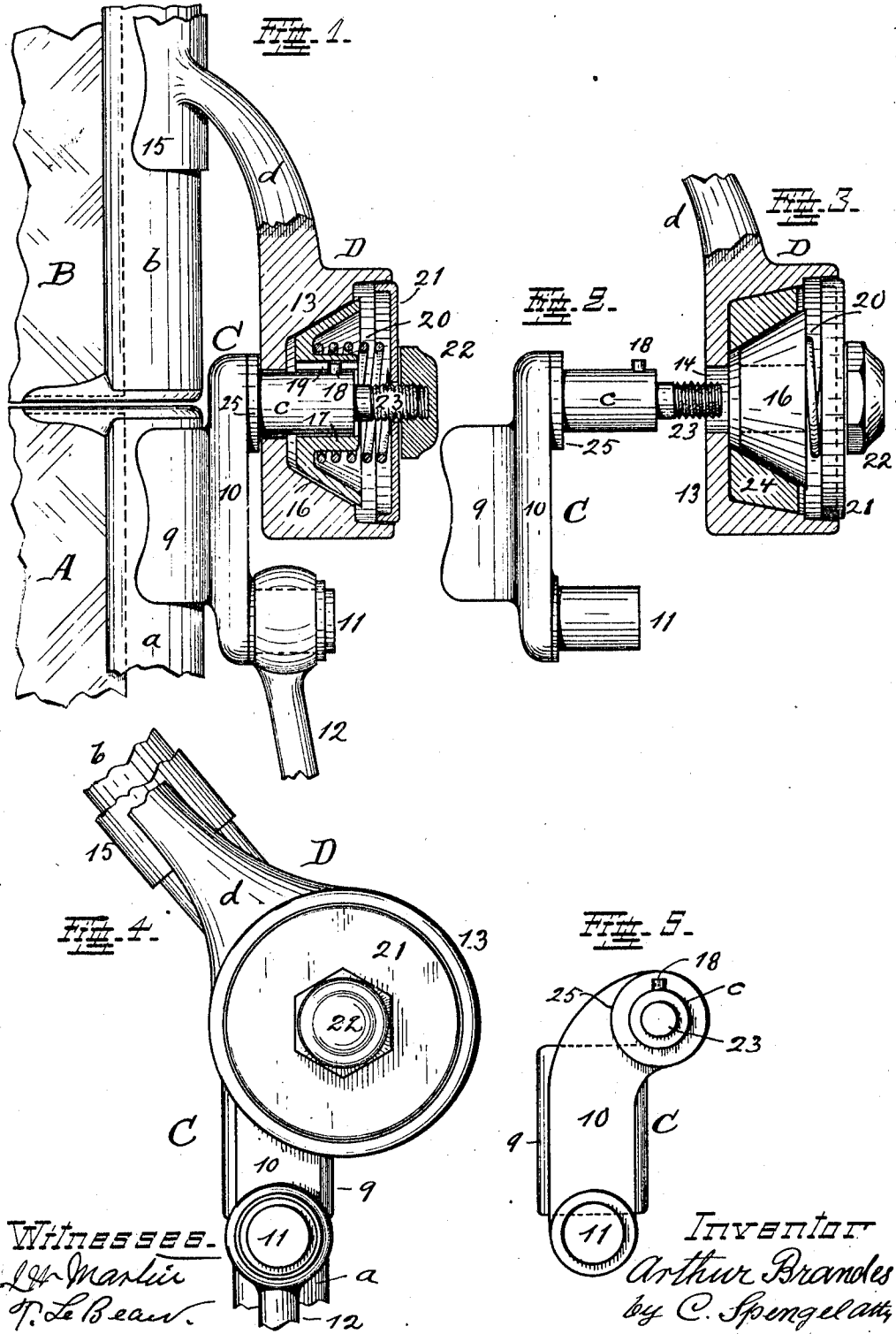


A. BRANDES.
 FRICTION LOCKED HINGE.
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1,004,237.

Patented Sept. 26, 1911.



Witnesses.
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UNITED STATES PATENT OFFICE.

ARTHUR BRANDES, OF CINCINNATI, OHIO.

FRICION-LOCKED HINGE.

1,004,237.

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To all whom it may concern:

Be it known that I, ARTHUR BRANDES, a citizen of the United States, residing at Cincinnati, county of Hamilton, and State of Ohio, have invented certain new and useful Improvements in Friction-Locked Hinges; and I do declare the following to be a clear, full, and exact description of the invention, attention being called to the drawing which accompanies this application and forms a part thereof.

This invention relates to hinges of the kind where one of two parts connected by the hinge is yieldingly held in an angular position to which it has been adjusted with reference to the other part, by frictional resistance which opposes the free movement of the adjusted part.

The invention consists of the particular construction whereby frictional resistance required for the purpose is provided in such a hinge.

In the following specification and particularly pointed out in the claims at the end thereof, will be found a full description of my invention, together with its operation, parts and construction, which latter is also illustrated in the accompanying drawing, in which:—

Figure 1, shows the hinge in vertical, central section. Fig. 2, is a side-view of one of the two complementary hinge-members. Fig. 3, is a vertical section of the other complementary hinge-member. Fig. 4, is a front-view of the hinge. Fig. 5, is a front-view of the hinge-member shown in Fig. 2.

The hinge is described and illustrated in connection with the wind-shield of an automobile. These devices consist usually of a stationary part A and of a flap B movably connected to it by means of hinges, there being one hinge at each edge of the shield. The movable flap may be folded up flat against the stationary part of the shield, or adjusted to any desired angle. It is held in such position by frictional resistance provided in the hinges and which opposes the free movement of one of the complementary hinge-members on the other member, but yields when a certain force is applied.

In the drawing, C indicates one of the complementary hinge-members and D indicates the other member. One of these members, C in this case, is the stationary member of the hinge, it being provided with a flange 9 whereby it is mounted upon the

frame *a* of the stationary shield part A. This flange 9, supports a base 10 from which the hinge-pin *c*, rigidly connected, projects outwardly. 11 is a stud which also projects from this base but performs no function with reference to the hinge, serving merely as a means to permit connection of a brace 12 which sustains the wind-shield on the auto. All of these parts of member C as described are by preference contained integrally in one piece as shown in Fig. 2. The other hinge-member D which is the movable member of the hinge, consist substantially of a hub 13, open on its front-side and conically recessed. It is centrally perforated in the deepest part of the recess at 14, the opening being fitted to receive hinge-pin *c*, which extends through this opening and projects into the recess. An arm *d* on this member attached by means of a flange 15 to frame *b* of the movable flap B of the wind-shield completes the hinged connection of this flap to the stationary part of the wind-shield.

Frictional resistance is provided to prevent the movable member from swinging freely on hinge-pin *c*, and to hold this member in any position to which it has been moved by flap B connected to it, the object being to hold this flap in any position to which it has been adjusted without requiring any special locking-means. This resistance is so graded as to hold the flap in any position under conditions considered normal for a particular purpose, but permitting it to yield when a certain force is applied. This frictional resistance is obtained by means of friction cone 16, fitted into the conical recess of hub 13, so as to be in contact with the surface of this recess and provided with a hub 17, whereby it is mounted upon the extended part of pin *c*. It is held on this latter to prevent it from following hinge-member D in a rotary direction by any suitable means as for instance by a pin 18 on hinge-pin *c* which extends into a slot 19 in hub 17 of the cone. Such rotation may also be prevented by shaping the extended part of pin *c* otherwise than round and by fitting hub 17 against it accordingly. In whatever way this is done, it is done in a manner which permits the cone to have full and unrestricted contact with the surface within the conical recess in the hub and which contact is maintained by a spring bearing against the rear-side of the cone. This spring is seated against a cap 21 which

closes the recess in hub 13 against the outside. The cap is screw-connected to be held in position as for instance by a nut 22 which bears against the outside of it and is seated upon a threaded extension 23 of hinge-pin *c*, which projects through a central perforation in said cap. The frictional contact of cone 16 is maintained against wear by forcing it up on pin *c* and deeper into the conical recess, which is done by moving cap 21 farther into the hub so as to increase the action of the spring correspondingly. The opposing surfaces, that within the conical recess and that of cone 16 in contact with it, may be roughened as for instance by corrugations to promote the frictional resistance, or the recess may be contained in a body of packing 24 of friction-promoting material like wood or fiber as shown in Fig. 3.

It will be noted that no lateral strain tending to either spread or compress the frames of the shield, a frequent cause of cracked glass and due to the action or re-action of the springs, is transmitted to these frames since the action of the springs is entirely taken up in both directions and neutralized within the hubs and between them and shoulders 25 at the base of pin *c* beyond which these effects do not extend.

These hinges permit complete folding up of one part of the wind-shield flatly against the other part and on either side of the same, the particular side being determined by positioning the hinges accordingly.

Having described my invention, I claim as new:

1. In a friction-locked hinge, the combination of two complementary hinge-members, each provided with means for its attachment to the parts to be hingedly connected, one of the hinge-members comprising a hub having a central perforation which is diametrically enlarged on one side of it to form a conical recess, a hinge-pin provided on the other member which is fitted to the perforation in the hub mentioned and extends into

the recess thereof, a friction cone seated upon the pin in a manner to be free to move in respect to the recess to which it is fitted means to prevent its rotation on the pin and a spring to hold it yieldingly within this recess.

2. In a friction-locked hinge, the combination of two complementary hinge-members, each provided with means for its attachment to the parts to be hingedly connected, one of the hinge-members comprising a hub having a central perforation which is diametrically enlarged on one side of the hub to form a conical recess, a cap to close this recess, a hinge-pin projecting from the other member upon which this hub is mounted and which pin reaches into the recess of the hub, a friction cone contained within this recess, a spring provided between the cap and this cone to hold this latter within the recess, means to prevent rotation of the cone with the hub and means to adjust the position of the cap to regulate the action of the spring.

3. In a friction-locked hinge for hinging the two parts of a wind-shield to each other, the combination of two complementary hinge-members, one being in form of a perforated hub provided with an arm extending from it which terminates in an attaching flange for connection to one of the parts of the wind-shield, the other member comprising a base provided with a flange for attachment to the other part of the wind-shield and with a stud to permit connection to a brace and with a hinge-pin which receives the hub of the other hinge-member and thereby completes the hinged connection between the two parts of the wind-shield and means provided on the hinge-pin and in frictional engagement with the hub to retard free rotation of this latter.

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

ARTHUR BRANDES.

Witnesses:

C. SPENGLER,
T. LE BEAU.