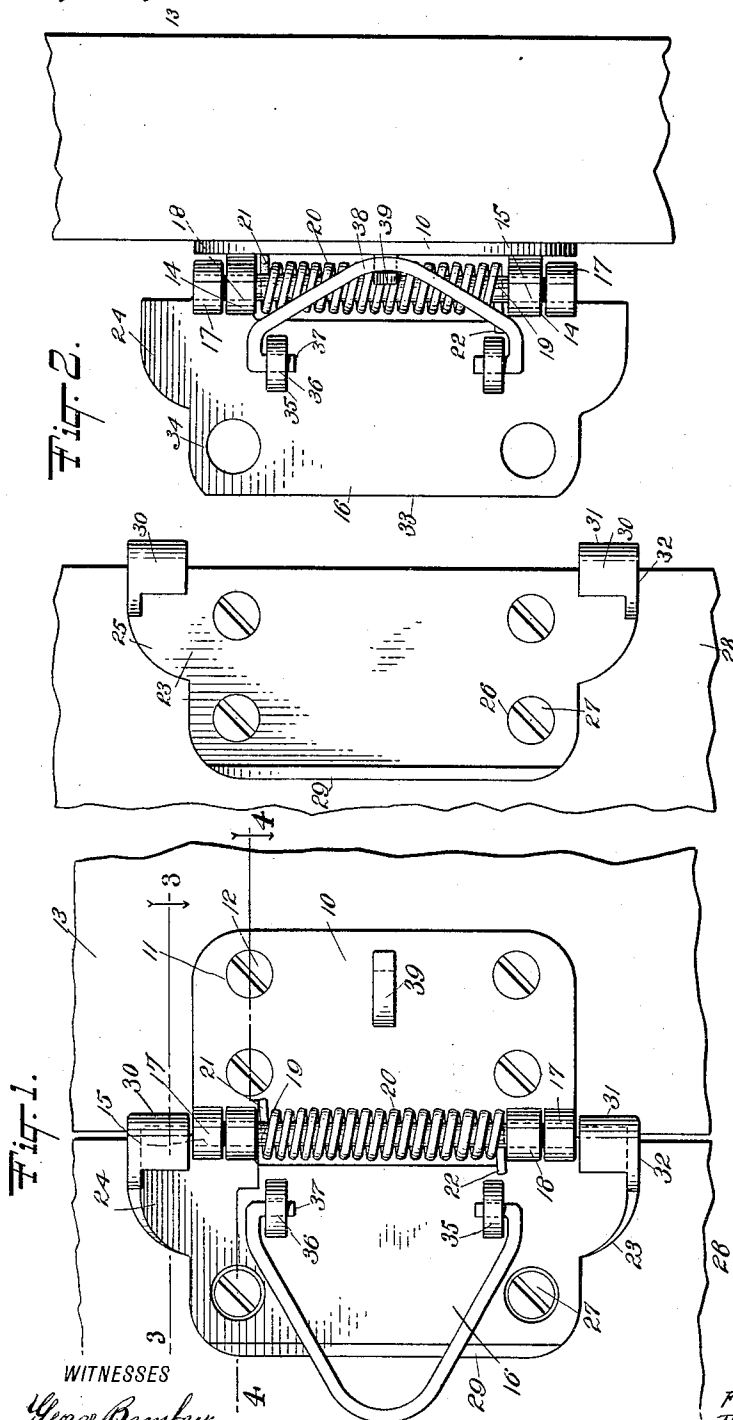


F. W. HEETER & P. KLINE.
HINGE.
APPLICATION FILED OCT. 16, 1912.

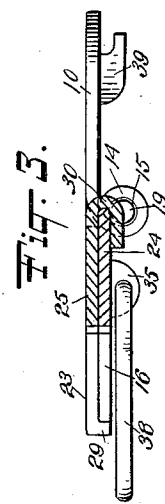
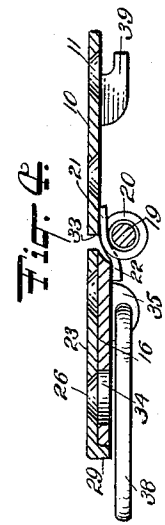
1,057,960.

Patented Apr. 1, 1913.



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UNITED STATES PATENT OFFICE.

FRANK W. HEETER AND PHILIP KLINE, OF RACINE, WISCONSIN.

HINGE.

1,057,960.

Specification of Letters Patent.

Patented Apr. 1, 1913.

Application filed October 16, 1912. Serial No. 726,054.

To all whom it may concern:

Be it known that we, FRANK W. HEETER and PHILIP KLINE, both citizens of the United States, and residents of Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Hinges, of which the following is a full, clear, and exact description.

This invention relates to hinges for use with doors, and has reference more particularly to a hinge comprising relatively movable leaves, one of which is adapted to be attached fixedly to a support, and a separate member, also adapted to be attached fixedly to a support, and having a detachable connection with the other leaf, so that the hinge proper can be easily separated from said member when the parts are in certain positions.

The object of the invention is to provide a simple, strong and durable hinge which can be used for the various purposes to which hinges are usually put, which can be inexpensively produced, which can be readily attached to or detached from the door frame or other support, without the removal of retaining bolts, screws or nails, and which cannot be easily accidentally detached.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claim.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts, and in which—

Figure 1 is a front elevation of a hinge constituting an embodiment of our invention; Fig. 2 is a similar view showing the hinge proper detached from the separate member, certain of the other parts being shown in different positions. Fig. 3 is a transverse section on the line 3—3 of Fig. 1; and Fig. 4 is a similar view on the line 4—4 of Fig. 1.

Before proceeding to a more detailed explanation of our invention, it should be clearly understood that while the hinge can be advantageously employed for a variety of purposes, it is designed particularly for use with screens, storm doors, shutters and the like. It is often necessary to remove structures of this kind temporarily, and it is of

course desirable to effect such removal, if possible, without removing any bolts, screws, nails or the like. Our invention therefore, provides a hinge comprising the usual leaves, one of which is permanently attached to the door or the support. A separate member is also permanently attached to the other part, *i. e.*, the support or the door. This separate member and the other leaf of the hinge have a detachable connection which permits them to be readily assembled or separated in predetermined positions of the hinge leaves, so that the door can be removed expeditiously and with little difficulty.

Certain of the details of construction shown for example herewith, form no part of the invention, and can be varied in accordance with individual preference and special conditions, without departing from the underlying spirit of the invention.

Referring more particularly to the drawings, we provide a hinge having a leaf 10 of suitable size and form. The leaf has a number of openings 11 in which are received retaining screws 12 by means of which the hinge is fastened, preferably to a swinging member, 13, such as a screen door. The leaf 10, like the other parts of the device is fashioned from cast iron or any other material provided for the purpose. It has at corresponding corners, outwardly disposed extensions or lugs 14 having formed therein alined openings 15. A second hinge leaf 16 has similar lugs or extensions 17 having formed therein alined openings 18. The lugs 14 are so spaced that they will fit in between the lugs 17, whereby all the openings 15 and 18 are alined and can receive the hinge pin or spindle 19, by means of which the two leaves are pivotally joined. A spring 20 is mounted upon the spindle and have its ends 21 and 22 pressing respectively against the leaves 10 and 16 to hold these in normal, predetermined positions.

We provide a separate member 23 in form and proportions similar to the leaf 16. The member has at the upper, inner corners extensions 24 corresponding to similar extensions 25 of the separate member 23. The leaf 23 is provided with openings 26 in which are received screws 27 or other means for permanently attaching the member to the door frame 28 or some other suitable support. At the rear edge, the member has an up-

turned flange 29. It is further provided at each of its extensions 25 with an inwardly disposed offset flange 30. These flanges form undercut keepers and are closed at their front edges 31 and outer side edges 32. The leaf 16 is formed to rest upon the member 23, its rear edge 33 engaging at the flange 29 and its extensions 24 being received under the keeper flanges 30. When the hinge leaves are extended by the spring, the adjacent edge of the leaf 10 is close to the inner edge of the member 23. To remove the hinge from the member 23 it is therefore necessary to arrange the two leaves at an angle with each other. When this has been accomplished the leaf 16 can be easily slipped out of engagement with the member 23. We prefer to provide the leaf 16 with openings 34 so that if desirable or necessary the leaf can be permanently attached to a door or a support.

The hinge leaf 16 is provided with integral or other ears 35 having aligned openings 36 in which are received the inwardly disposed ends 37 of a keeper yoke or bail 38, the sides of which are preferably at an acute angle with each other and form a grip for the hand so that the leaf 16 can be pulled against the tension of the spring until raised above the rear flange 29, and thereby permitting the removal of the same from the member 23. But as a suspended object is generally provided with two hinges the removal of the object by a person from its suspension is not an easy matter, and to facilitate this, the hinge leaf 10 has

an integral or other hook 39 adapted to be engaged by the keeper bail 38, as clearly shown in Fig. 2. By means of these parts the hinge leaves can be held fixed relative to each other, against the tension of the spring 20. This arrangement facilitates the removal of the hinge from the separate attaching member.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:—

A hinge comprising two relatively movable leaves; a spring to maintain said leaves in a normal position; a separate member having at the rear edge a flange substantially part of the member, and two in-turned keeper flanges at the opposite end at top and bottom of same, said keeper flanges being closed at the edges of the member, said member and one of said leaves being adapted to be secured rigidly to supports, and the other of said leaves having its rear end shaped to engage said rear flange of said member, and extending portions near the opposite end at top and bottom of same adapted to engage said keeper flanges of said member.

In witness whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FRANK W. HEETER.
PHILIP KLINE.

Witnesses:

WM. SMIEDING, Jr.,
GEORGE A. KEHL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."