A. R. BREWER.

CURRENT MOTOR.

APPLICATION FILED MAR. 12, 1909.

947,672.

Patented Jan. 25, 1910.

2 SHEETS—SHEET 1.

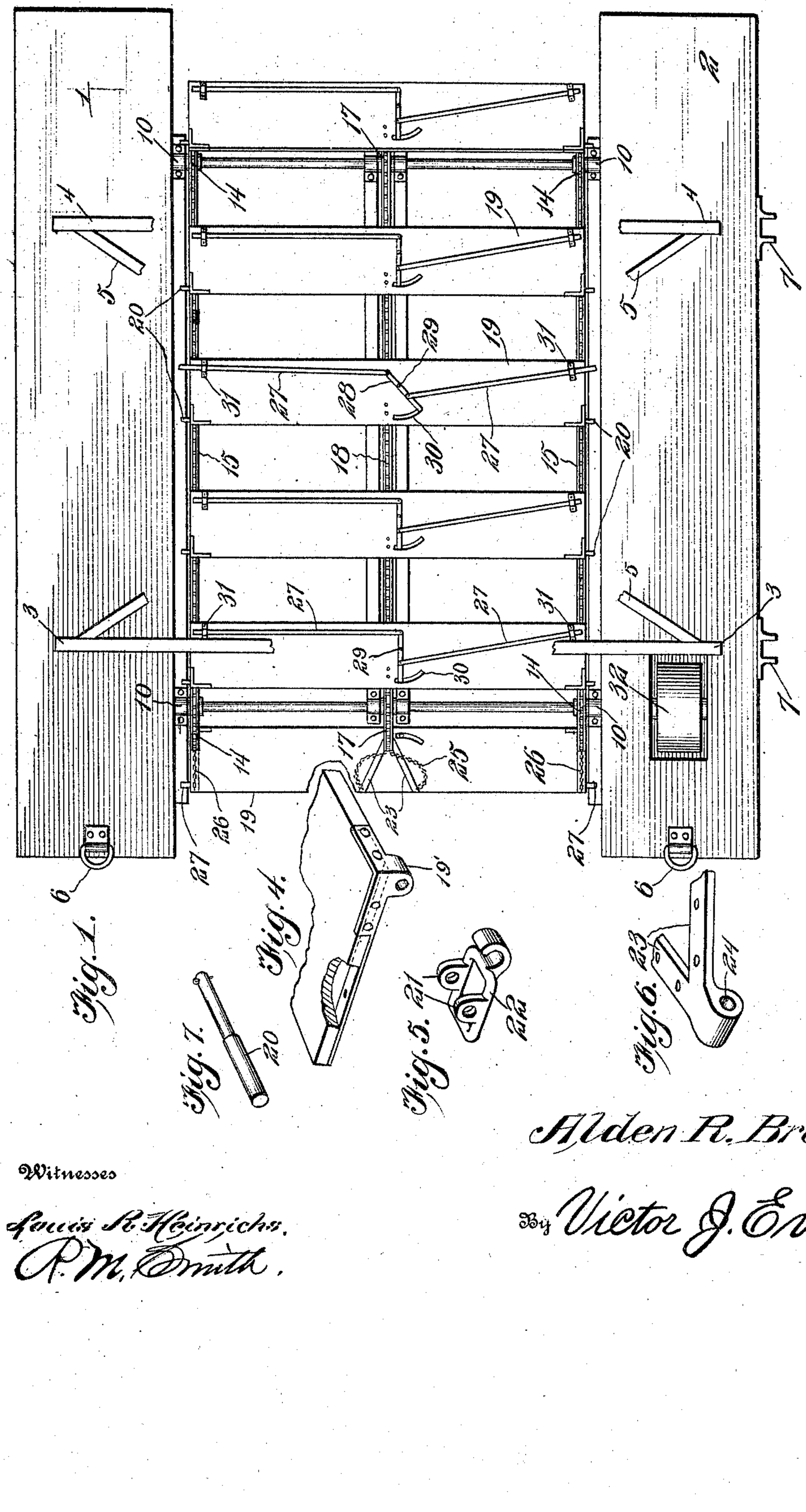

Fig. 1.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Witnesses

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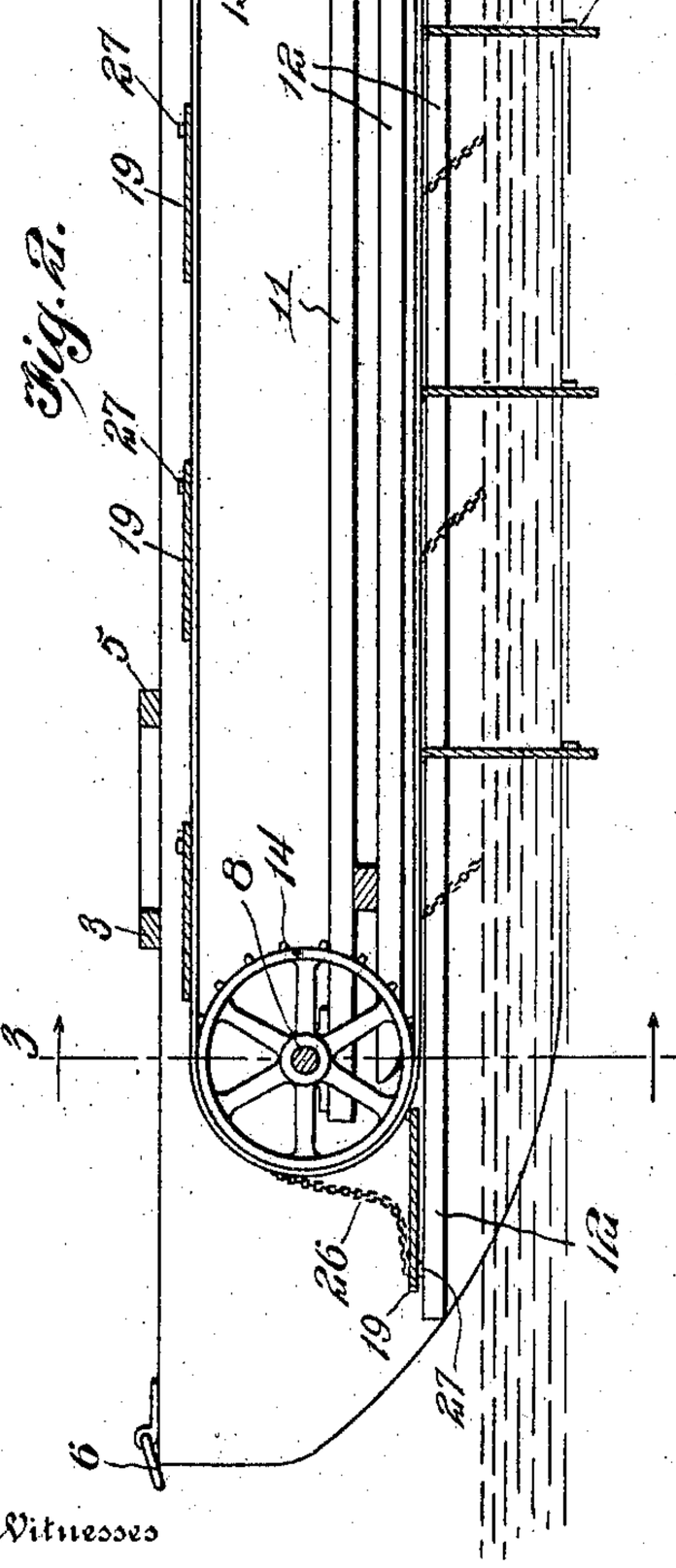

Fig. 2.

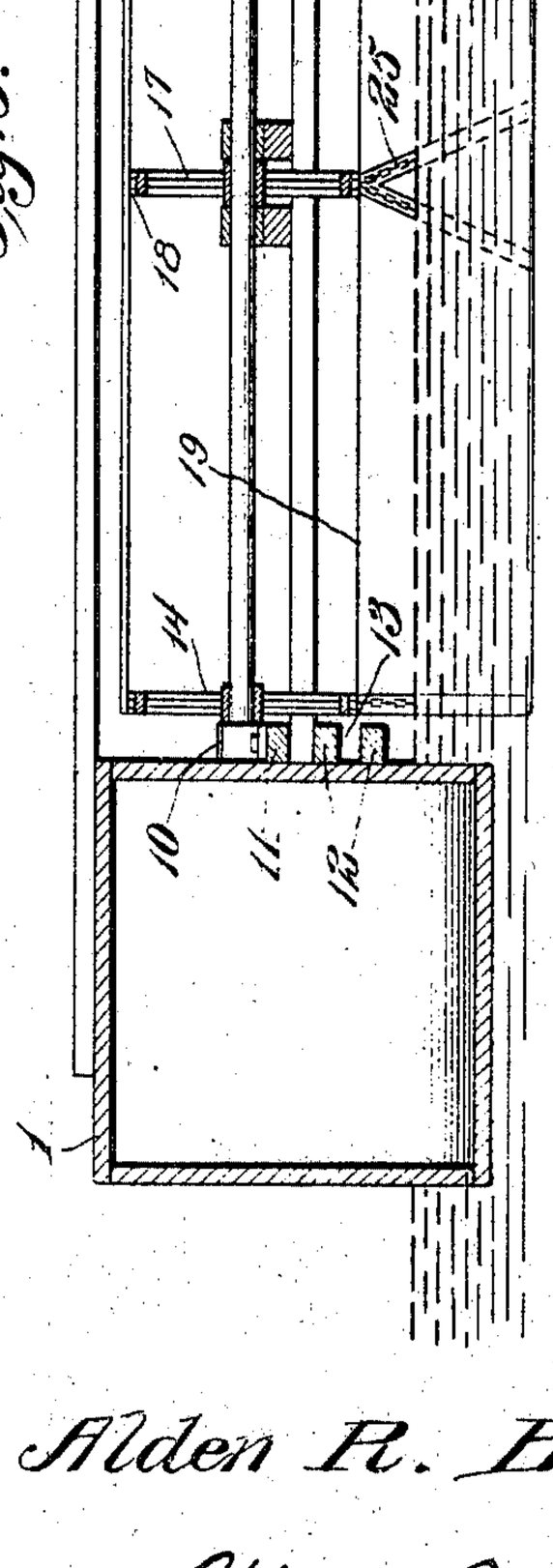

Fig. 3.

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UNITED STATES PATENT OFFICE.

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CURRENT-MOTOR.

947,672. Specification of Letters Patent. Patented Jan. 25, 1910.

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To all whom it may concern:

Be it known that I, ALDEN R. BREWER, a citizen of the United States, residing at Plainview, in the county of Hale and State of Texas, have invented new and useful Improvements in Current-Motors, of which the following is a specification.

This invention relates to current motors, the invention being designed to furnish a cheap and effective power generating machine of such construction that a moderate current of water may be utilized for the purpose of developing power for use in factories and for running pumping and other machinery for the purpose of raising water and irrigating ground, for mining purposes and for driving dynamos, etc.

With the above and other objects in view the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts hereinafter fully described, illustrated and claimed.

Figure 1 is a plan view of a current motor embodying the present invention. Fig. 2 is a vertical longitudinal section through the same. Fig. 3 is a vertical cross section on the line 3—3 of Fig. 2. Fig. 4 is a detail perspective view of a corner of one of the current boards. Fig. 5 is a detail perspective view of one of the side chain links. Fig. 6 is a similar view of one of the center chain link members. Fig. 7 is a detail perspective view of one of the guide pins.

In carrying out the present invention I employ a pair of floats 1 and 2 extending substantially parallel to each other and connected by cross bars 3 and 4 arranged respectively at the top of the floats and in a lower plane above the surface of the water, as indicated in Fig. 3.

5 designates oblique or diagonal braces for forming a rigid braced connection between the oppositely arranged floats.

The floats are provided at their forward ends with cable rings 6 to which suitable anchoring cables are adapted to be connected for holding the structure as a whole in position to have the current boards hereinafter described actuated by the current of water as the latter passes between the floats. One of the floats is also provided on its outer side with a plurality of brackets 7 forming sockets in which are received the outer extremities of suitable stay bars or braces (not shown) extending from the shore or bank of the stream to hold the structure at a suitable distance from the shore. The mechanism comprises essentially a pair of sprocket wheel shafts 8 and 9 mounted in bearings 10 secured to beams 11 on the inner sides of the floats 1 and 2 as shown in Fig. 3, said beams 11 extending lengthwise of the floats. Beneath the beams 11 are arranged parallel guides 12 which extend parallel to the beams 11 and are securely fastened to the inner sides of the floats so as to leave intervening passageways or channels 13, the purpose of which will hereinafter appear.

Each of the shafts 8 and 9 is provided adjacent to the floats with sprocket wheels 14 fast thereon and around each run side sprocket chains 15. Each of said shafts has also fast thereon a centrally arranged sprocket wheel 17 and around said sprocket wheel runs a central chain 18. All of these chains are endless and are adapted to carry an endless series of current boards 19. Each of these boards 19 is provided at opposite corners thereof with lugs 19′ carrying outwardly extending pintles 20 which pass through eyes 21 on opposite transversely alined links 22 of the side chains 15. The pintles 20 are of sufficient length to project beyond the links of the chains 15 and enter and travel lengthwise of the groove or channel 13 between the guides 12 hereinabove described. This prevents the sagging of the chains in the bottom runs thereof and also acts to support the current boards 19. Each current board is also provided intermediate its ends with a bracket 23 having an eye 24 adapted to receive one of the coupling pins of the links of the center chain 18, whereby all of the current boards are connected to the central chain as well as to the side chains 15. Stay chains 25 and 26 connect the free edges of the current boards 19 to links of the side and center chains as is shown in Figs. 1 and 2 thereby serving to brace the current boards and hold the same in vertical position when they are submerged in the water and being propelled along by the current.

In order to throw the current motor out of operation, means are provided for feathering the current boards 19. This is accomplished by means of sliding bolts 27 connected at their inner ends to a bolt operating

lever 28 which is fulcrumed intermediate its ends as shown at 29. One end of the lever is bent to extend inward into an arcuate limiting slot 30 while the bolts 27 extend in opposite directions through suitable guides 31 on the current boards. When the lever 28 is rocked in one direction, the opposite ends of the bolts 27 are drawn outward so as to enter and travel in the channel 13 between the guides 12 and in order to insure their entrance between the guides, the lower guide is extended as shown at the left hand end of Fig. 2 so that when the bolts 27 are drawn outward, the current boards as they swing over, are supported as shown in Fig. 2 by said bolts resting on the lower guide 12. This causes the current boards to assume a horizontal position, in which condition they are propelled along the lower run, above the surface of the water and consequently not being effected by the current.

To set the current motor in operation, the levers 28 of the several current boards are operated in the opposite direction so as to draw the bolts 27 inward. This allows the free edges of the current boards to swing downward to the position shown in Fig. 2 where they are acted upon by the current of water.

In Figs. 1 and 2, I have shown one of the shafts extended part way through one of the floats and provided with a power wheel 32, the float being formed with a pocket 33 in which said wheel works. This enables the power developed by the motor to be belted off to the machinery to be driven thereby.

I claim:

1. A current motor comprising parallel connected floats, endless chains running around sprocket wheel shafts journaled on the floats, an endless series of current boards carried by said chains parallel guides on the floats, projections on the opposite ends of the current boards traveling between said parallel guides, and movable projections on said current boards adapted to move between said parallel guides when drawn outward.

2. A current motor comprising parallel connected floats, sprocket wheel shafts journaled on said floats, endless sprocket chains running around said shafts, an endless series of current boards hingedly connected at one edge to said chains, guides extending lengthwise of the floats, pintles on said boards extending beyond the chains and working in said guides, oppositely movable bolts on each current board shiftable into and out of engagement with the guides on the floats, and a bolt operating lever on said current board, operating to simultaneously move the bolts in opposite directions.

In testimony whereof I affix my signature in presence of two witnesses.

ALDEN R. BREWER.

Witnesses:

E. GRAHAM,

S. J. FRY.