

J. M. McQUILLAN.
WIND SHIELD.
APPLICATION FILED AUG. 30, 1912.

1,052,078.

Patented Feb. 4, 1913.

2 SHEETS-SHEET 1.

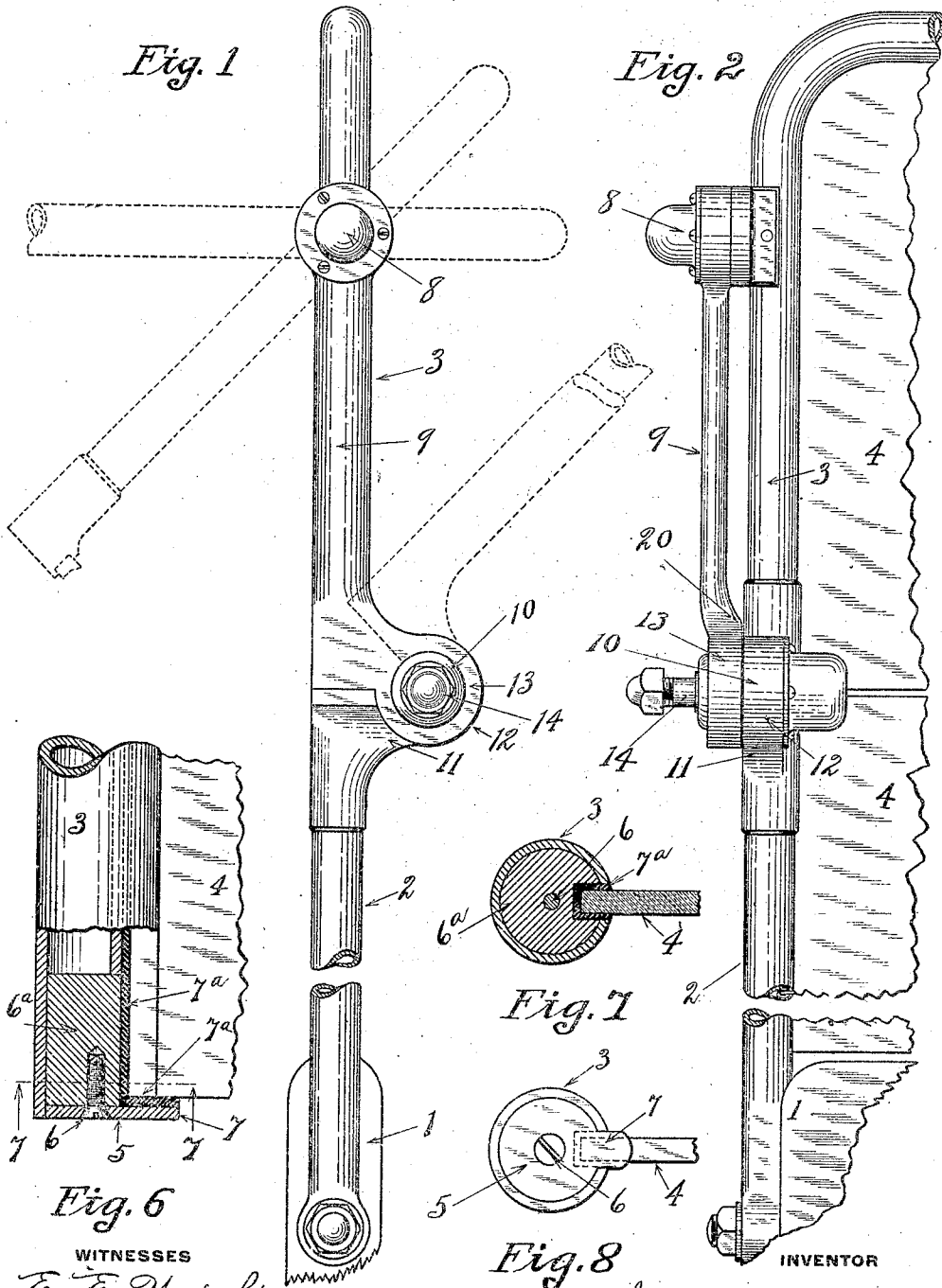


Fig. 6
WITNESSES
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Fig. 8
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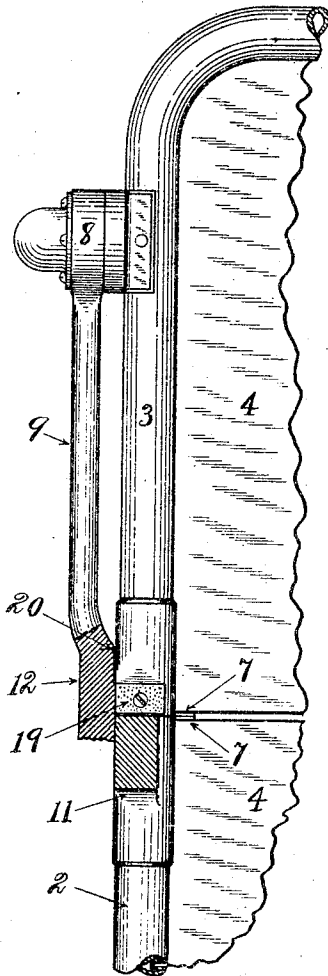


Fig. 3

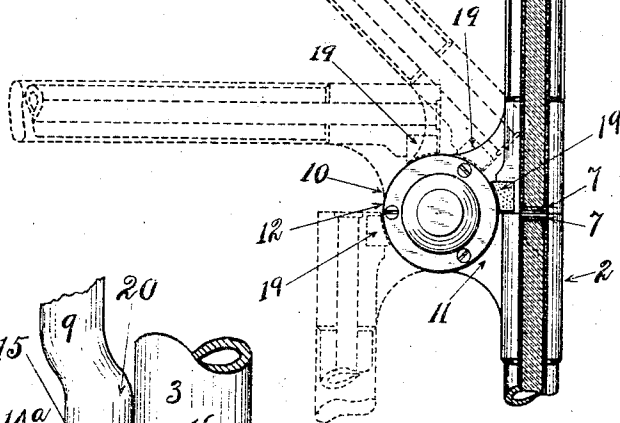
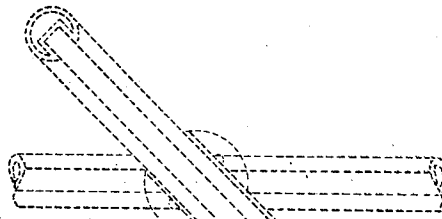


Fig. 4

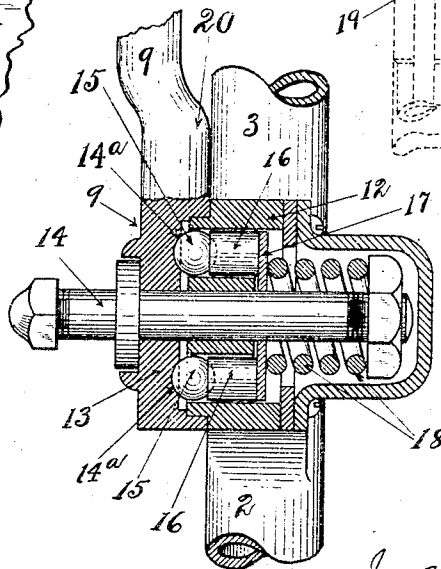


Fig. 5

WITNESSES

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UNITED STATES PATENT OFFICE.

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WIND-SHIELD.

1,052,078.

Specification of Letters Patent.

Patented Feb. 4, 1913.

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To all whom it may concern:

Be it known that I, JACOB M. McQUILLAN, a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Wind-Shields, of which the following is a specification.

This invention relates to shields or screens for motor road vehicles, usually called wind shields.

The invention relates to that type of shield which is formed of sections adjustably connected together in such a manner as to permit the upper section to be moved so as to open a space between itself and the lower section, and usually called rain vision shields.

The object of the invention is to improve the construction of wind shields of the character described to render the same more durable and less liable to rattle out of shape under the jolting of the vehicle.

The invention comprises the construction and arrangement of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1, is a side elevation of the shield, indicating in dotted lines various positions of the upper section; Fig. 2 is a rear elevation illustrating the arrangement of the essential parts; Fig. 3 is a rear elevation with hinge broken away to better illustrate certain parts; Fig. 4 is an inside view in section, indicating in dotted lines various positions of the upper member of shield; Fig. 5 is a section through the hinge illustrating its interior construction; Fig. 6 is a portion of the vertical members of the shield-frame partly in section, illustrating the method of holding the glass; Fig. 7 is a cross section on the line 7-7, Fig. 6; and Fig. 8 is an end view of Fig. 6.

In the drawings the reference numeral 1 indicates the usual base, as the dash board or similar member of a motor or other vehicle, or any other base member to which the shield is attached. The shield comprises a lower section 2 and an upper section 3, the former being secured to the base member in any suitable way. Each section comprises a three-sided frame of any desired construction or material, but preferably formed of metal tubes provided on their inner sides with grooves to receive the glass panels 4, as

usual, and which may be held in the frame by any suitable means, such as the plates or disks 5 countersunk into the ends of the side members of the frames by suitable means such as a screw 6, and provided with tongues 7 underlying or overlapping the free edges of the glass. Cushioning material, shown at 7^a, is interposed between the edges of the glass and the clips 7 and in the grooves in the frame.

The upper section 3 is pivotally connected near its upper edge, as at 8, to the upper end of arms or links 9 whose lower ends are hinged at 10 to the upper edge of the lower section, thereby permitting the upper section to be moved to the dotted line positions shown in Figs. 1 and 4 to open a space between itself and the upper edge of the lower section, as well as permitting the upper section to be set at an inclination to the lower section.

Any desired form of hinges may be used at 8 and 10, preferably some form of automatically locking hinge, in order that the upper shield section may be set in its desired position with the greatest facility.

Rain vision shields of the character described, as heretofore constructed have been weak and not very durable, due to the fact that the upper shield section had practically no support except at the hinge or pivotal connection 8, and had more or less vibration endwise as well as back and forth, so that under the jolting of motor cars such shields have soon become so loose and rattled to such an extent as to be objectionable. Furthermore, the wind pressure against a rapidly moving car tended to swing the lower edge of the upper section rearwardly, and the usual automatic hinges have not been able to prevent this and were subjected to very considerable strain which soon wore them out. I overcome these defects in the shield illustrated by providing supports for the upper shield section in addition to its hinge connections at 8, and which prevent the evils referred to. To this end the lower edge of the upper shield section is supported both against stresses tending to move it laterally of the motor car and also against wind pressure tending to swing it backwardly. This is effected by the construction and location of the arms 9 and hinges 10. Each hinge 10 comprises a member 11 secured to the upper

end of a side member of the lower frame 2 and having a disk 12 of material width offset to the rear and lying directly in the plane of the side members of the upper shield frame 3 and in such position that its periphery is formed by a circle struck about the center of the hinge axis by a radius equal to the distance from the lower rear edge of the upper shield frame 3 to the center of said hinge axis, so that no matter at what angle the arms 9 and upper frame section are adjusted the lower ends of the side members 3 of the upper frame bear constantly against the periphery of this disk 12 and said disk forms a support for the lower edge of the upper section and prevents the same from being pushed backwardly by wind pressures, and also relieves the hinges 8 of unnecessary strain.

The lower end of arm 9 is provided with a rearwardly offset disk portion 13 cooperating with disk 12, and secured thereto by the hinge pintle or bolt 14, one of said members being provided with recesses 14^a for receiving balls or similar locking members 15 and studs or pins 16 held in perforations in the other of said disks and constantly pressed into or toward the locking recesses by means of a suitable follower 17 and spring 18. This forms an automatic locking hinge of a well known type. The specific form of hinge is, however, not of importance. The essential point is to have the rearwardly projecting disk portion 12 of the lower hinge member of such size and so located that its periphery is located in the arc traversed by the lower rear surface of the upper frame member when the latter and arms 9 are tilted rearwardly, as shown in Fig. 4, and offer a support for the lower edge of the upper shield member in all positions of the arms 13. In order to prevent rattling and also wear of the metal it is preferred to attach a cushion member, such as a piece of leather 19, to the face of the lower end of the upper frame member, preferably inserting the same in a suitable groove or recess therein.

The hinge 8 may be of the same general construction as the hinge 10 or of any other automatically locking type.

In order to permit free movement of the upper section it is desirable that the upper ends of arms 9 be spaced away from the end members of the upper shield frame, such as by offsetting the arms 9, as shown. Such offsetting or spacing of the arms from the end members of the upper frame leaves the frame free to yield under traverse shocks and imposes unnecessary strain upon the arms and hinges and soon wears them loose. To prevent this I offset the lower ends of the arms 13 inwardly, so as to bring portions 20 thereof into such position that when the upper shield section lies parallel with the

arms it substantially contacts with said offset portions of the arms and has bearing thereagainst. Consequently, endwise vibration of the upper shield section does not cause a severe thrust against the upper ends of the arms 9 but is resisted and taken care of directly at the lower ends of said arms, thereby greatly steadying the upper shield section and strengthening the entire structure.

The wind shield described is no more complicated than any automatically locking rain vision shield. Its construction, however, is such that it is much stronger and more durable than similar shields as heretofore constructed, and particularly as to relieving the hinges and arms 9 of severe strain due to jolting of the cars, and also prevents the upper shield section from being accidentally swung out of position by severe wind pressure thereagainst.

The particular features above described can be, and as a matter of fact have been, applied not only to a rain vision shield in which the upper and lower sections are directly in a vertical line, as illustrated, but to a similar shield having the upper section slightly offset forwardly with its lower edge lapping in front of the upper edge of the lower section, and also to a similar shield of what is known as the zigzag type, that is, one in which the lower section is normally inclined, while the upper section is vertical but can be adjusted to any of the various positions indicated in Fig. 1.

What I claim is:—

1. A folding shield for motor vehicles and the like, comprising upper and lower sections, arms hinged at their lower ends to the upper edge of the lower section and constructed and arranged to swing in one direction only from the vertical, said arms having their upper ends hinged to the ends of the upper section, the hinges at the upper edge of the lower section comprising hinge members secured to the lower shield section and having faces concentric with the hinge axes of the lower ends of said arms, the faces of said hinge members lying in position to be contacted by the lower edge of the upper section in all angular positions of the arms in which the upper shield section is in its normal relation to said arms.

2. A folding shield for motor vehicles and the like, comprising upper and lower sections, arms hinged at their lower ends to the upper edge of the lower section and having their upper ends hinged to the ends of the upper section, the hinges at the lower ends of said arms comprising hinge members secured to the lower shield section and each provided with a rearwardly offset disk with its face concentric with the hinge axis and lying in the plane of the upper section frame in position to be contacted thereby

in all angular positions of the arm in which the upper shield section is in its normal relation to said arms.

3. A folding shield for motor vehicles and the like, comprising upper and lower sections, arms hinged at their lower ends to the upper edge of the lower section and having their upper ends hinged to the ends of the upper section, abutments at the upper edge of the lower section having faces concentric with the hinge axes of the lower ends of said arms and lying in the plane of the upper section frame in position to be contacted by the lower edge of the latter in all angular positions of the arms in which the upper shield section is in its normal relation to said arms, and cushioning means interposed between said abutments and the contacting portion of the upper shield frame.

4. A folding shield for motor vehicles and the like, comprising upper and lower sections, arms hinged at their lower ends to the upper edge of the lower section and having their upper ends hinged to the ends of the upper section, the hinges at the lower ends of said arms comprising hinge members secured to the lower shield section and each provided with a rearwardly offset disk with its face concentric with the hinge axis and lying in the plane of the upper section frame in position to be contacted thereby in all angular positions of the arm in which the upper shield section is in its normal relation to said arms, and wearing members

interposed between said disks and the contacting portions of the upper section frame.

5. A folding shield for motor vehicles and the like, comprising upper and lower sections, and arms hinged at their lower ends to the upper edge of the lower section and having their upper ends hinged to the ends of the upper section, said arms being spaced from the ends of the upper section from their upper ends downwardly and having their lower ends offset toward the shield and in position to be contacted by the lower edge of the latter when the said frame is in the plane of said arms.

6. A folding shield for motor vehicles and the like, comprising upper and lower sections, arms hinged at their lower ends to the upper edge of the lower section and having their upper ends hinged to the ends of the upper section and offset therefrom, the hinge at the lower ends of said arms comprising a disk offset rearwardly and lying in the plane of a member of the upper section frame and in position to be contacted thereby, the lower end of said arms being provided with a cooperating disk and being offset inwardly in position to be contacted by the lower edge of the upper section frame when the latter is in the plane of said arms.

In testimony whereof, I have hereunto set my hand.

JACOB M. McQUILLAN.

Witnesses:

ONOLA ROSENSTEEL,

WALTER E. ERICKSON.