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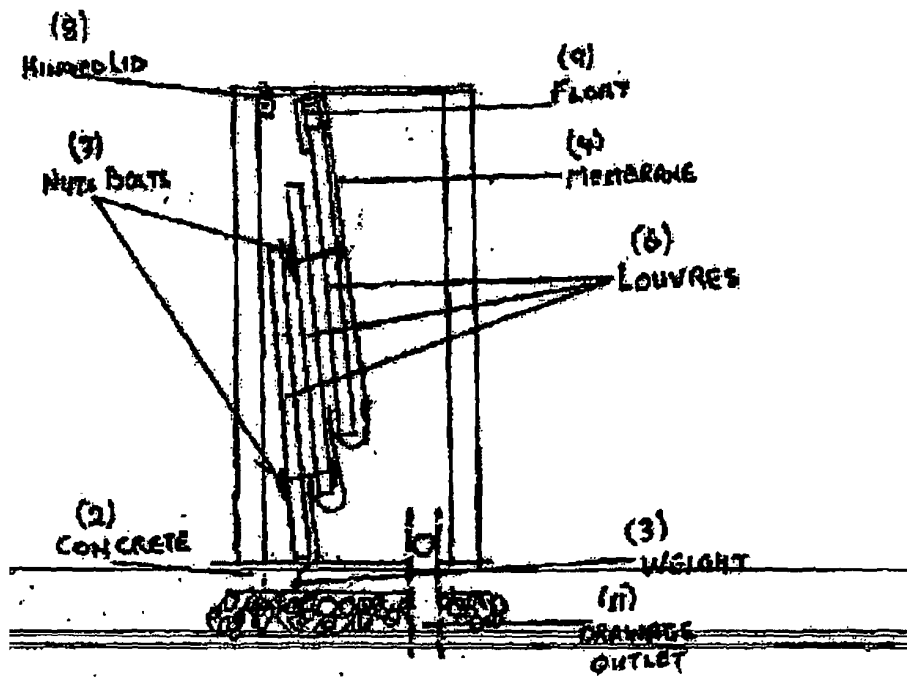
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(54) **Flood barrier**

(57) A flood defence barrier system, when placed in a watertight trench, consists of a set of louvres(6), bolted (7), together through channel(10), is encapsulated with a waterproof membrane(4), which has a weight(3) along the bottom edge of the membrane(4) which is secured

inside the concrete base of the trench, running the length and just below the leading edge of the top louvre is a float (9) that when the incoming flood water makes contact with the float(9) activates the sliding louvres traveling upward and ahead of the incoming flood waters defending the desired property.

**FIGURE 1**



**EP 2 063 028 A2**

## Description

### Field of the Invention

[0001] The invention relates to a flood barrier and system, in particular to a flood barrier and system to protect property from rising waters.

[0002] Prior art flood barrier systems require users to activate barriers in response to flooding or flood warnings. The present invention provides a barrier and system which activates automatically in response to a rise in water level in a trough or chamber.

[0003] The invention provides a flood barrier that is extendable upon rising water levels.

[0004] The waterproof element of the barrier rises with rising water levels.

[0005] A float is attached to the waterproof element or to a support element, such as a louvre, and causes the barrier to rise.

[0006] The support elements or louvres are in an extended position when water levels in the trough or chamber are high and are in a non-extended position when no water or little water is in the trough. The extent of the extension of the barrier depends on the position of the float, which in turn depends on the level of water in the chamber or trough.

[0007] The flood barrier operates by water entering a trough when this water comes into contact with the float on top of the highest waterproof covered louvre the lowered wall rises ahead of the incoming water creating a barrier around the protected property.

### Brief Description of the Drawings

#### [0008]

Figure 1 shows the end elevation

Figure 2 shows the side elevation

Figure 3 shows the overhead plan

### Detailed Description of the Preferred Embodiments

[0009] As shown in Figure 1 the louvres 6 are in situ in the concrete trough 2. These louvres 6 are encapsulated with a waterproof membrane 4. In an alternative embodiment the louvres may be only partially covered by a waterproof membrane.

[0010] On the lower end of this membrane 4 is a weight 3 which is sunk into the concrete trough base 2. At the lowest point of the trough is a drainage outflow 11 allowing any small amounts of rain to drain away.

[0011] Figure 2 shows the nuts and bolts 7 passing through the cut out slides 10. This allows the louvres 6 to travel up and down whilst holding the unit together. The scaling overlap S is bonded or welded to the next flood barrier unit to eventually surround the property to

be protected.

[0012] Figure 3 is an overhead plan of the unit minus the hinged lid 8.

[0013] Included in the system is a drainage outlet situated at the lowest point of the trough allowing the trough to remain empty whilst there is no danger of flooding.

[0014] A flood defence barrier system protects property or other structures from flooding rivers, sea storms, water and sewage overflows. The louvres(6) may be made of treated wood, coated metal, plastic or fibre glass.

[0015] The louvres(6) are covered by bonding, polythene, heavy duty polythene or a bituminous membrane (4).

[0016] The membrane (4) starts a quarter down the height of the depth of the top louvre(6) up and over the leading edge then down the whole face of the louvre(6) then up and over the back to a quarter of the louvre (6) then on to the leading edge of the next board(6) this process is continued on until the final specified louvre(6).

[0017] The membrane(4) then continues on for approximately 1 Metre. Along the length of the Bottom end of the membrane(4) a pocket is created. This pocket is filled with sand or shot blast and sealed creating a weight(3). The purpose of the weight(3) is to retain the membrane (4) in a concrete base.

[0018] Each membrane(6) is joined together by the membrane(4) running the perimeter of the property being defended creating a barrier against flooding waters. The continuous membrane(4) creates a flexibility in the system minimising impact which may occur from floating debris.

[0019] As well as protecting personal and industrial property and adjacent structures, the flood barrier and system may also be used to protect structures such as railway lines, pylons, power stations, sub stations and terminals.

[0020] In the embodiment used for protecting rail tracks, the trough may be an elongate trough and may extend substantially parallel to a train track.

### Claims

1. A flood defence barrier system designed to protect property from flooding rivers, sea storms, water and sewage overflows.
2. The system comprises of louvres(6) made of treated wood, coated metal, plastic or fibre glass.
3. The louvres(6) are covered by bonding, polythene, heavy duty polythene or a bituminous membrane(4).
4. The membrane(4) starts a quarter down the height of the depth of the top louvre(6) up and over the leading edge then down the whole face of the louvre (6) then up and over the back to a quarter of the louvre (6) then on to the leading edge of the next board(6)

this process is continued on until the final specified louvre(6).

- 5. The membrane(4)then continues on for approximately 1 Metre. 5
- 6. Along the length of the Bottom end of the membrane (4)a pocket is created.
- 7. This pocket is filled with sand or shot blast and sealed creating a weight(3). 10
- 8. The purpose of the weight(3)is to retain the membrane(4)in a concrete base. 15
- 9. Each membrane(6)is joined together by the the membrane(4)running the perimeter of the property being defended creating a barrier against flooding waters. 20
- 10. The continuous membrane(4) creates a flexibility in the system minimising impact which may occur from floating debris. 25

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FIGURE 2

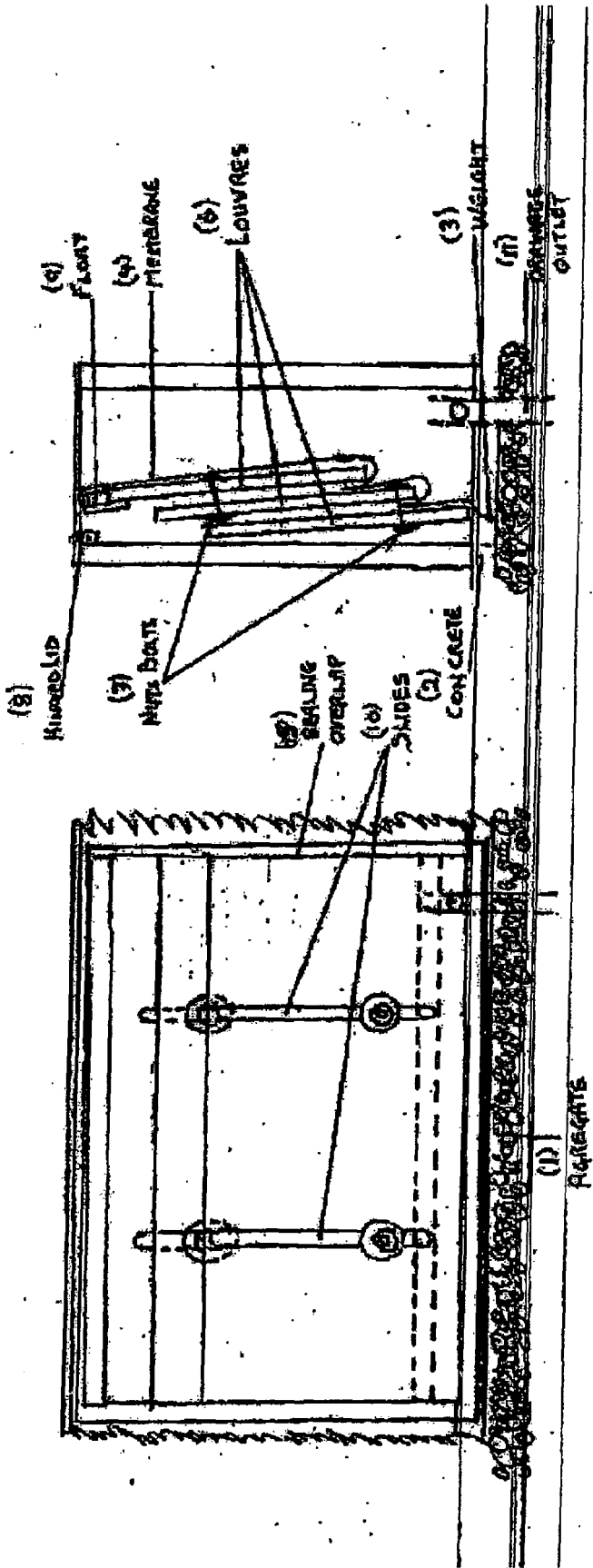


FIGURE 1

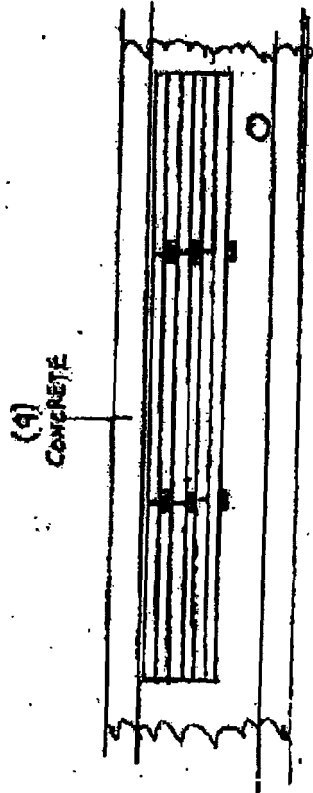


FIGURE 3