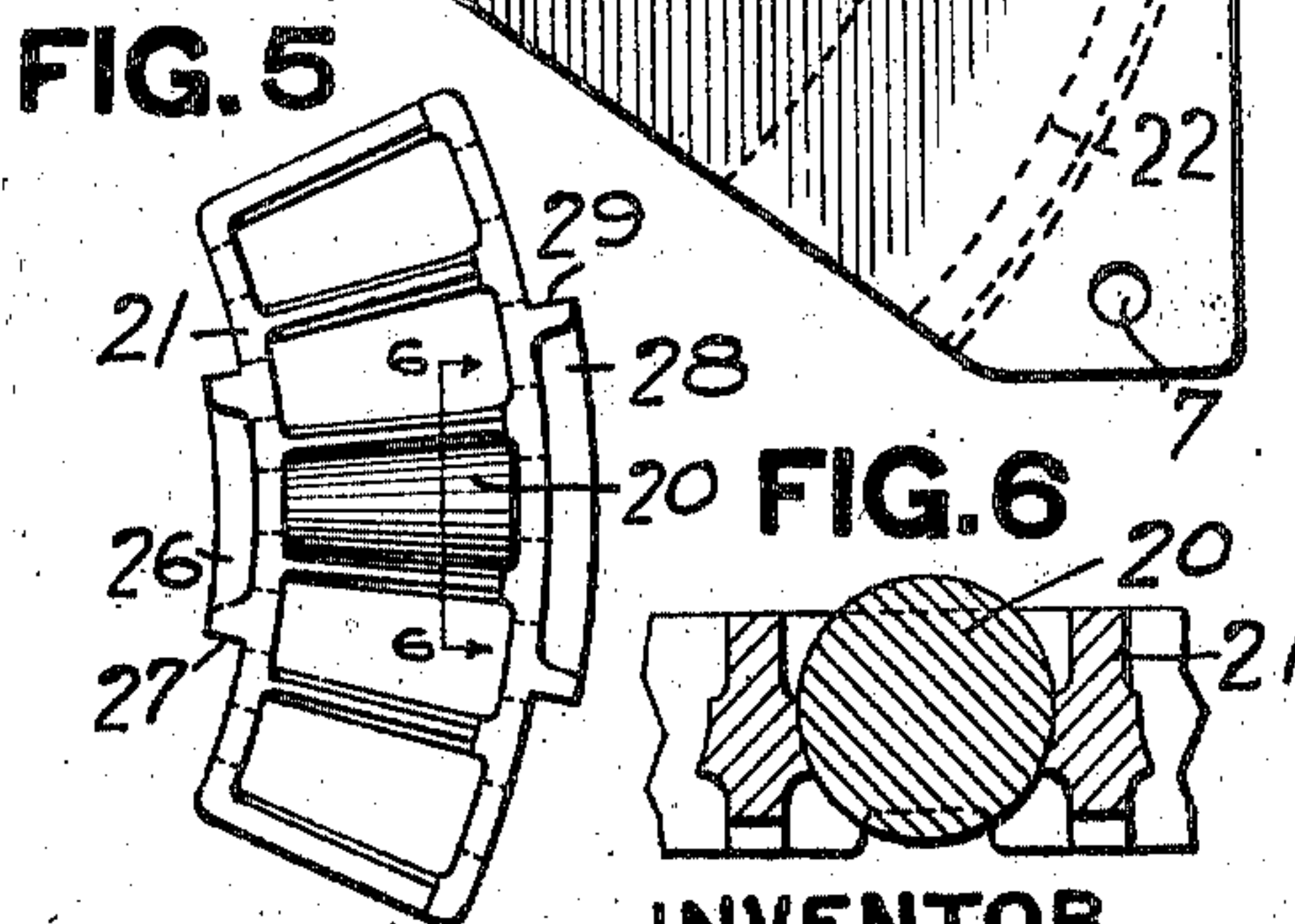
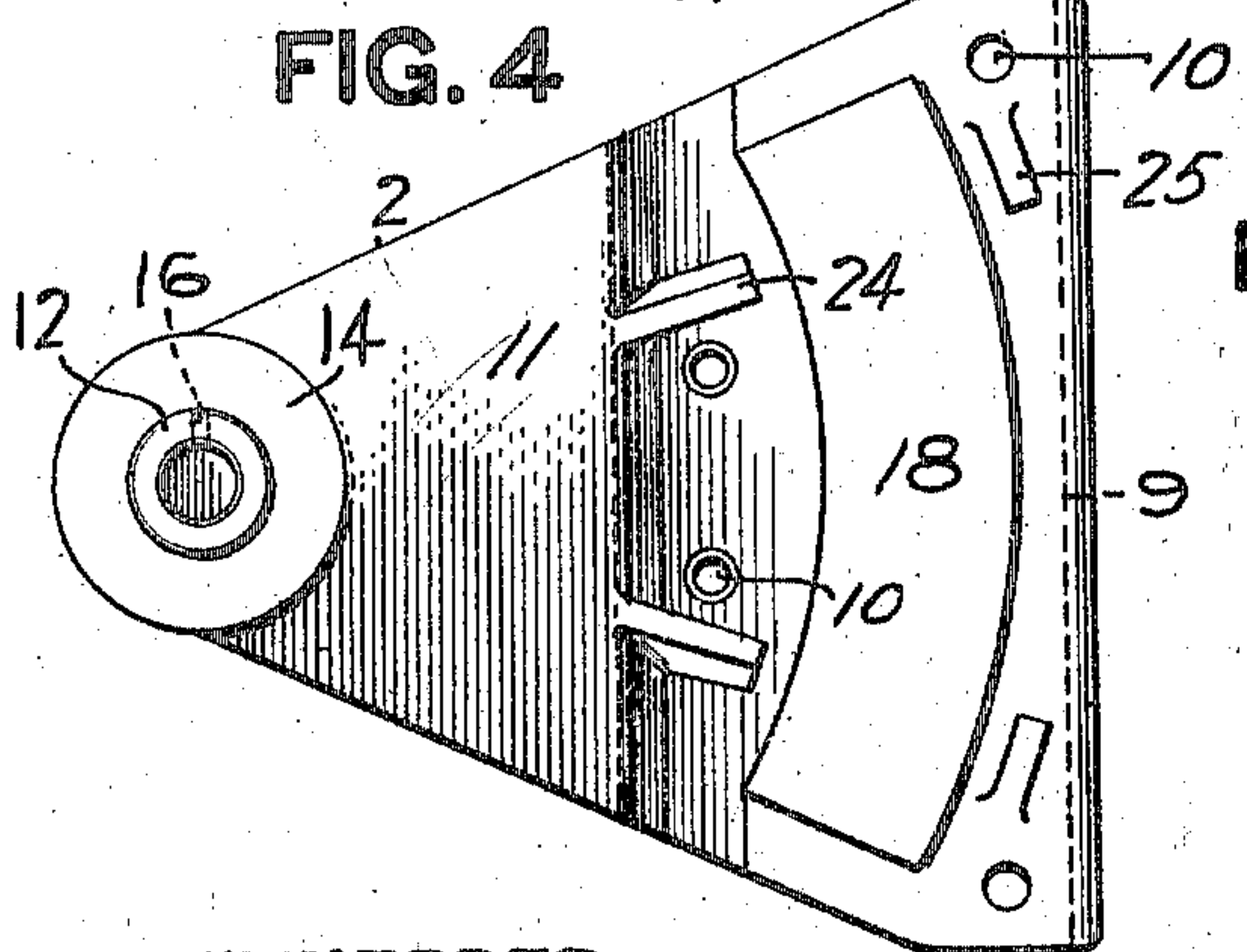
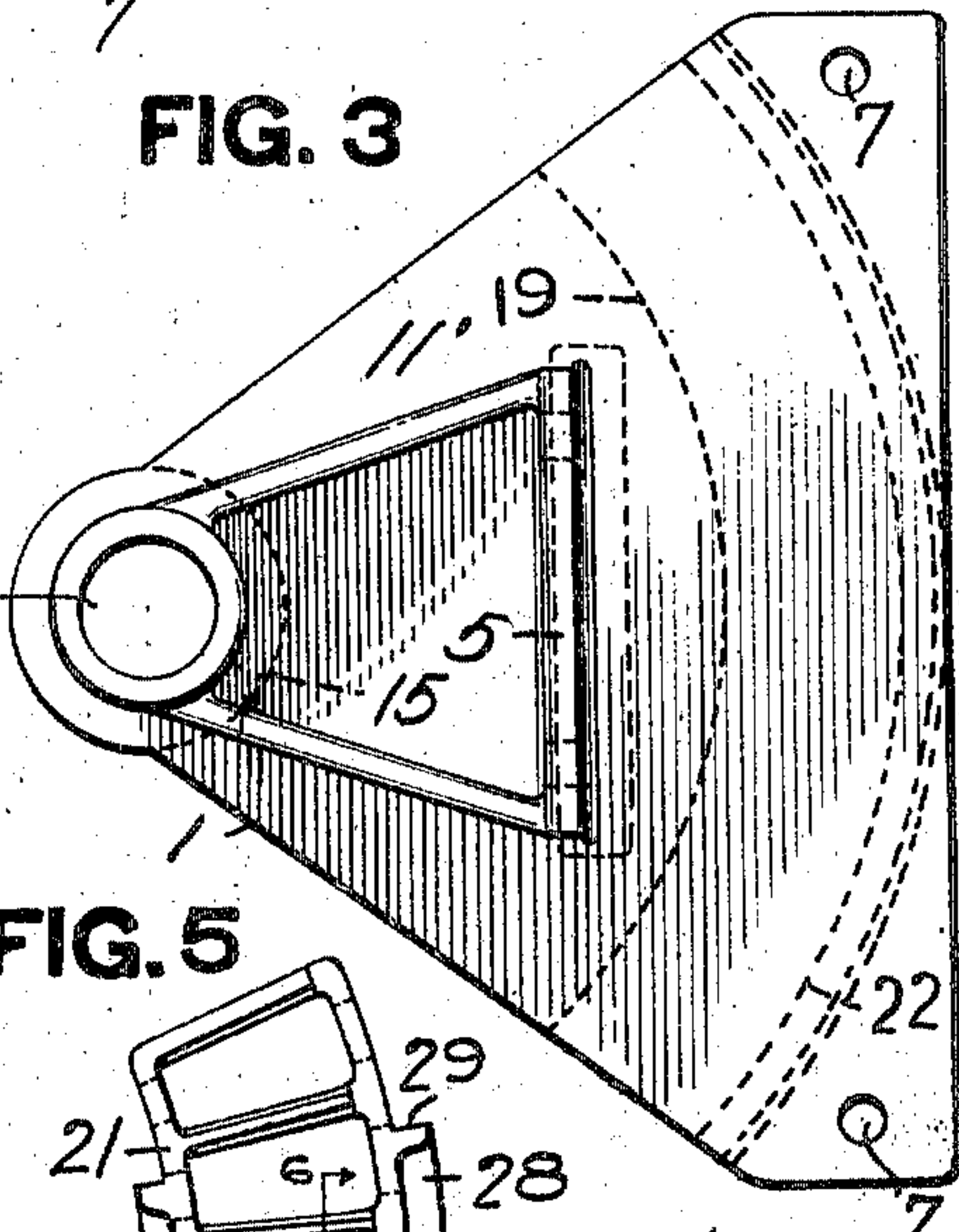
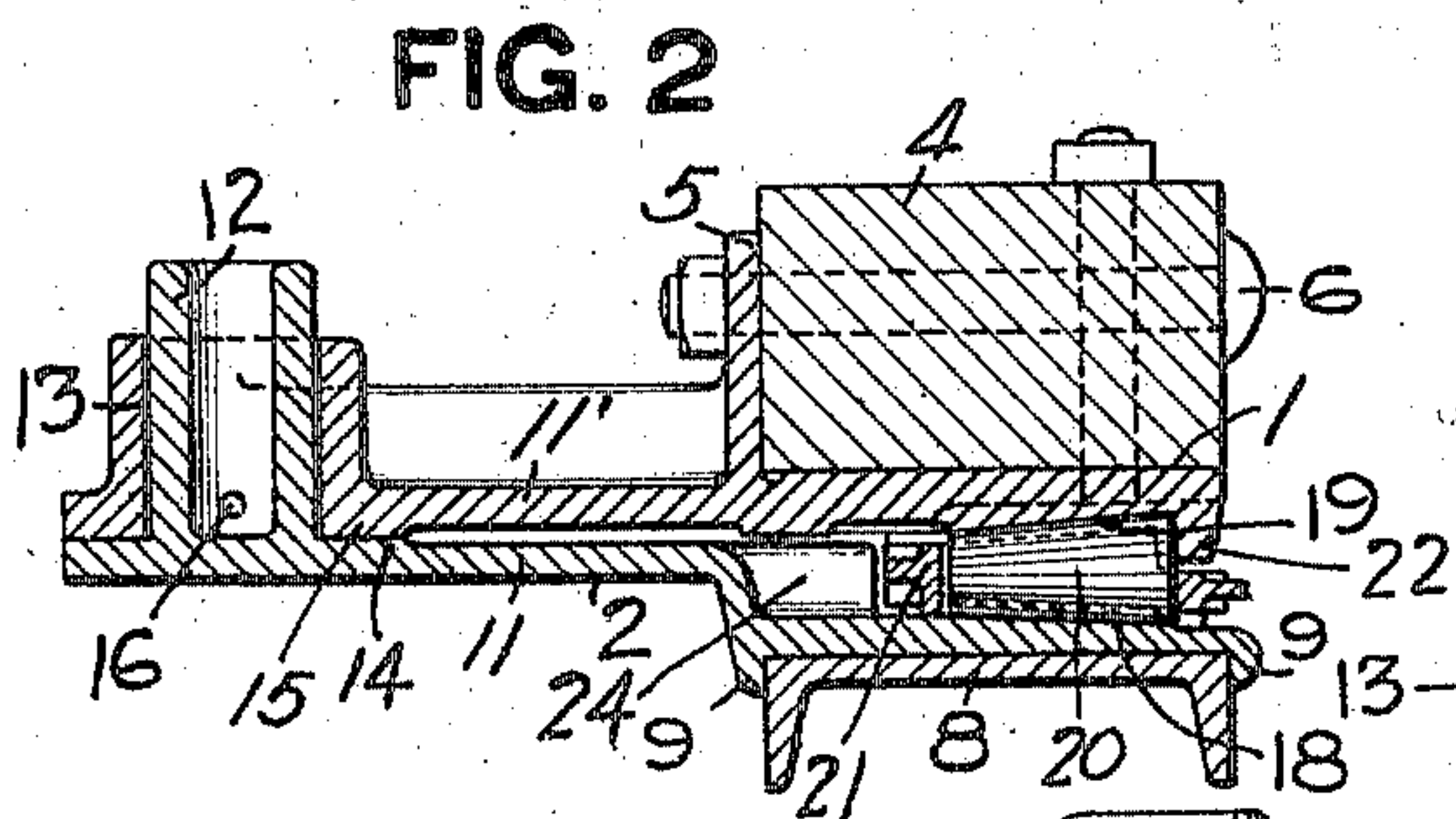
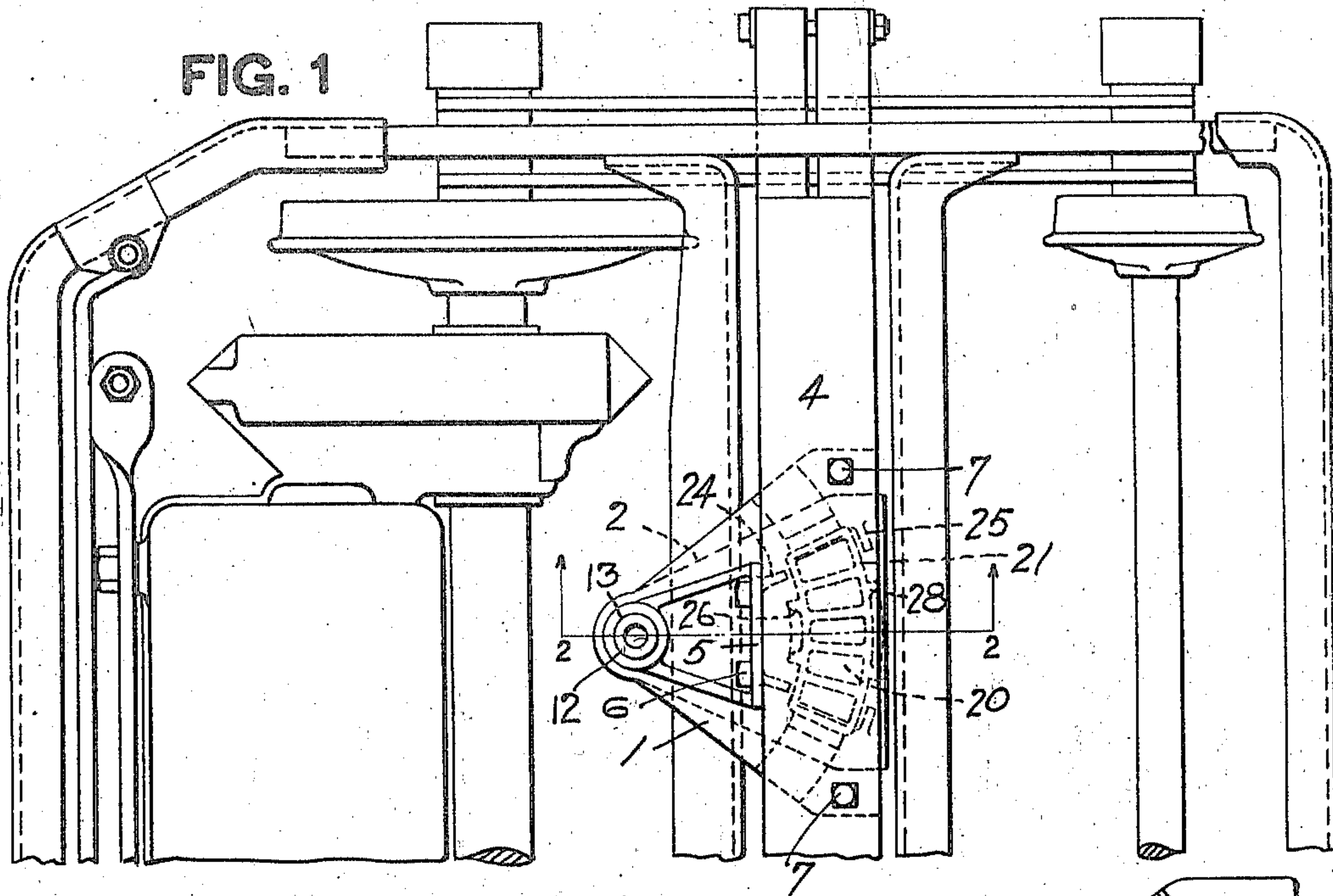


A. CHRISTIANSON.
SWIVEL PLATE FOR MOTOR TRUCKS.
APPLICATION FILED NOV. 21, 1907.

947,792.

Patented Feb. 1, 1910.



WITNESSES.

G. R. Keller
Robert C. Totten

INVENTOR.

Andrew Christianson
By Ray Totten & Son
attorneys

UNITED STATES PATENT OFFICE.

ANDREW CHRISTIANSON, OF BUTLER, PENNSYLVANIA, ASSIGNOR TO STANDARD STEEL CAR COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SWIVEL-PLATE FOR MOTOR-TRUCKS.

947,792.

Specification of Letters Patent.

Patented Feb. 1, 1910.

Application filed November 21, 1907. Serial No. 403,216.

To all whom it may concern:

Be it known that I, ANDREW CHRISTIANSON, a resident of Butler, in the county of Butler and State of Pennsylvania, have invented a new and useful Improvement in Swivel-Plates for Motor-Trucks; and I do hereby declare the following to be a full, clear, and exact description thereof.

This invention relates to swivel or bearing plates for maximum traction motor trucks.

The object of the invention is to improve swivel bearings of this character in details hereinafter described and claimed.

In the accompanying drawing Figure 1 is a plan view of a portion of a truck showing the position of the swivel plates; Fig. 2 is a vertical sectional view through the swivel plates on the line 2—2, Fig. 1; Fig. 3 is a plan view of the upper plate; Fig. 4 is a top plan view of the lower plate; Fig. 5 is a plan view of the roller bearing; and Fig. 6 is a section therethrough taken on the line 6—6, Fig. 5.

Motor trucks known as maximum traction trucks have the car body pivoted to the truck at a point in a vertical plane very close to the driving axle, thus necessitating the use of peculiar swivel plates having segmental bearing portions and provided with arms having the pivot pin at their outer ends, such an arrangement being shown in Patent No. 739,364, September 22, 1903, granted to Charles Uebelacker. My invention relates to this type of swivel plate and improves the same, as will now be more fully described.

In the drawings the top plate is shown at 1 and the bottom plate at 2. The top plate is arranged to be connected to the bolster or transom 4 of the car body, being provided for this purpose with an upwardly projecting flange 5 through which are holes for receiving bolts or rivets 6, and also having in its main body portion holes 7 for the same purpose. The bottom plate 2 is adapted to be attached to the bolster or transom 8 of the truck, being provided for this purpose with downwardly projecting lips or flanges 9 and with bolt or rivet receiving holes 10. Both of the plates are of general segmental form, as shown in the plan views. Both are provided with the projecting or arm portion, 11, having at their outer ends a pivotal connection, said pivotal connection

forming the centers for the segmental bearing portions.

According to my improvement the swivel connection is formed by providing the arm 11 of the bottom plate with an integral boss 12 arranged to project through an opening 13 formed in the arm of the top plate and forming the king pin, thus dispensing entirely with a separate king pin or the like. The pivot boss 12 of the lower plate is surrounded at its base by a bearing face 14 and a similar bearing face 15 is formed around the opening 13 in the top plate. Preferably the boss 12 is hollow, as shown, in order to reduce weight and provide a chamber for a lubricating agent, such as oil soaked waste, a lubricating hole 16 being drilled through the wall of the boss near its bottom so that the lubricant can flow out to the contacting wearing faces of the plates. Another improvement consists in providing a suitable roller bearing for the plates. Each of the plates is provided with a suitable segmental bearing face, that on the lower plate being indicated at 18 and that on the upper plate at 19. Between these segmental bearing faces are located anti-friction members comprising rollers 20 held in a spider 21, said rollers being slightly conical, as shown, and the spider being segmental, in order to adapt the same to the movement of the plates around their pivots. (The rollers 20 and their holder or spider 21 may be termed a "roller bearing element"). To hold the rollers against radial displacement the top plate is provided at the larger end of the rollers with a downwardly projecting lip or flange 22 which prevents outward movement of the rollers. Preferably the bottom plate has no obstruction at the outer edge of the bearing face 18, as shown in Fig. 2, so as to permit the free escape of dirt. The roller bearing element is also prevented from moving too far in either direction due to the swinging of the car body by providing suitable interengaging stops on the spider and plates. For this purpose the bottom plate is provided with a pair of projections or lugs 24 on the inner side of the bearing face and with a similar pair of lugs 25 on the outer side of the bearing face, while the spider is provided with an inwardly projecting portion 26 forming shoulders 27 to contact with the lugs 24 and with the outwardly project-

ing portion 28 providing shoulders 29 for contacting with the outer lugs 25. By this means the roller bearing element is prevented from moving too far in either direction.

With swivel plates of the character described the weight of the car body is carried principally on the segmental bearing faces and these are therefore subjected to considerable wear. By providing the segmental roller bearings described friction and wear is very largely reduced. At the same time I obtain all of the advantages inherent to the usual swivel bearings by reason of having the center of oscillation removed a considerable distance to one side of the bearing faces.

What I claim is:

1. A roller bearing swivel connection between trucks and car bodies comprising a plate for connection to the truck provided with a bearing face having its outer edge lower than said face, a plate for connection to the car body having a cooperating bearing face and outside the same a downwardly projecting flange or lip, a roller bearing element between said bearing faces, the rollers having their outer ends overlapped by said flange or lip and in contact therewith, and a suitable center pivot.

2. Swivel connections between motor trucks and car bodies comprising a plate for connection to the truck and provided with a

segmental bearing face, its outer edge lower than said face, a plate for connection to the car body having outside of the same a downwardly projecting flange or lip, a segmental roller bearing element between said bearing faces, the rollers having their outer ends overlapped by said flange or lip and in contact therewith, and a center pivot beyond said segmental bearing faces and at the central point of swing of the swivel connection.

3. Swivel connections between motor trucks and car bodies comprising a plate for connection to the truck provided with a segmental bearing face having its outer edge lower than said face and with a projecting arm provided with an integral king pin, a plate for connection to the car body having a cooperating segmental bearing face and having outside the same a downwardly projecting flange or lip and having a projecting arm provided with a hole adapted to receive said integral king pin, a segmental roller bearing element between said bearing faces, rollers having their outer ends overlapped by the said flange or lip and a pivot at one side of said segmental bearing faces.

In testimony whereof, I the said ANDREW CHRISTIANSON have hereunto set my hand.

ANDREW CHRISTIANSON.

Witnesses:

ROBERT C. TOTTEN,
J. R. KELLER.