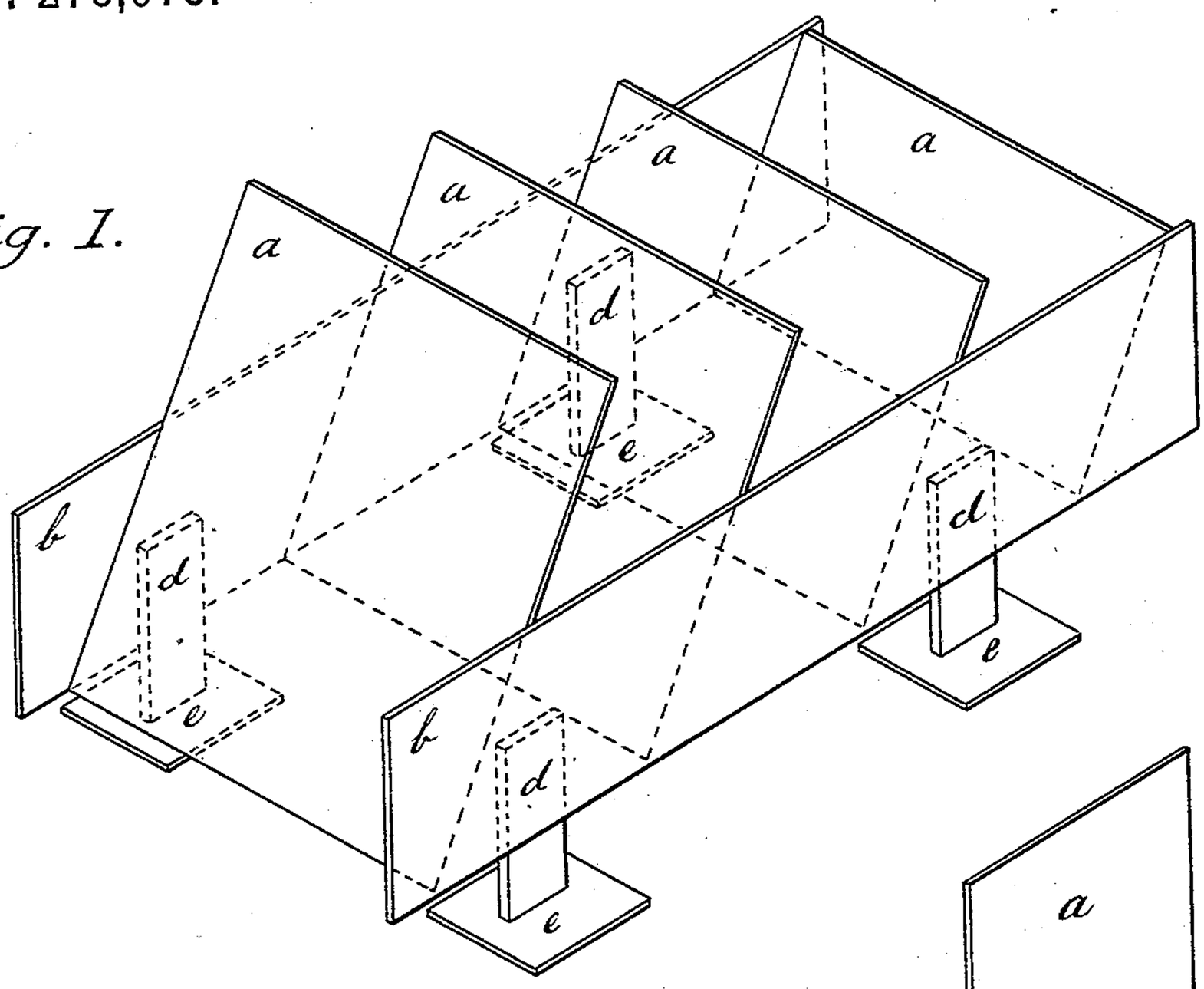
(No Model.)

H. R. KOON.

DREDGER.

No. 278,975. Patented June 5, 1883.

Fig. 1.



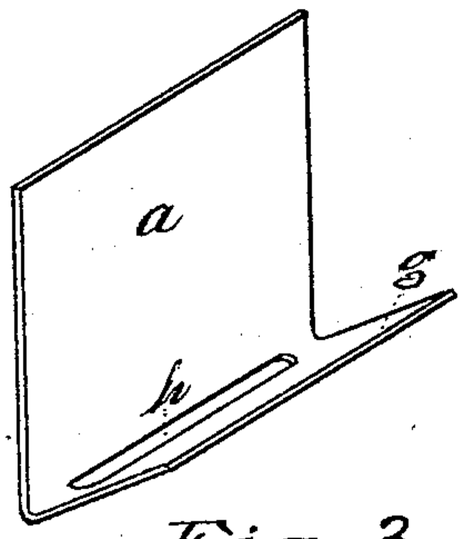
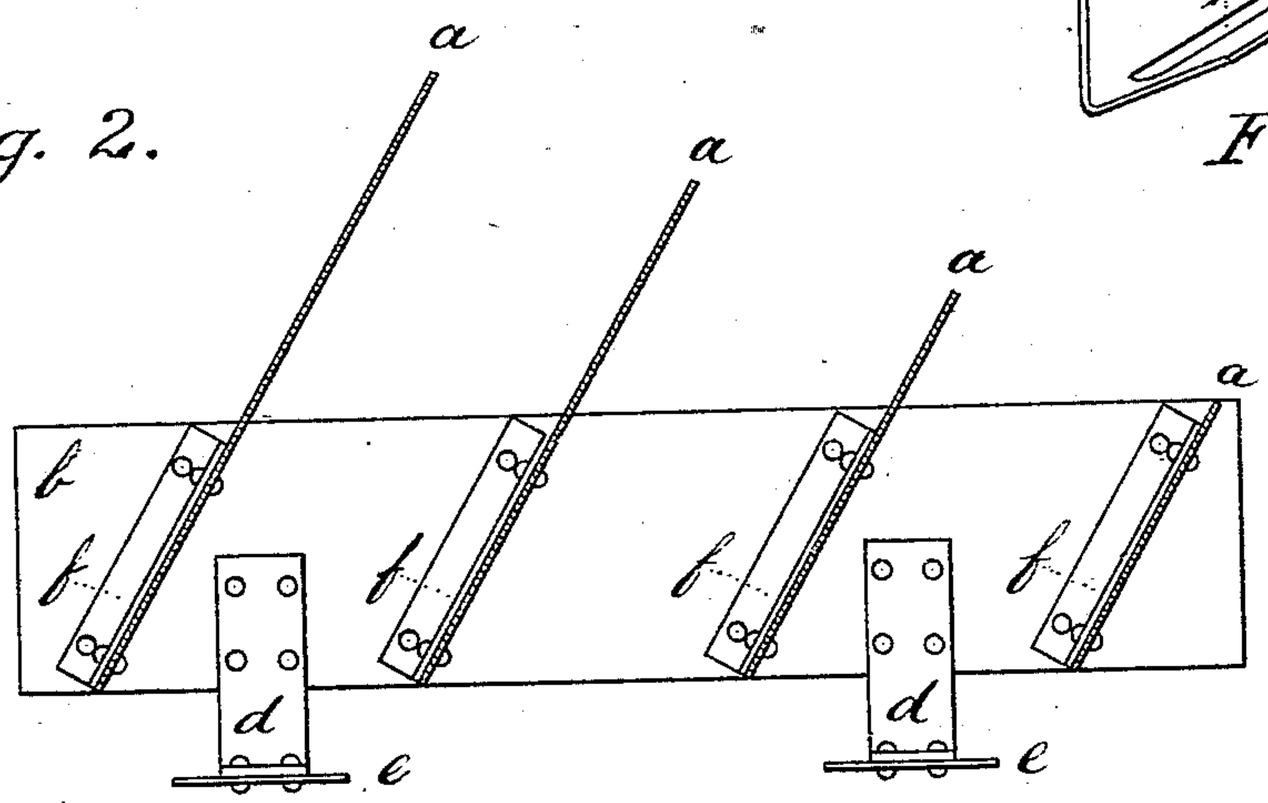


Fig. 3.

Fig. 2.



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UNITED STATES PATENT OFFICE.

HENRY R. KOON, OF ROME, NEW YORK.

DREDGER.

SPECIFICATION forming part of Letters Patent No. 278,975, dated June 5, 1883.

Application filed February 5, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY R. KOON, a citizen of the United States, and a resident of Rome, county of Oneida, and State of New York, have invented new and useful Improvements in Dredgers, of which the following is the specification.

The object of my invention is to provide a simple, inexpensive, and efficient device for deepening the channels of rivers or streams, removing sand or mud therefrom, and for preventing the formation of sand bars or removing the same when formed. I accomplish this by means of a current-deflector forming an automatic dredger composed of two or more plates, the upper edges placed at different elevations, so inclined that the current of the river or stream, following the angle of deflection, will impinge upon the bottom or side, and thereby remove the sand or mud immediately beneath and in front of the base of the deflected plates. The inclined plates may be secured to a frame with feet or rests, so that when placed upon the bottom of the river the base-line of the inclined plates will be sufficiently elevated above the line of the bottom to permit the deflected current to have a free passage thereon. I attain the objects desired by arranging the plates as shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the automatic dredger. Fig. 2 is a sectional view of the plates, showing their attachment by means of flanges to the inner side of the frame, also the standards with feet or rests to support the frame and plates above the line of the river-bottom. Fig. 3 is a single deflecting blade or plate having a bottom plate projecting therefrom, with an aperture or openings in the angle of junction, so as to admit of a free passage of the water when deflected downward.

In Fig. 1, *a a a a* are the inclined plates, set at a proper angle to best secure the deflection of the current. *b b* are the sides or frame to which the plates are secured. *d d d d* are the standards, and *e e e e* the feet or rests thereon.

In Fig. 2, *a a a a* are the inclined plates; *f f f f*, the flanges on the inside of the frame *b*, to which the plates *a a a a* are secured; *d d*, the standards, and *e e* the feet or rests fastened thereto below the line of the base of the inclined plates.

In Fig. 3, *a* is an inclined plate; *g*, the bottom plate projecting therefrom, and *h* the aperture or opening at the angle of junction.

The inclined plate, as shown in Fig. 3, may be secured, with others of like construction, to a frame, as in Figs. 1 and 2, or suspended in the water near the bottom by means of a chain or rope. The plates should be of different widths, so that each one will present to the current a portion of its deflecting-surface. They may be of any convenient width or length, and may be suspended from boats or floats, or allowed to rest upon the bottom.

The plates, frame, standards, and feet may be constructed of wood or iron or other suitable material.

I do not confine myself to any particular method of securing the plates to the frame. They may be riveted to flanges upon the inside of the frame or keyed thereto.

The dredger can be raised or lowered by means of chains or ropes attached to rings or hooks in the frame; and, if necessary, the dredger can be kept in position by using a drag or anchor. By attaching it to a buoy having feet and inches indicated on its side the progress made in excavating can be determined from time to time.

The sides or banks of rivers below the water-line can as easily be cut away as the bottom by simply placing the plates so that the line of deflection will be toward the sides instead of downward.

By means of the deflecting-plate represented in Fig. 3 the formation of sand bars can be prevented and those already formed removed by suspending the plate or plates so that the openings or aperture at the angle of junction will be a few inches above the line of the river-bottom.

I claim—

1. In a dredger, a series of deflecting-plates, whose upper ends are at different elevations, arranged in succession in a main supporting-frame, substantially as set forth and described.

2. In a dredger, an inclined plate forming a deflecting-blade having a lower plate pro-

jecting therefrom and an aperture or openings at the angle of junction, substantially as and for the purposes set forth.

3. In a dredger, deflecting-plates, in combination with frame *b b*, standards *d d d d*, feet or rests *e e e e*, and flanges *f f f f*, substantially as and for the purposes set forth.

4. In a dredger, deflecting plate or blade *a*, bottom plate or projection, *g*, and aperture or opening *h*, arranged and combined substantially as and for the purposes set forth.

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