Claims

1. A floodgate comprising:

a panel configured to be movable between an opened position and a closed position wherein in the opened position, the panel forms a barrier against flood water;

at least one extendable member configured to exert a sufficient force to move the panel from the closed position to the opened position about at least one hinge at one edge of the panel, ~~wherein the extendable member is spaced away from an axis of the hinge,~~ wherein the extendable member is a gas strut; and

~~at least one connection means for connecting the gas strut to a frame;~~

~~wherein the hinge is attached to the panel, the hinge and the connection means being maintained in a constant relative positional relationship by the frame~~

at least one connection means, wherein the gas strut has a first and second end attached to the at least one connection means and the panel, respectively; wherein the gas strut is arranged with the panel such that when the panel is in the closed position, the first end of the gas strut is closer to the edge of the panel than the second end is, and the second end of the gas strut lies directly below a point two-thirds of a length of the panel from the edge of the panel.

2. A floodgate according to claim 1, wherein when, in use, the floodgate is installed into a generally horizontal ground area, a first end of the gas strut lies beneath the axis of the hinge and is laterally spaced away from the axis of the hinge.

3. A floodgate according to claim 1 or claim 2, wherein each extendable member comprises a dampening mechanism configured to reduce the rate at which the extendable member moves the panel from a predetermined position to the closed position.

4. A floodgate according to claim 3, wherein the reduction in the rate at which the extendable member moves the panel is adjustable.

~~5. A floodgate according to any of the preceding claims, wherein each extendable member is arranged with the panel such that when the panel is in the closed position, the first end of the extendable member lies proximate a position directly below an end of the panel and a second end of the extendable member opposite the first end lies directly below a point two-thirds of a length of the panel from the end of the panel~~.

~~6~~5. A floodgate according to any of the preceding claims, further comprising a plurality of hinges attached to the panel and a plurality of brackets attached to the gas struts, the hinges and brackets being maintained in a constant relative positional relationship by a frame, each hinge and bracket being arranged with the panel such that when the panel moves, a weight of the panel exerted on the hinge is at least partially balanced by an opposing force exerted by the bracket.

~~7~~6. A floodgate according to any of the preceding claims, further comprising at least one locking member configured to be switchable between a locked state and an unlocked state such that when the at least one locking member is in the locked state, the at least one locking member locks the panel in the closed position and when the at least one locking member is in the unlocked state, the panel moves from the closed position to the opened position.

~~8~~7. A floodgate according to any of the preceding claims, further comprising at least one rotatable drive arranged with the panel such that rotation of the at least one rotatable drive moves the panel from the opened position to the closed position.

~~9~~8. A floodgate according to claim ~~8~~ 7 when dependent on claim ~~7~~6, wherein each locking member is integrally formed with one of the at least one rotatable drive.

~~10~~9. A floodgate according to claim ~~8~~ 7 or ~~9~~ 8 wherein each rotatable drive further comprises a brake configured to exert a force against the rotation of the rotatable drive when a speed of the rotation exceeds a predetermined threshold.

~~11~~10. A floodgate according to any of the preceding claims, further comprising a base frame arranged to hold the panel and a seal arranged to press against the base frame when the panel is in the opened position to form a continuous barrier with the panel against floodwater.

~~12~~11. A floodgate according to any of the preceding claims, wherein the panel is configured to withstand a weight of an automobile over the panel when the panel is in the closed position.

~~13~~12. A floodgate according to any of claims ~~8~~ 7 to ~~12~~11, wherein each rotatable drive is configured to exert a force on the panel to move the panel from the opened position to the closed position wherein the force exerted by each rotatable drive at a point a distance away from a first end of the panel is equal to the force exerted by a different rotatable drive at a point the same distance away from a second end of the panel opposite the first end.

13. A floodgate according to any preceding claims, wherein the gas strut is connected to the hinge using the connection means and the gas strut lies in a plane which includes the hinge.

14. A floodgate for installation in a location subject to flooding, the floodgate comprising:

a frame for installation at the location,

a panel connected to the frame by at least one hinge and movable about the hinge at an edge of the panel, and

at least one connection means for connecting a gas strut to the frame ~~such that the gas strut is spaced away from an axis of the hinge~~, wherein the connection means and the panel are for attachment to a first and second end of the gas strut, respectively; whereby upon attachment of the respective ends, when the panel is in the closed position, the first end of the gas strut is closer to the edge of the panel than the second end is, and the second end of the gas strut lies directly below a point two-thirds of a length of the panel from the edge of the panel~~,~~.

~~the frame being adapted to maintain the relative positions of the hinge and connection means, whereby upon attachment of respective ends of the at least one gas strut to the connection means and to the panel, the frame prevents forces generated by the gas strut from being transmitted to the location.~~

15. A floodgate according to claim 14, whereby upon attachment of the respective ends, the gas strut is connected to the hinge using the connection means and the gas strut lies in a plane which includes the hinge.