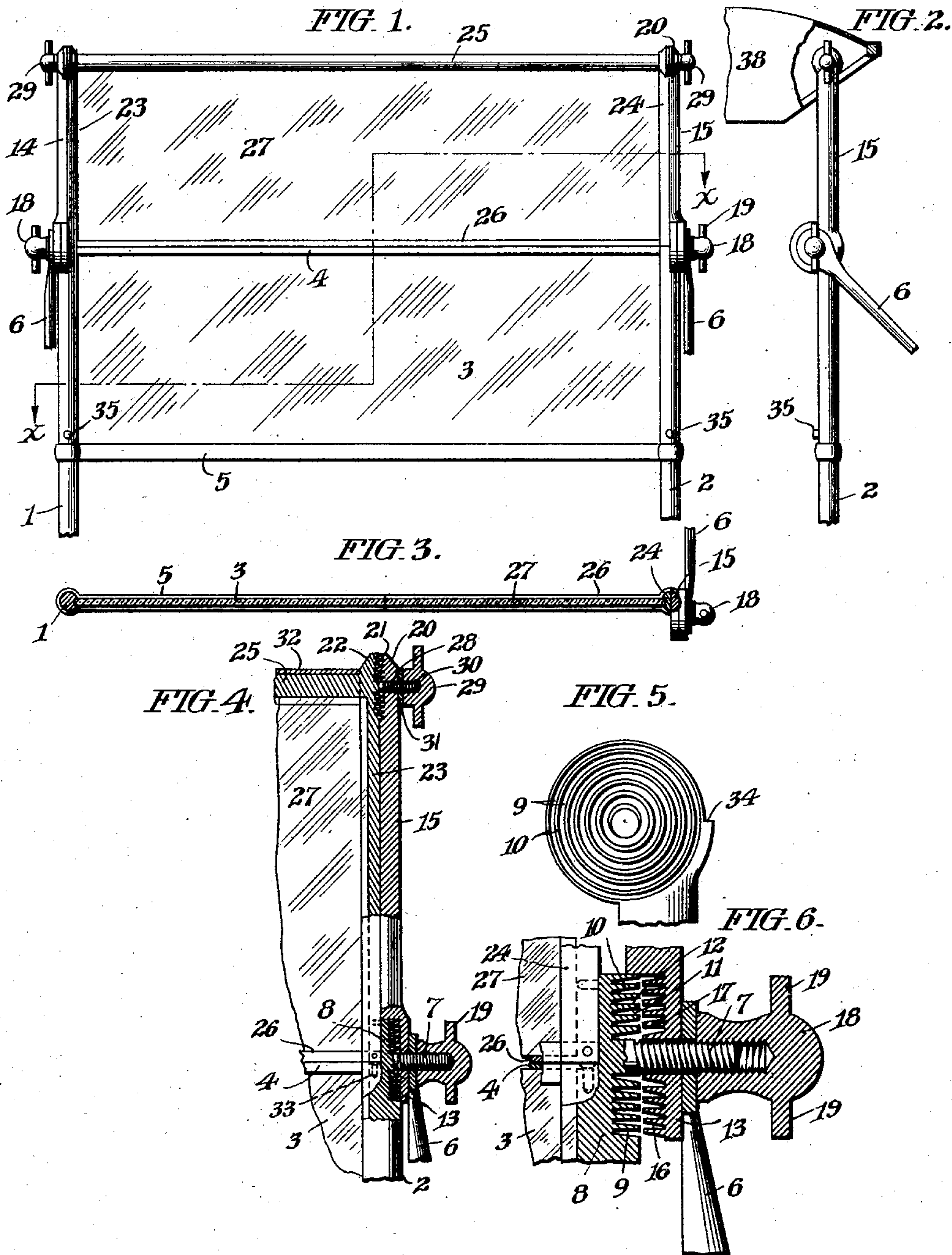


F. W. AURIG.
 AUTOMOBILE WIND SHIELD.
 APPLICATION FILED FEB. 19, 1910.

966,785.

Patented Aug. 9, 1910.

2 SHEETS—SHEET 1.



Witnesses

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 A. Helen Abplanalp.

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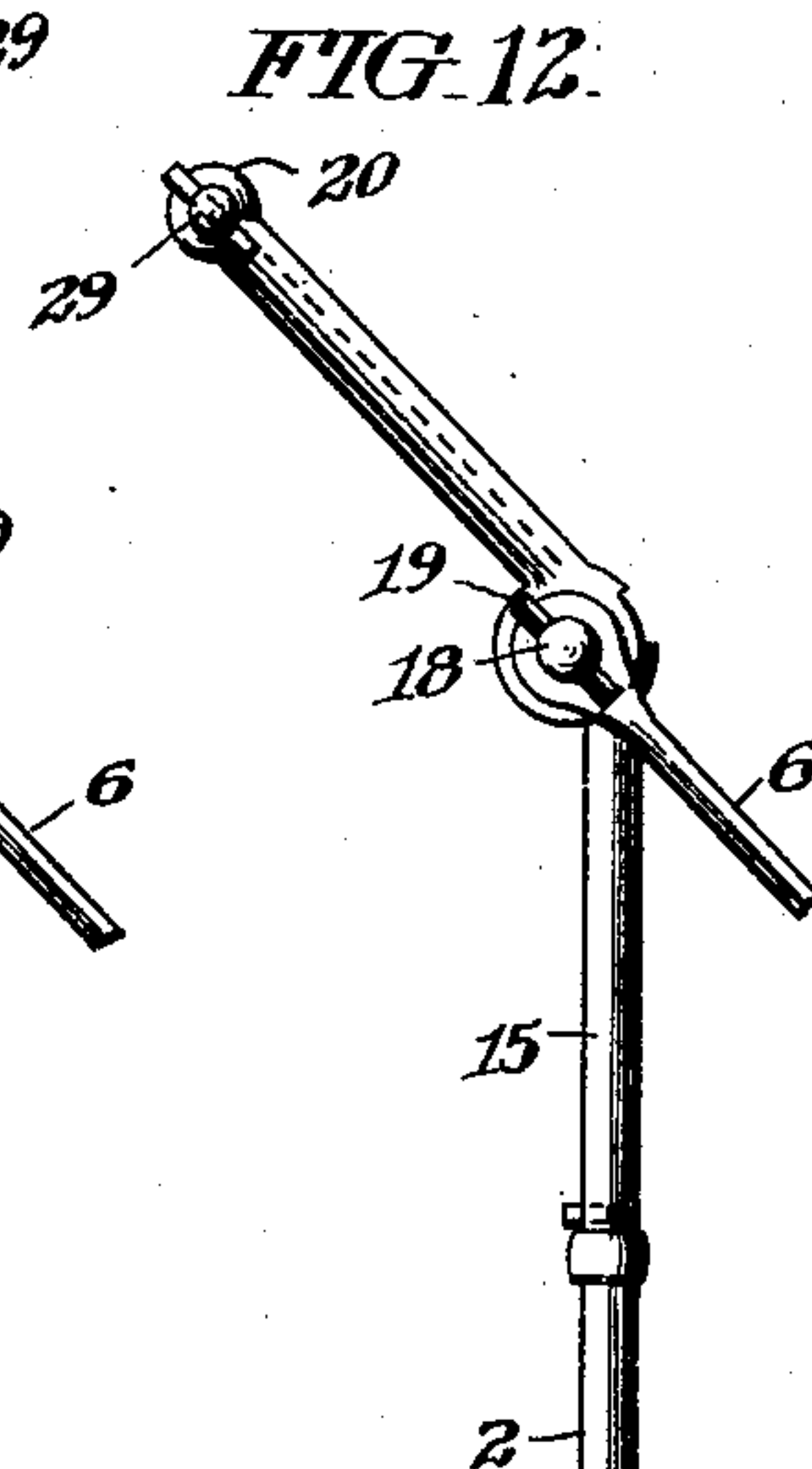
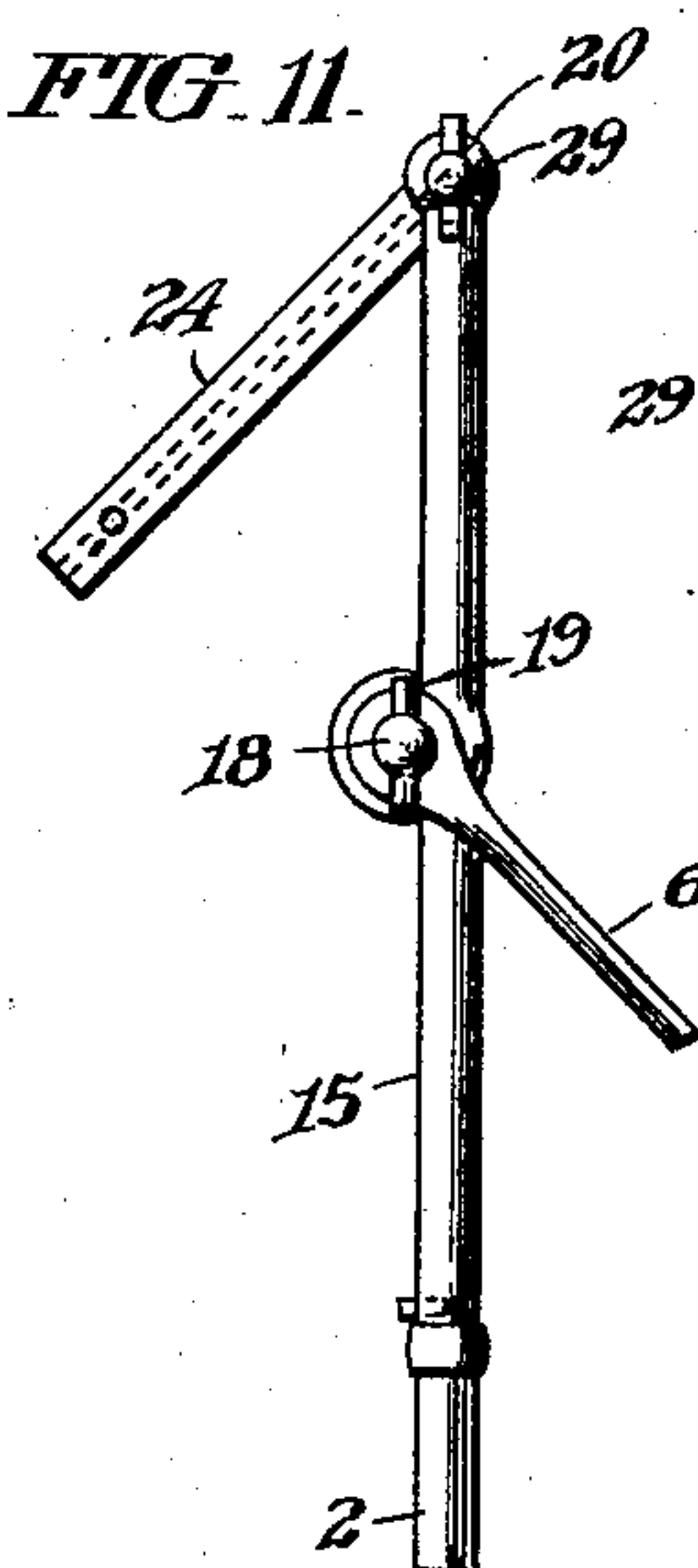
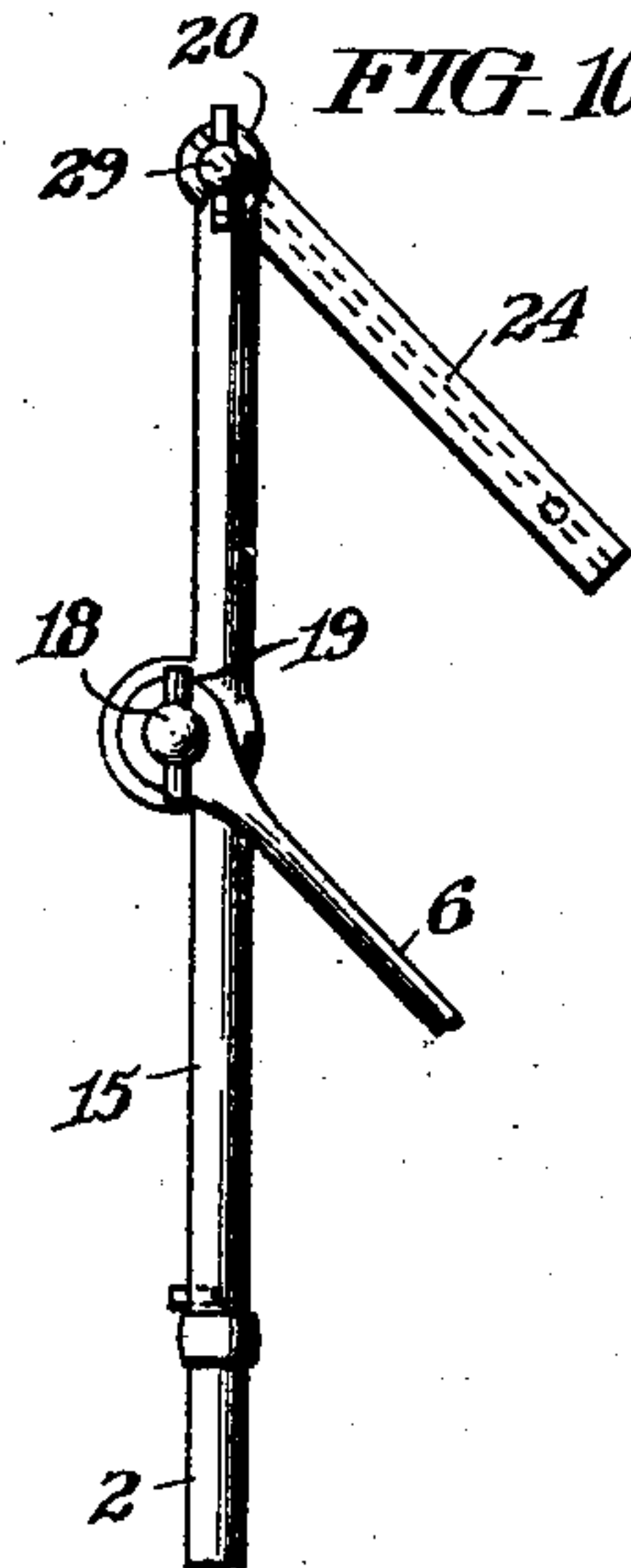
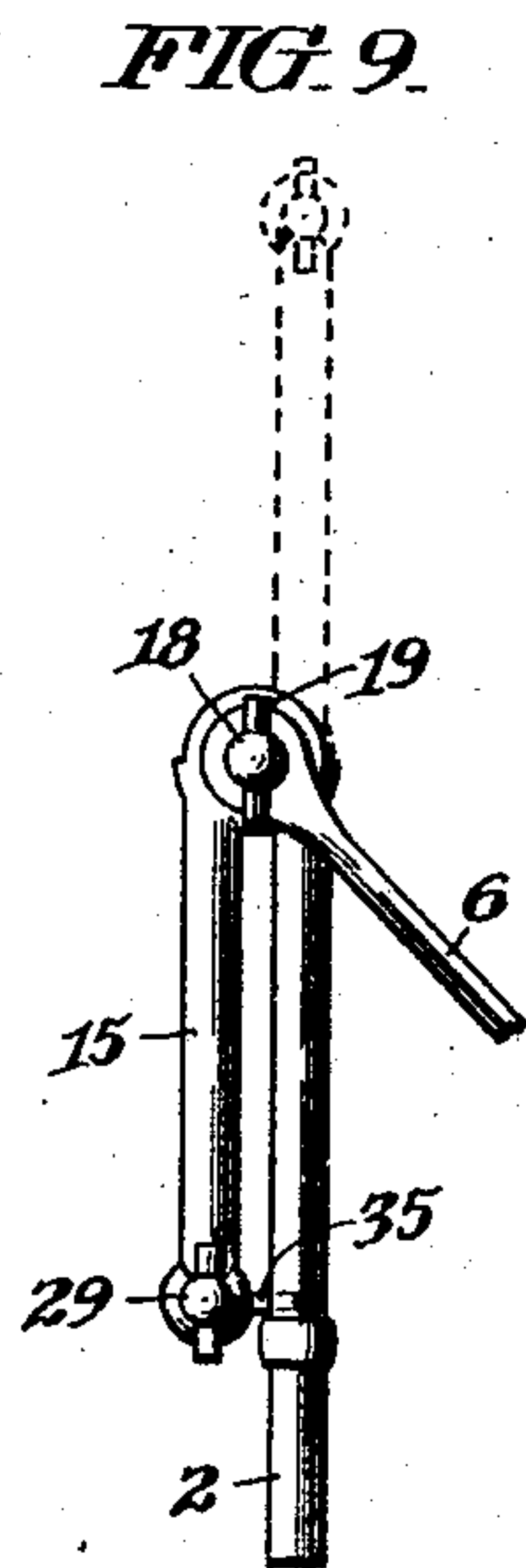
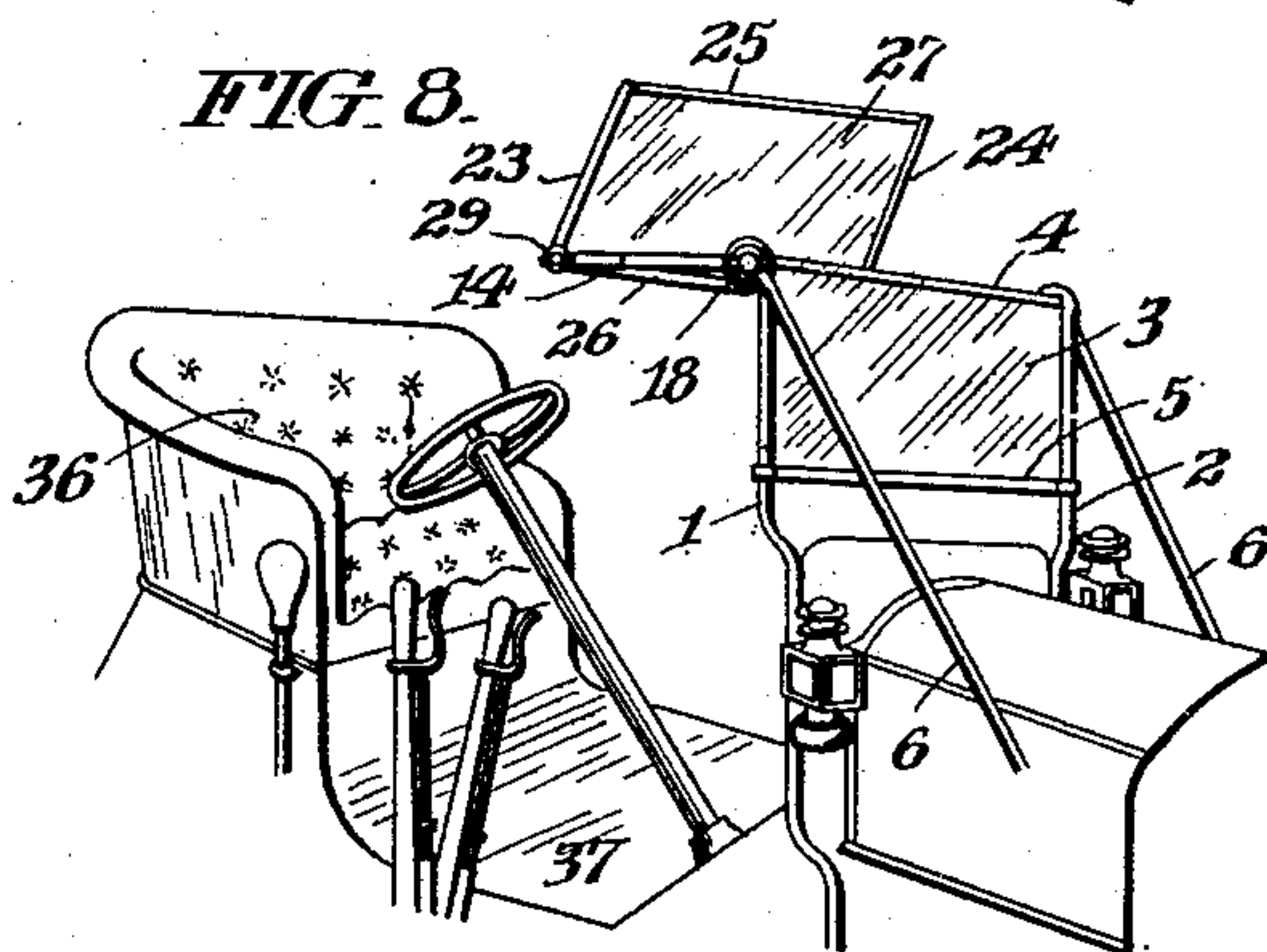
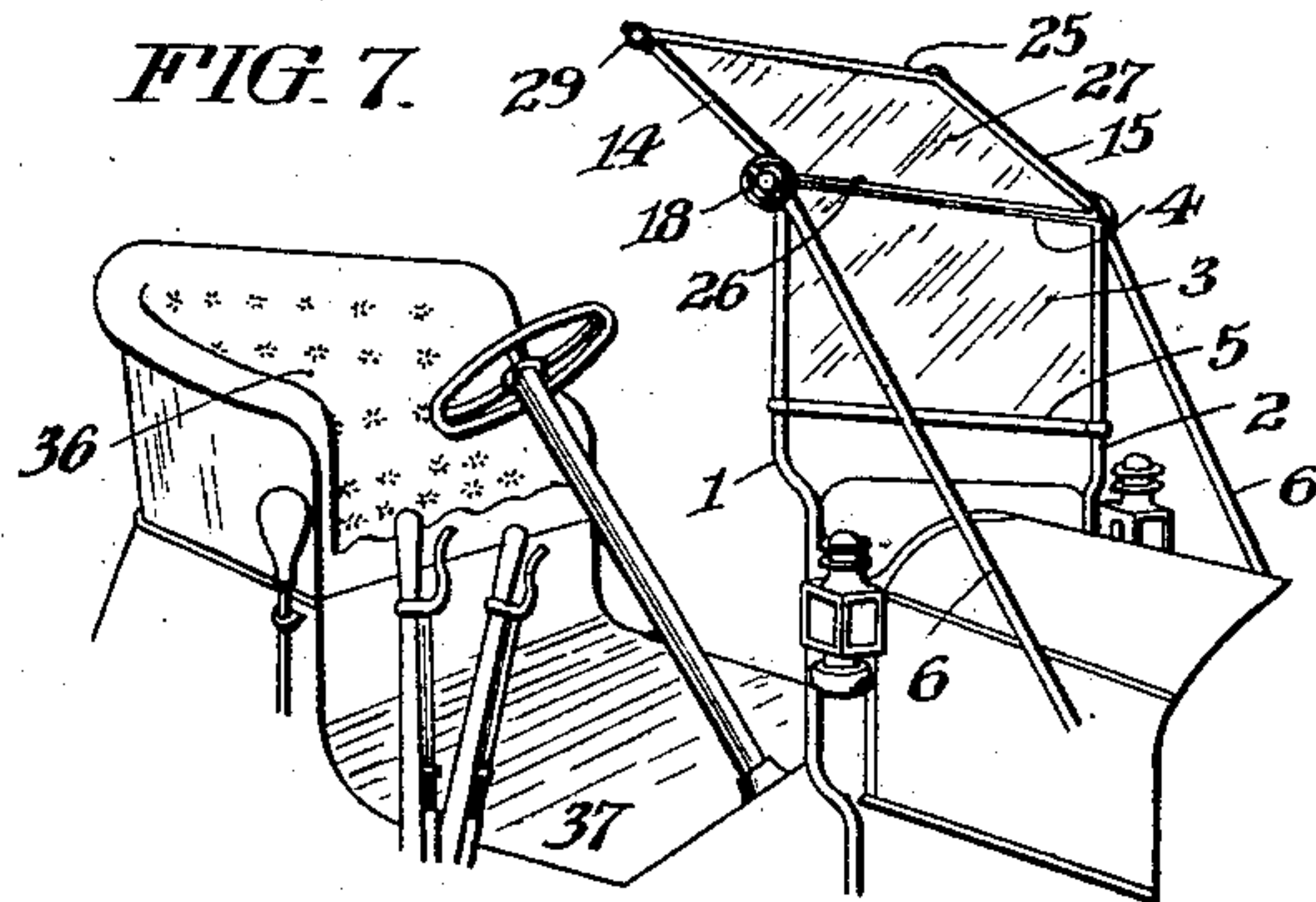
Attorney

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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AUTOMOBILE WIND-SHIELD.

966,785.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed February 19, 1910. Serial No. 544,743.

To all whom it may concern:

Be it known that I, FRANK W. AURIG, a citizen of the United States, residing at Philadelphia, in the State of Pennsylvania, have invented a new and useful Automobile Wind-Shield, of which the following is a specification.

The purpose of my invention is to provide a wind shield which shall be adjustable, to most quickly and most desirably assume the desired positions and to be firmly clutched against movement and rattling in any of the positions assumed.

A further purpose of my invention is to provide a wind shield capable of having its upper sash suitably moved out of the way entirely, if desired, and having the said upper sash pivoted at the top of the sash so that it can be moved without producing an opening at the top.

A further purpose of my invention is to secure positions and control of a wind shield which have not previously been attained.

A further purpose of my invention is to pivot a sash at its top in the top of the structure in close proximity to the cover of a vehicle and to provide for movement of said sash either forward or backward upon said pivot, and desirably to provide for the movement of the pivot itself to permit the sash to occupy any desired position about the movable pivot point. I attain this result without necessity for use of a brace of any kind.

A further purpose of my invention is to provide a wind shield capable of adjustment at the top in close proximity to a cover or hood, if such be used, and which shall be capable of assuming the various positions in which the present wind shields can be placed.

I recognize that various forms of my invention may be made to secure some of the advantages thereof but do not attempt to illustrate all the different forms in which my invention may appear. I have illustrated and described that form thereof which I have found most desirable in use without intending to suggest that it is the only form in which my invention may be used and with knowledge that such is not the case.

Figure 1 is a front elevation of one structure embodying my invention. Fig. 2 is a side elevation of a structure such as shown

in Fig. 1 with broken cover shown. Fig. 3 is a section upon line $x x$ of Fig. 1. Fig. 4 is a broken vertical section through a portion of Fig. 1 showing the joints thereof. Fig. 5 is an enlarged elevation of one of the clutch members forming the joints. Fig. 6 is an enlarged section through a clamp joint showing the parts in separated position. Figs. 7 and 8 are partial perspective views of automobiles with my wind shields in different positions. Figs. 9, 10, 11 and 12 are side elevations of a structure embodying my invention in different positions in the drawings.

1, 2 designate the vertical front shield supporting bars or rods usual in automobile construction and supporting between them a pane or sash, 3, of any suitable character with frame members 4 and 5, at the top and bottom thereof to retain the same. The bars or rods 1, 2 are braced by rods 6 which pass from the studs 7 upon the bars or rods to any suitable forward position upon the automobile, bracing the sash frame.

Upon the upper ends of each of the bars or rods 1, 2 I form a novel clutch member 8 comprising a plurality of annular grooves 9 and projections 10 which are preferably made nearly straight upon their sides, having all of the slope of the annular teeth thus formed upon the one side 11 leaving the opposite face of each such projection or tooth 12 parallel to the axis of the clutch. The stud is shown as a part of the clamp or clutch member 8 and as projecting from the center of the face of the clutch and at right angles to it. Any form of bolt might be used for this purpose.

I form a cooperating clutch member 13 upon each of the frame rods or bars 14, 15 providing similar grooves 16 and teeth 17 having the slope of the teeth or projections upon the member 13 also all upon one side thereof and forming and proportioning the cooperating clutch members so that the teeth of one will pass into the spaces of the other with clearance between the straight portions of the teeth and engagements between the tapered edges thereof.

I proportion the teeth and spaces upon the cooperating clutch members so that the teeth of one shall at no time engage the bottoms of the grooves of the other and prefer to make the annular teeth thin enough to permit slight expansion of the outer of each

engaging pair of teeth with slight compression of the inner one thereof to attain a most intimate engagement therebetween. I recognize this expansion and contraction, however, will be quite minute in any event and that dependence for it and also for the greater part, in many instances all the clutch action must be placed upon the depth of engagements of the teeth and the small angle by which they depart from parallelism with the axis and the resultant large wedge action between them. I recognize that it is better to have these annular cooperating teeth extend completely about the circumference without interruption rather than at intervals only. My preferred method of manufacture of these bars and clutch members is to cast them with the clamp member integral with the bar, with the necessary machining to complete them to any desired degree of accuracy. I recognize the clutch members may be made separate and rigidly attached to the bars in any desired way. The rod or brace 6 on each side is placed outside of the joint and serves as a washer to prevent strain upon the upper, movable, frame member 14 or 15 tending to loosen the hand nut 18 by which the joint is tightened and which I have shown as conveniently provided with the projecting pins 19.

The frame members 14 and 15 are provided at their upper ends 20 in any suitable manner with corresponding clutch members 21 which cooperate with clutch members 22 upon a frame or sash having side bars 23, 24, top bar 25 and bottom bar 26, inclosing any suitable transparent medium 27. The upper clutch members are held together by means of a bolt 28, attached to each of them and a hand nut 29 engaging therewith. I preferably flatten the bolt as at 30 for the purpose of applying a washer 31 to prevent relative movement of the parts tending to turn the nut 29. I prefer to make the upper frame member 25 of tubular form as illustrated at 32 in Fig. 4.

I secure the frame parts together in any suitable manner as by screw 33. I have illustrated the outer frame members 14, 15 as capable of movement through approximately 180° only, the clutch members in their upper position engaging by means of projections 34, to prevent further movement. In the lowered position of the upper frame as best seen in Fig. 9, I prevent contact, and therefore rattling, of the members by means of any resilient buffers 35. The upper outer frame member can thus be swung about its joint into any positions between the vertical shown respectively in Figs. 2 and 9 and I have shown other positions in Figs. 7, 8, and 12. Except as it is held by its own clutch, the upper sash is free to turn throughout the entire circumference and I have shown it turned with respect to the frame carrying

it in Figs. 8, 10 and 11. Pointing out, however, that these are only three of a great variety of positions which it may assume and that the number of combinations of positions by reason of the shifting of the frame by which the sash is carried is much greater.

I am familiar with upper sashes carried by swinging frames and that are pivoted within such frames in transom fashion, either at the center or at some point not very far therefrom and have invented my structure with a view to overcoming the objectionable features present in this structure noticeable particularly because space cannot be provided between the two sashes for clear view in rainy or misty weather without at the same time providing an undesirable opening at the top of the sash with all of its attendant objectionable features.

In Fig. 7 I have shown the shield tilted with reference to the position of the operator occupying seat 36 of the automobile 37. In Fig. 8 I have shown the shield in another tilting, so-called ventilator position which is one of many in which my device may be placed, and of which ventilator positions I have shown another in Fig. 11.

In Fig. 9 I have shown the frame carrying the sash as folded down out of the way, leaving a wholly unobstructed view above the lower sash.

In Fig. 10 I have shown the position in which the shield is preferably placed for rain view.

In Fig. 12 I have shown a position assumed by the sash and frame approximating that of Fig. 7.

In Fig. 2 I have shown the preferred relation between the position of the shield itself and the top 38, where any top is used, most desirably bringing the shield up close enough to it to form any desired degree of proximity thereto. The cover or top shown may, of course, be omitted altogether and may be varied greatly in position and character.

It will thus be seen that I have attained the desirable adjustment of the upper sash either forwardly or rearwardly in its entirety without involving a corresponding rearward or forward extension of a part of it and without altering the relation of the top of the sash and the top of the vehicle or the height of the top of the sash in the air. It will be seen also that I have attained a complete bodily adjustment of the top sash about the upper end of its supporting frame throughout 360° movement and without in any way interfering with the adjustment of the frame carrying this sash in its many intermediate positions then its range of movement approximating 180°. It will further be seen that I have provided a clamp for the upper sash-carrying frame and for

the sash, that will hold the parts rigidly in any position, avoiding rattling and insuring against accidental jarring movements by threads in the same direction, so that one
5 will tend to tighten by movement which in the other would tend to loosen the clamp.

Having thus described my invention what I regard as new and desire to secure by Letters Patent is:

10 1. In a wind shield, a sash, a movable frame swinging thereabout, clamp members upon the sash and comprising concentric grooves and ribs and coöperating clamp members comprising concentric ribs and
15 grooves interfitting with the members upon the sash and having the taper upon one side only.

2. In a wind shield, a plurality of pivoted frames and coöperating clutch members between adjoining frames and comprising in
20 each clamp interfitting annularly grooved and ribbed clutch faces having one side of

each groove and rib parallel with the axis and the other at a slight angle therewith.

3. In a wind shield, a fixed frame and 25 movable frame pivoted at the top thereof, an upper sash in the movable frame and capable of moving throughout the circumference therein and coöperating clutch members united to the movable frame and sash re- 30 spectively and comprising each a plurality of concentric interfitting clutch surfaces, tapered each upon one side or edge only.

4. In an automobile wind shield, a movable sash-carrying frame, a sash therein 35 and a pair of clutch members controlling the position of the sash with respect to the frame and comprising concentric interfitting grooves and ribs, engaging rib to rib upon one side of each rib only.

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Witnesses:

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WILLIAM STEELL JACKSON.