

(No Model.)

J. W. CRUMP.

LEVEE.

No. 258,025.

Patented May 16, 1882.

Fig. 1.

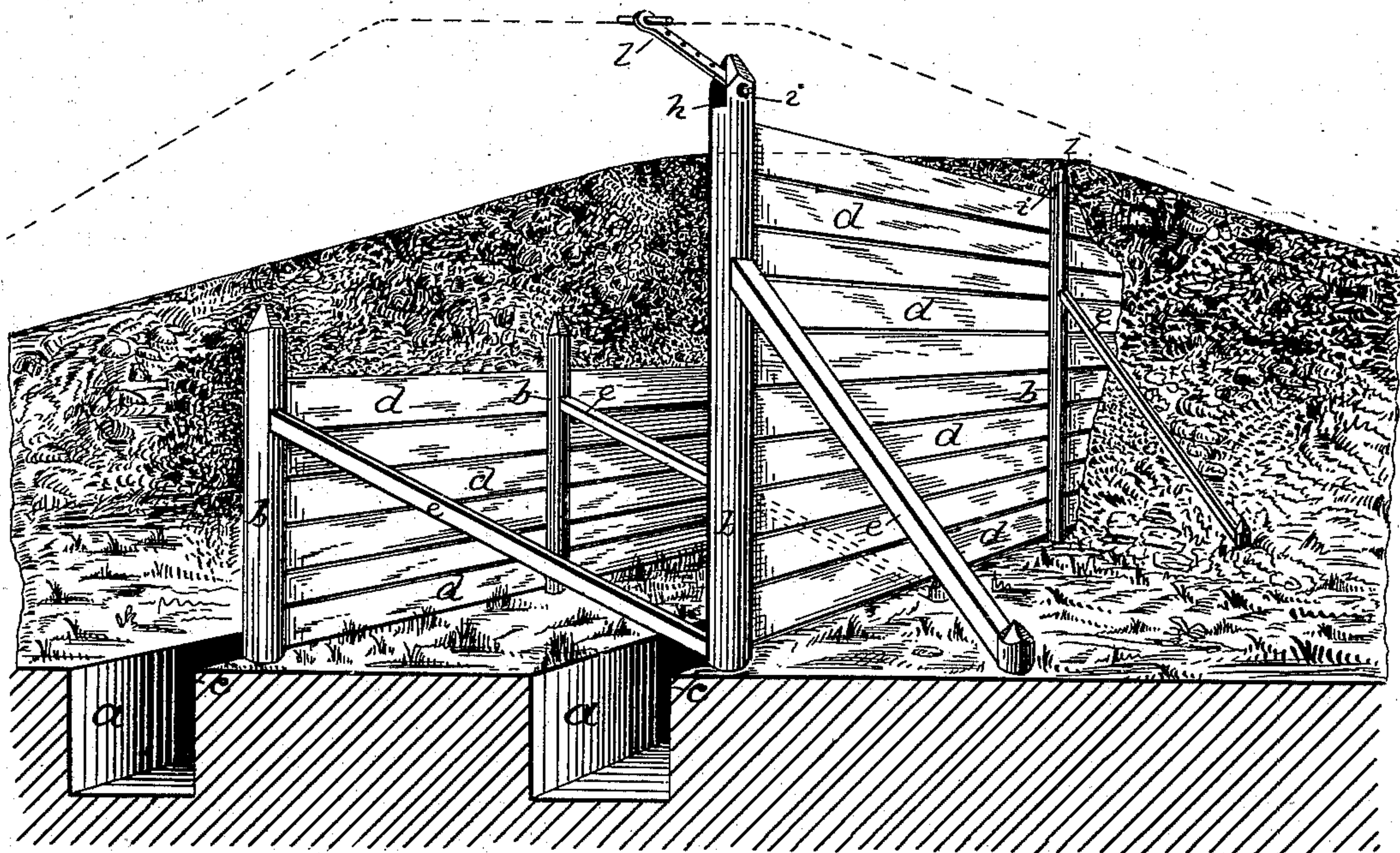
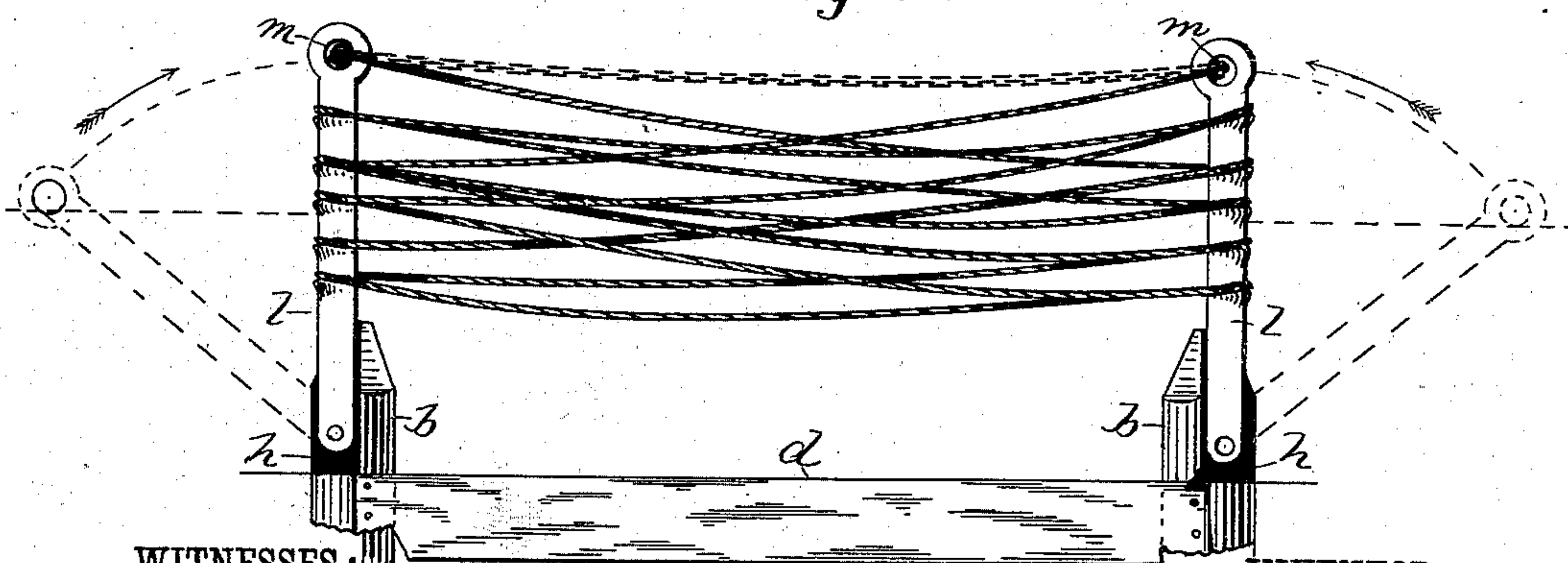


Fig. 2.



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LEEVE.

SPECIFICATION forming part of Letters Patent No. 258,025, dated May 16, 1882.

Application filed April 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. CRUMP, of West Point, county of Clay, and State of Mississippi, have invented a new and useful Improvement in Levees; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

10 Figure 1 is a perspective view of my improved levee, showing it in process of construction; and Fig. 2 is a side elevation of the top portion of one section of the continuous frame-work for supporting the levee, showing
15 the manner of using arms *l* to stop a crevasse.

The object of my invention is to increase the strength and durability of that class of levees provided with a continuous fence or wall extending longitudinally through the levee; and
20 to this end my invention consists, first, in the employment of two or more fences or walls passing longitudinally through the levee and parallel with each other, the rear fence or wall being highest and the fences or walls in front
25 of it each diminishing in height toward the river-front, thereby forming one or more intervals or troughs filled with earth between the fences or walls for receiving the downward pressure of the water acting on the levee,
30 forcing the earth of the levee more thoroughly into said intervals or troughs, thus preventing the sloughing of the levee and strengthening it by the weight of the water upon it, closing holes or cracks therein by forcing the deposit
35 into said interstices, and preventing or greatly diminishing the liability to the formation of crevasses by effectually keying it into the intervals or troughs. It is well known, also, that the action of the water upon a levee has a
40 tendency to wear away or flatten the river-front of the levee. By the employment of the walls above described serious injury to the levee is prevented.

My invention further consists of devices to
45 prevent and repair crevasses in a levee, as hereinafter more fully set forth.

In the accompanying drawings, *a a* represent the usual muck-ditches made along the line the levee is to occupy, near its center, and
50 serving as keys to hold the earth of the levee.

b b are piles driven into the earth by pile-

drivers or other suitable means, along the back shoulders, *c*, of the muck-ditches *a*. To the piles *b b* are secured, by suitable means, the horizontal wooden boards *d*, thus forming
55 two or more continuous fences extending continuously along the line of the levee, each fence being of less height than the one in rear of it.

In lieu of the wooden boards *d*, boards made of terra-cotta provided with nail-holes at their
60 ends, or metallic or any other suitable material, may be employed, or two or more brick walls may be used. Suitable braces, *e e*, are employed to support the fences or walls. The back or outer fence or wall extends nearly to the
65 crown or roadway of the levee, and each adjacent fence or wall diminishes in height toward the river-front, so that the fences or walls are arranged like stair-steps. The dirt to form the levee is then thrown over the fences or
70 walls, so as to thoroughly cover them and the piles to prevent decay, and the levee formed in the usual manner. The piles *b* are tapered at their upper ends, and each opposite pair of inner piles is provided with right and left
75 shoulders *h h*, having holes *i i* at their lower ends to receive the bent ends of angular arms *l l*, pivoted in the holes *i*, and provided with eyes *m* at their upper ends, which may be perforated or serrated on their outer edges. The
80 angular arms *l* ordinarily are inclined to the piles, and are covered by the levee, excepting their eyes *m*, which lie above the levee, so as to be exposed to view; and short blocks may be passed through the eyes of the arms to pre-
85 vent their being forced into the ground.

In case the levee is threatened or danger of a crevasse is apprehended the arms *l l* are raised at the point threatened to a vertical position, and are firmly supported in their
90 raised position by the shoulders *h h* in the upper ends of the piles, and the raised arms will act as supports for a plank or planks resting against them to resist waves and prevent the washing of the crown of the levee.

In case a crevasse is formed in the crown of the levee the fences or walls of the levee will prevent the deepening of the crevasse to the bottom of the levee, thereby giving ample time for the repair of the levee, which is ac-
100 complished by connecting the raised arms *l* by ropes, chains, or other connections, forming a

net-work to prevent the escape of sand-bags or other material thrown into the crevasse for the purpose of closing the same.

The pile and arm devices just described may be applied to levees of the ordinary construction (threatened with a crevasse or not) by driving piles with shoulders and arms at their upper ends into the levee, as described in my improved construction.

10 What I claim as my invention, and desire to secure by Letters Patent, is—

15 1. A levee with two or more continuous parallel walls, the rear wall being highest and the others diminishing successively in height toward the river-front, all the walls resting on the ground under the levee and covered by it, substantially as described, and for the purpose set forth.

2. A levee provided with the two or more continuous parallel lines of piles *b b*, extending its entire length, braces *e e*, and boards *d d*, secured to the piles, all resting on the ground under the levee and covered by it, substantially as described, and for the purpose set forth.

25 3. The combination, with the piles *b b*, covered by the levee, and provided with the right and left shoulders *h h*, of the pivoted angular arms *l l*, substantially as described, and for the purpose set forth.

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Witnesses:

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