(No Model.) 2 Sheets—Sheet 1.

M. A. LASKA.

CREVASSE CLOSER.

No. 526,976. Patented Oct. 2, 1894.

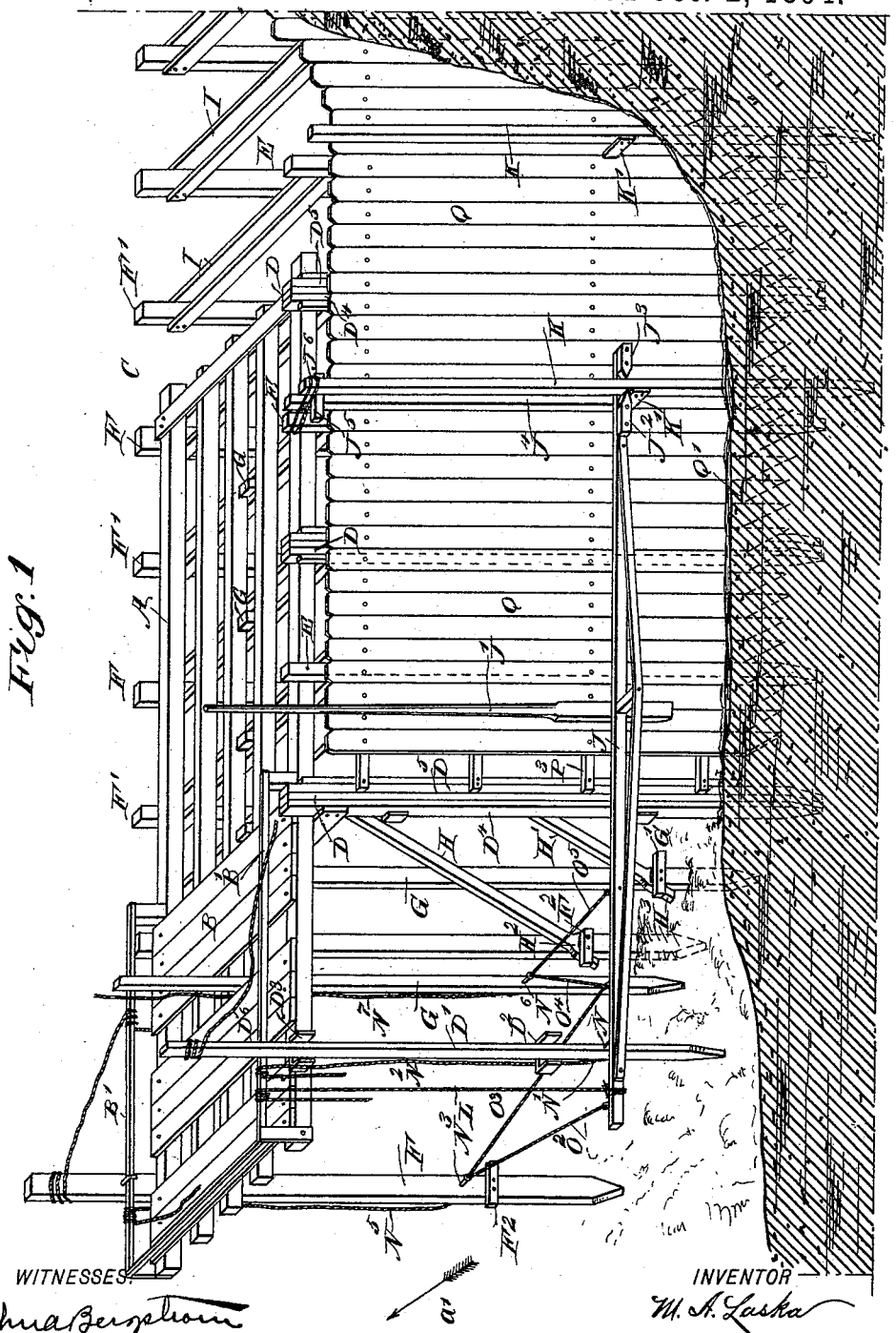

Fig. 1

WITNESSES:

John A. Bergstrom

C. Sedgwick

INVENTOR

M. A. Laska

BY Munn & Co

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2

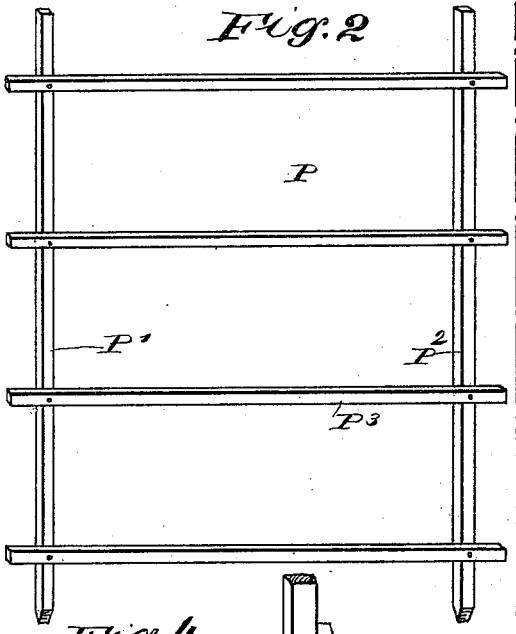


Fig. 3

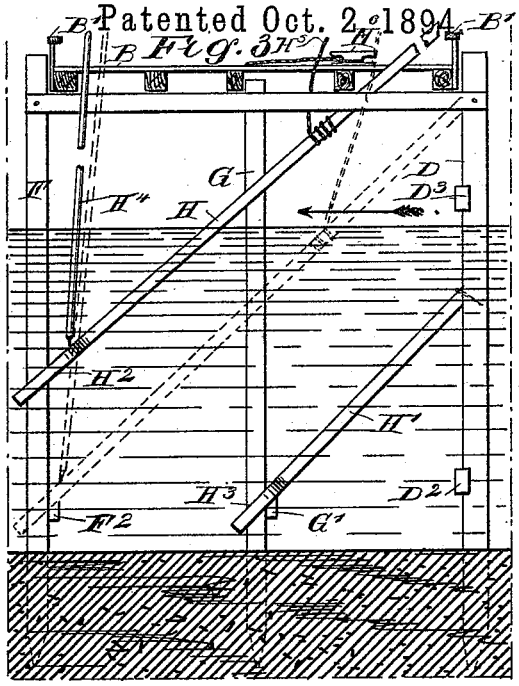


Fig. 4

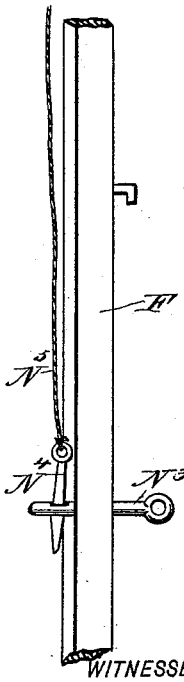


Fig. 5

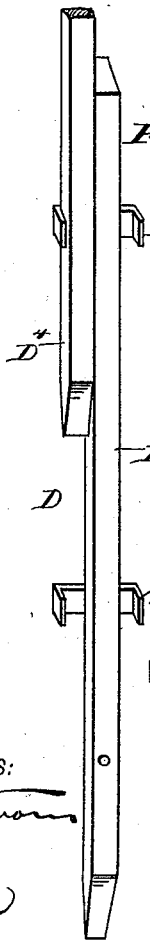


Fig. 6

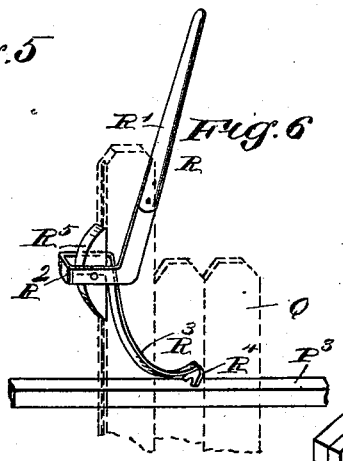


Fig. 7

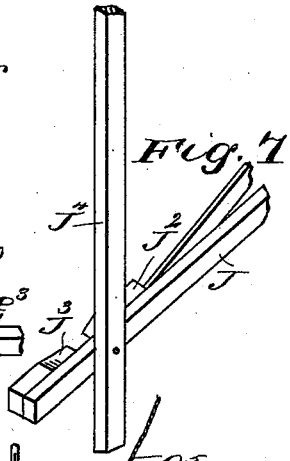


Fig. 8

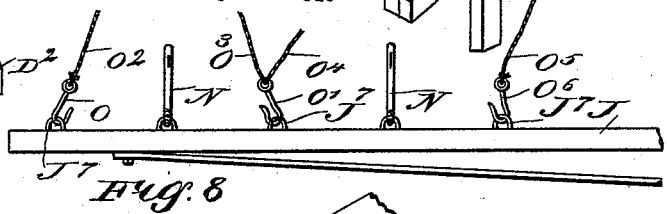
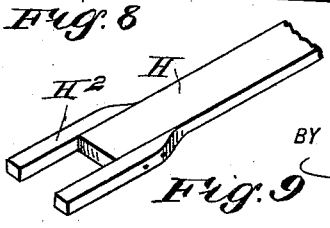


Fig. 9



WITNESSES:

John A. Bergstrom

C. Sedgwick

INVENTOR

M. A. Laska

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

MATHIAS A. LASKA, OF NEW ORLEANS, LOUISIANA.

CREVASSE-CLOSER.

SPECIFICATION forming part of Letters Patent No. 526,976, dated October 2, 1894.

Application filed January 4, 1894. Serial No. 495,604. (No model.)

To all whom it may concern:

Be it known that I, MATHIAS A. LASKA, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and Improved Crevasse-Closer, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved crevasse closer, arranged to effectively close crevasses or breaks in dams, irrespective of the force of the current passing through the break.

The invention consists principally of an arm adapted for pivotal connection with one of the posts already driven into the ground, and for detachable connection with one of the posts to be driven, and adapted to carry the posts down into the water and hold and guide the same in position, to permit of properly driving the posts into the ground from above.

The invention further consists of a skeleton frame adapted to pass between adjacent posts, and provided with cross bars projecting at their ends to rest on the front faces of the posts, so as to hold the frame in place.

The invention also consists of certain parts and details, and combinations of the same, as will be hereinafter described and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improvement. Fig. 2 is a perspective view of one of the skeleton frames. Fig. 3 is a transverse section of the improvement. Fig. 4 is a perspective view of one of the rear posts. Fig. 5 is a similar view of one of the front posts. Fig. 6 is a like view of the device for holding the grooved boards in position while driving the same in place. Fig. 7 is a perspective view of the pivotal end of the arm. Fig. 8 is a plan view of the front end of the said arm; and Fig. 9 is a perspective view of the lower forked end of one of the braces.

The improved crevasse closer as illustrated in Fig. 1 is provided with a skeleton A, formed at its front end with a platform B having side railings B′. This skeleton A is adapted to be supported on part of the crevasse closer built up from one side of the dam, and the said skeleton is moved along as the crevasse closer is constructed, until the latter is finally completed and extends from one side of the break to the other, so as to again form an uninterrupted dam.

As illustrated in Fig. 1, the crevasse closer C, is partly constructed from one side of the break, and the said crevasse closer is provided with main posts D, arranged in alignment with each other from one side of the break to the other, each of the said main posts being composed preferably of a number of posts, as hereinafter more fully described.

Between the main posts D are driven intermediate posts E, and opposite the main posts D and intermediate posts E are driven rear or back posts F and F′, respectively, as plainly illustrated in Fig. 1. Now, between each corresponding set of posts D, F and E, F′, is driven a post G, and the lower ends of the rear posts F and F′ are connected with the upper ends of the corresponding front posts D and E respectively, by diagonal braces H, similar braces H′ connecting the posts G with their corresponding front posts D and E.

The upper ends of the sets of posts D, F, G and E, F′, G, are connected with each other by transverse beams I, forming a resting place for the skeleton A, so that the front platform B of the said skeleton always projects beyond the last set of driven posts.

In order to hold the braces in position, I provide the lower end of each brace H with a fork H^2, straddling the lower end of the corresponding post F or F′ and resting on a cross bar F^2, secured to the inner face of the corresponding post. The inner brace H′ is likewise formed with a fork H^3, straddling the post G and seated on a cross bar G′, as plainly shown in Figs. 1 and 3.

In order to conveniently place the braces H and H′ in position I employ a rod H^4, adapted to engage the forked end H^2 or H^3 of the respective brace, the said rod being manipulated by the operator standing on the platform B to push the fork end of the corresponding brace under water. The upper end of each brace is held on a rope H^5, also under the control of the operator and adapted to be fastened temporarily in place on a cleat H^6, secured on the platform B. Each of the main posts D is provided with a central post D′, carrying U-

shaped guides D^2 and D^3, adapted to receive the posts D^4, D^5, on opposite sides of the central post D'. Thus each main post D is composed of a central post D' and the two side posts D^4 and D^5. Now, in order to guide the posts down into the water and to hold the same in position in the strong current passing through the break in the dam, the following device is provided to permit of driving the posts solidly into the ground without danger of the current sweeping the post out of its firm position. This guiding device for the posts is provided with an arm J, plainly shown in Figs. 1, 7 and 8 and provided, at or near its middle, with an upwardly-extending handle J', adapted to be taken hold of by the operator standing on the skeleton A, to lower or raise the said arm outside of the front row of posts D and E, as will be readily understood by reference to Fig. 1. The rear end of the arm J forms a fulcrum to permit the said arm to swing up and down for lowering the posts as hereinafter more fully described. This fulcrum end of the arm J is provided with two lugs J^2 and J^3, formed at their opposing ends with knife edges adapted to engage a post K, temporarily driven into the ground in front of a post E, the said lugs resting with the end of the arm J on a transversely extending arm K', secured to the post K. On the fulcrum end of the arm J is also secured an upwardly-extending arm J^4, provided at its upper end with an arm J^5, abutting against the under side of a rope J^6, connecting the upper end of the post K with the upper end of the corresponding post E, so as to temporarily hold the said arm J^5 in place to prevent the fulcrum end of the arm J from moving upward on the post K. On the forward end of the arm J is pivoted a bolt N, adapted to pass through an aperture in the lower end of the central post D' to be first put down into the ground, the connection between the forward end of the said arm J, its bolt N and the post D being made on the platform B. After the bolt N is inserted in this central post D', a key N' is dropped into an opening in the outer end of the said bolt at the rear of the post D', so as to prevent an accidental disengagement of the bolt and the post D'. The key N' is hung on a rope N^2, attached at its free end to the front railing B' of the platform B. See Fig. 1. Now, when the arm J is used, then the rear or fulcrum end up to and slightly beyond the arm J' rests against the sets of posts D and E already driven, so as to prevent the current from bending the arm in the direction of its travel. It will be understood that the force of the current in the direction of the arrow a' in Fig. 1, assists in holding the arm J in proper position against the posts. Thus, when a post D' is attached to the free end of the said arm J, when the latter is swung upward, then the operator, by manipulating the arm J' can swing the arm J downward so that the latter carries the post D' down with it into the rushing water until the lower end of the post engages the ground, it being understood that the upper end of the said post is guided by the operator on the front beam of the platform B. A rope D^6 attached to the upper end of this post D' enables the operator to temporarily fasten the post in place whenever necessary.

Now, after the post has been guided down to the ground, as described, then a suitable pile driver of any approved construction is employed to sink the post D' in the ground. As soon, however as the lower end of the post has been driven a short distance into the ground, then the operator withdraws the key N' by pulling on the rope N^2, and then manipulates the arm J' so as to swing the arm J outward to withdraw the bolt N from the post D'. The latter is then further driven by the pile driver until it is firmly embedded in the ground. The operator next slips the side posts D^4 and D^5 down the sides of the post D' and drives the same down into the ground by the use of the pile driver, the said side posts being properly guided by the guideways D^3 and D^2. The back or rear posts F, F' and G, are also guided downward by the arm J, and for this purpose I provide the free end of the arm J with staples J^7, see Fig. 8; of which the outermost two staples are engaged by hooks O, O', connected by ropes O^2 and O^3 with a bolt N^3 similar in construction to the bolt N above mentioned, and adapted to engage an aperture in the lower end of one of the back posts F or F'. See Fig. 4. The outer end of the bolt N^3 is adapted to be engaged by a key N^4 so as to lock the said bolt in position on the said corresponding post, the said key being held on a rope N^5 extending upward and adapted to be fastened on the rear railing B'. The ropes O^2 and O^3 diverge from the bolt N^3 to the hooks O and O', as plainly shown in Fig. 1, and a similar bolt N^6 is employed for the post G, the said bolt being connected by diverging ropes O^4 and O^5 with the hooks O' and O^6 respectively, hung on the staples J^7. This bolt N^6 is also provided with a key and rope N^7 for locking the bolt in place and unlocking the same after the corresponding posts have been driven into the ground, the short distance to get sufficient hold to withstand the force of the current.

It is understood that the bolts N^3 and N^6 are attached to the posts F, F' and G, at the time the arm J is in an uppermost position, the said attachment being made by the operator standing on the platform B. The arm J is then swung downward so as to guide the posts in a like direction and to hold the same in position against the current until the posts are driven into the ground, after which the posts are released by disconnecting the bolts from the posts in a similar manner as the bolt N is disconnected from the post D' above described. The posts are then driven firmly into the ground by the pile driver, after which the braces H and H' are put in position together with the transverse beams I to con-

nect the sets of posts with each other. After this is accomplished the set of posts D and D′ are connected with each other by an auxiliary frame P, shown in detail in Fig. 2, and comprising two vertical posts P′ and P^2 connected with each other by a series of longitudinal beams P^3. The ends of the latter project beyond the posts P′ and P^2 and are adapted to rest against the front faces of the side posts D^4, D^5, of adjacent main posts D. After a frame P is put in position, then the projecting ends of the longitudinal beams P^3 are nailed to their corresponding side posts by a suitable nailing device, and then the boards Q are fastened to the said frames P to form a solid wall to stop the break. These boards Q are tongued and grooved and are formed at their lower ends with a bevel Q′; see Fig. 1; so that when a board is driven down into the ground, the lower bevel end has the tendency to force itself to one side so as to make a tight joint of the tongue and groove.

In order to hold the upper end of the board driven down in position against one previously placed, I provide a holder R shown in Fig. 6, the said holder comprising an arm R′ having an angular foot R^2 from which extends the curved arm R^3 provided at its lower end with a prong R^4 adapted to rest on one of the longitudinal beams P^3 of the auxiliary frame P. In the foot R^2 is pivoted a block R^5 adapted to engage the outer end of the board to be driven so as to hold the upper end of the board in engagement with the one already driven, during the time of forcing the last board down into the ground. After the board is in position it is nailed to the longitudinal beams P^3.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A crevasse closer, comprising an arm adapted for pivotal connection with one of the posts already driven, and for detachable connection with one of the loose posts to be driven, so as to guide the loose post relatively to the fixed post, as and for the purpose set forth.

2. A crevasse closer, comprising a series of front posts, auxiliary frames adapted to be set between two adjacent posts and having longitudinal beams fastened to the said posts, and boards adapted to be nailed to the auxiliary frames to form a solid wall across the crevasse, substantially as shown and described.

3. A crevasse closer, comprising a series of front posts, auxiliary frames adapted to be set between the adjacent posts and having longitudinal beams fastened to the said posts, boards adapted to be nailed to the auxiliary frames to form a solid wall across the crevasse, back posts, braces connecting the said posts with the said front posts, and transverse beams for connecting the upper ends of the said front and back posts with each other, substantially as shown and described.

4. A crevasse closer, provided with an arm mounted to swing, and a bolt hung on the said arm and adapted to engage an aperture in the post to be driven, substantially as shown and described.

5. A crevasse closer, provided with an arm mounted to swing, a bolt hung on the said arm and adapted to engage an aperture in the post to be driven, and means, substantially as described, for locking the said bolt in position on the post, as set forth.

6. A crevasse closer, comprising an arm mounted to swing, ropes connected with the said arm, and a bolt carried by the said ropes and adapted to engage a back post to guide the latter downward into the current, substantially as shown and described.

7. A crevasse closer, comprising an arm mounted to swing, ropes connected with the said arm, a bolt carried by the said ropes and adapted to engage a back post to guide the latter downward into the current, and means, substantially as described, for locking the said bolt in place on the post, as set forth.

8. A crevasse closer, provided with a main post, comprising a central post side posts adapted to be driven alongside the said central post, and guideways secured to the central post and adapted to embrace the side posts, substantially as shown and described.

9. A crevasse closer, provided with an arm having a manipulating handle and a fulcrum, a post having a transverse arm forming a rest for the said fulcrum, and a second arm held on the fulcrum end of the said first named arm and adapted to be held temporarily in place on the said post, substantially as shown and described.

MATHIAS A. LASKA.

Witnesses:
ALF. S. DU FOSSAT,
M. C. SONIAT.