

No. 700,518.

Patented May 20, 1902.

C. H. LOEW.

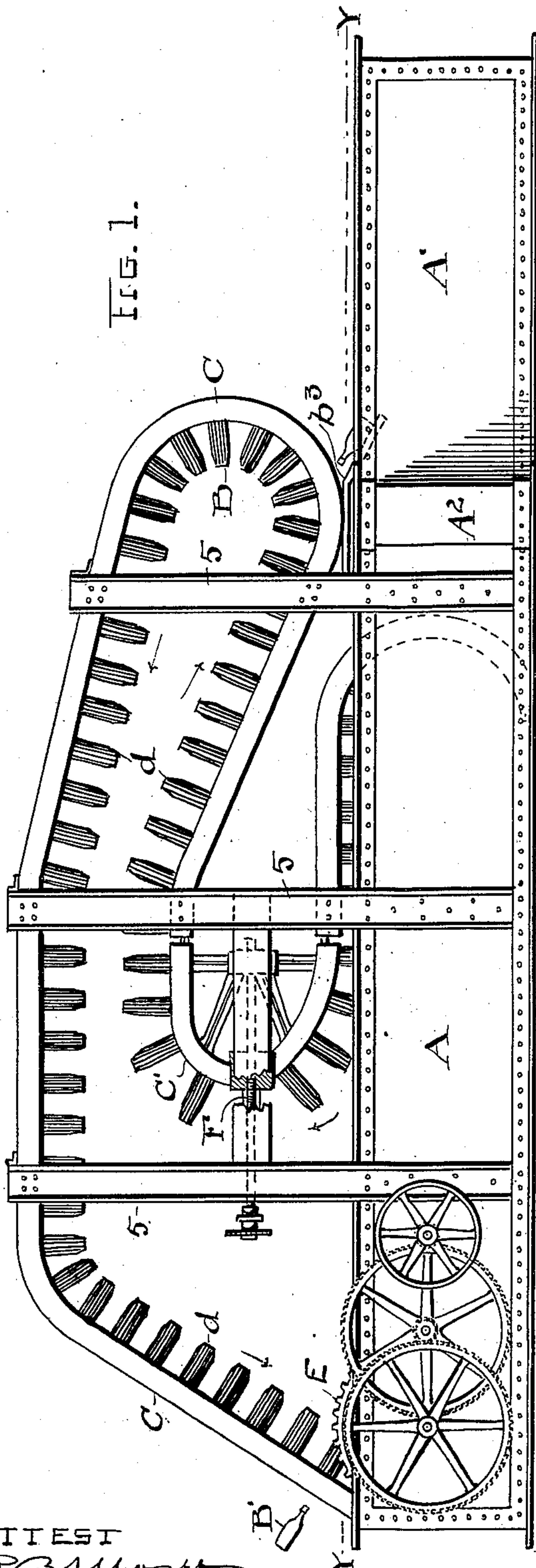
BOTTLE SOAKING AND WASHING MACHINE.

(Application filed Jan. 8, 1902.)

(No Model.)

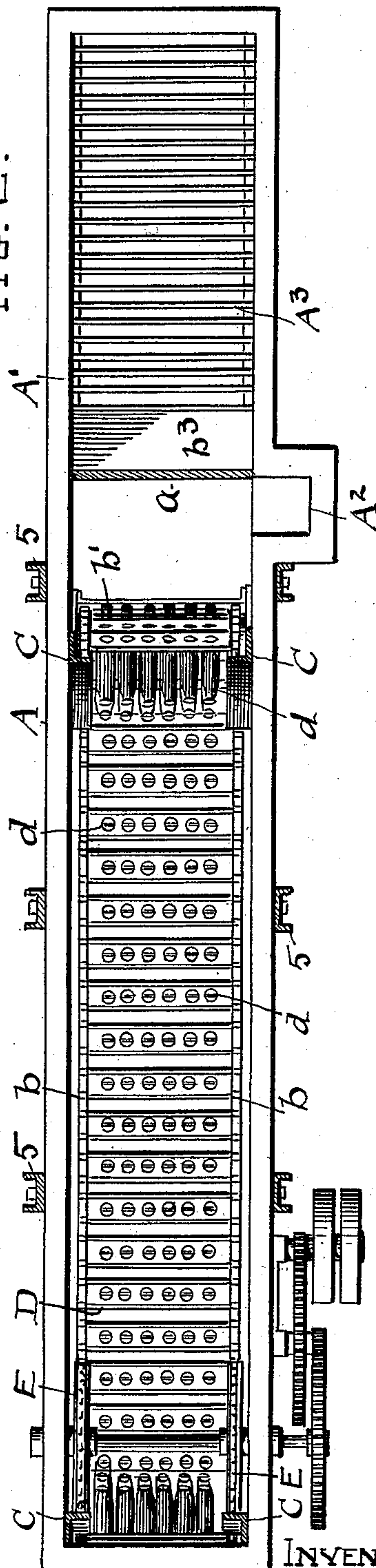
2 Sheets—Sheet 1.

FIG. 1.



ATTEST
T. B. Moore
T. M. Maddens.

FIG. 2.



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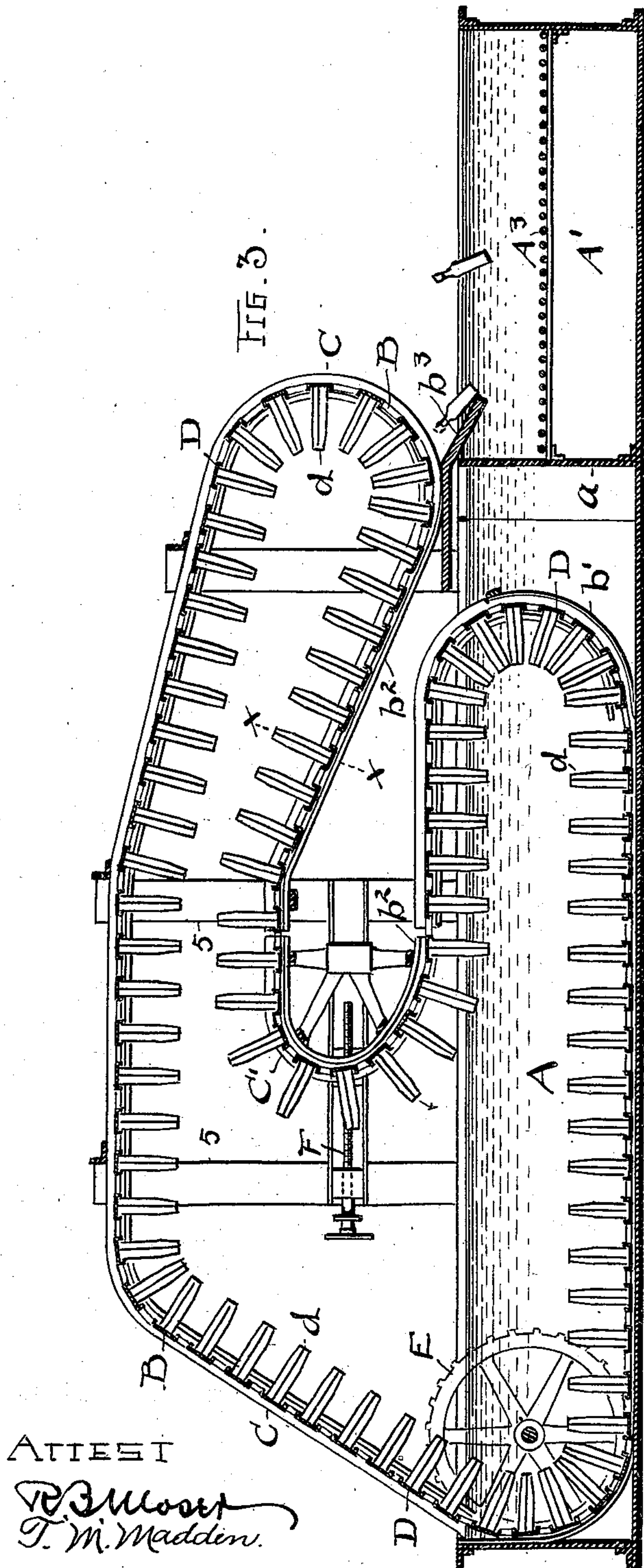
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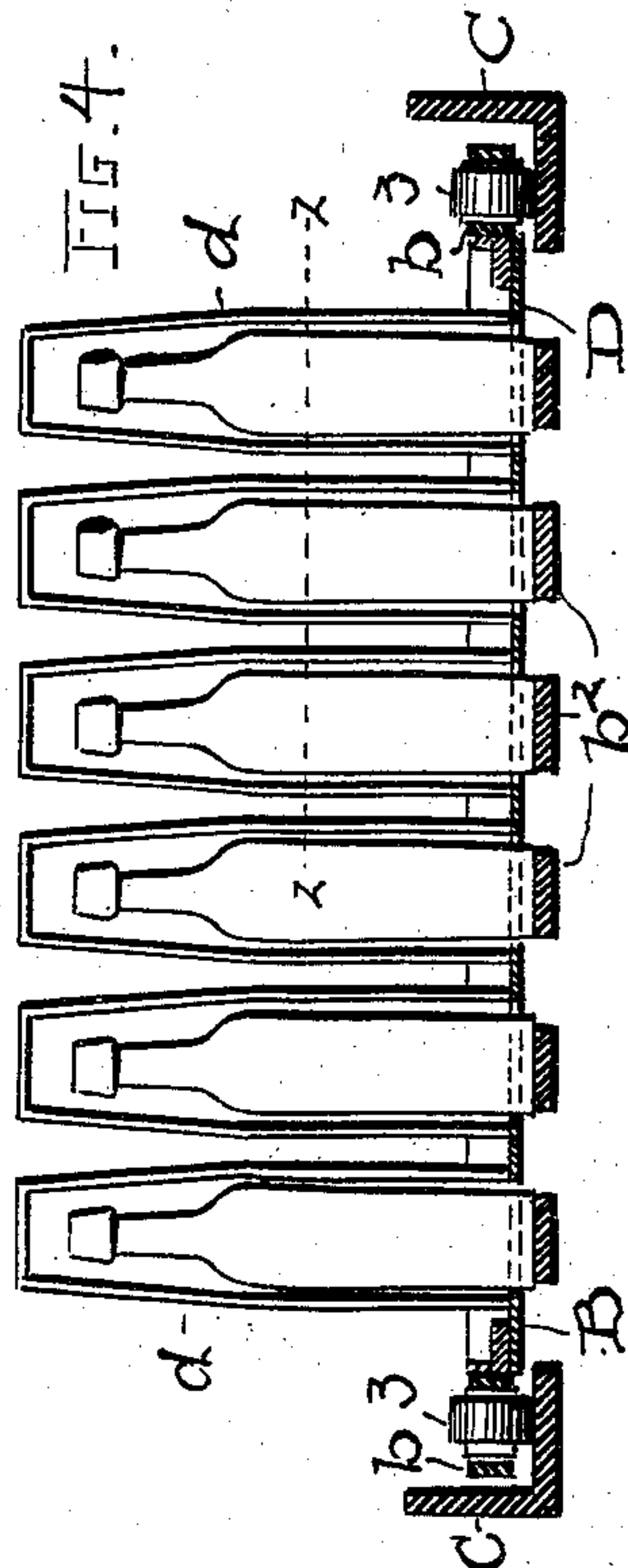
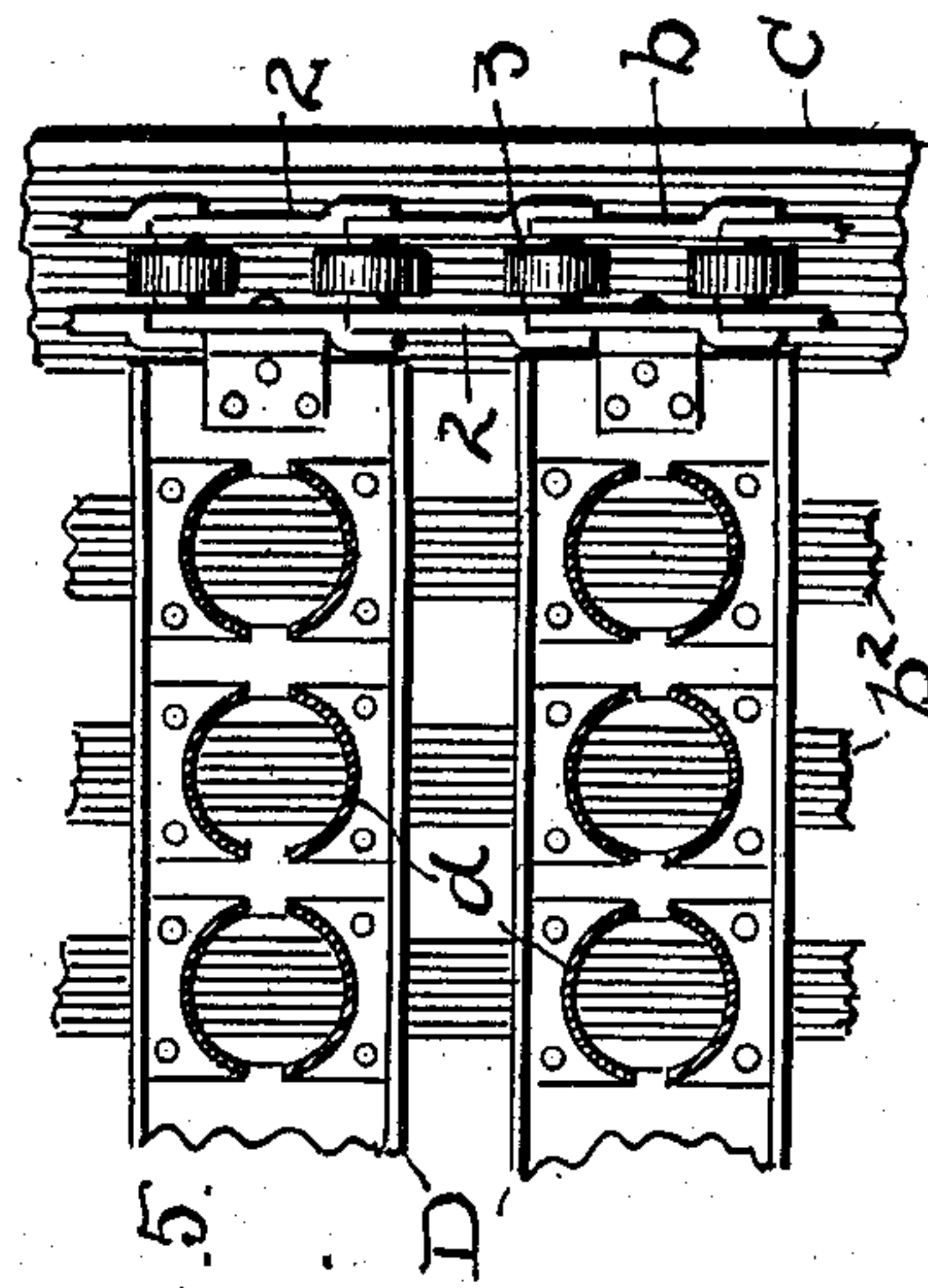
(Application filed Jan. 8, 1902.)

(No Model.)

2 Sheets—Sheet 2.



ATTEST
T. M. Madden



INVENTOR
CHARLES H. LOEW

By *H. F. Fisher* ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES H. LOEW, OF CLEVELAND, OHIO.

BOTTLE SOAKING AND WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 700,518, dated May 20, 1902.

Application filed January 8, 1902. Serial No. 88,892. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. LOEW, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Bottle Soaking or Washing Machines; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to bottle soaking or washing machines; and the invention consists in the construction of a machine substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of the complete machine as it appears in use. Fig. 2 is a plan view of the machine substantially on line Y Y, Fig. 1. Fig. 3 is a longitudinal sectional elevation of the machine. Fig. 4 is an enlargement of a cross-section of the endless carrier and its side supports on line X X, Fig. 3; and Fig. 5 is a plan view thereof with a portion of the left of Fig. 4 broken away.

Several distinct and material improvements are developed in this machine, as will be seen, comprising first the construction and means of supporting and driving the endless bottle-carrying apron. It will be noticed that the tank is of the variety having first the bottle-soaking compartment A and the bottle washing or rinsing compartment A' built in one, as if they were in one continuous piece, but adapted to be separately constructed and separated for shipping, if preferred. In this instance a suitable partition *a* is shown as separating the two compartments. I have also shown the tank as constructed out of sheet metal; but it may be built of wood, if preferred.

B represents the endless carrier, comprising chains *b*, having links 2 and antifriction rollers or wheels 3 at regular intervals in said chains and arranged to sustain the weight and relieve the friction of travel in the track C, provided for said rollers. Metallic plates or pieces D connect chains *b* transversely and are provided with suitable baskets or receptacles *d* wholly on the inside of the endless car-

rier B and adapted to receive the bottles bodily when inserted head first, as indicated by bottle B' at the left in Fig. 1. In this construction also there is no mechanism immediately associated with the bottle holders or baskets *d* to confine the bottles; but all the bottles are confined over their entire course of travel either by gravity or by a surface provided for their confinement, wherein they would otherwise drop out. Thus in passing over the bottom of the tank the carrier B travels upon said bottom, and the bottles are confined thereby. Then as they rise on the rear they are held in by curved plate or strips *b'* until they again become inverted and need no help. Farther along as the carrier makes its reverse travel toward the cleansing-tank the bottom of the bottles ride over and upon plate or strips *b''* to their discharge into compartment or tank A', into which they drop by gravity over the lip or short inclined delivery-plate *b'''*.

The endless tracks or channels C, in which chains *b* and wheels 3 of the endless carrier travel, may be of angle-iron, channel-iron, or any other suitable material and of any suitable construction, and it needs but to be continuous and of such strength as will sustain the load and the pull that comes upon it through the carrier B.

In the construction upon which this invention is an improvement I support the endless carrier here and there on sprocket-wheels adapted to be driven by direct or indirect application of power thereto, and the carrier is kept reasonably taut by mechanism arranged to take up the slack. In this construction the endless carrier is itself provided with rollers, and there is a corresponding endless track in which they travel, and this track is a stationary and permanent fixture. In this instance it is supported in uprights or posts 5, which enter into the composition of a framework with the said track and such incidental parts as may be necessary, as braces or the like, to give rigidity and firmness to the structure. Thus constructed and arranged the endless carrier is moved in its circuit by power-driven sprocket-wheels E, placed, as here shown, at the entrance into tank A; but the said wheels may be set in the loop of the carrier at its mid-

dle, where plate b^2 begins, or at some other place, and I may employ an auxiliary sprocket wheel or wheels in this loop or other place to help wheels E in their work and produce, possibly, better operation with less strain on the chain. However, the present arrangement works satisfactorily, if rightly constructed. The slack in this carrier is taken up by making the track C sectional at its loop, where the circular section C' is separate from the track C and has its own framework, adjustable by means of screw F, engaged in said section and in its own fixed bearing in this framework for carrier B.

Now, referring again to the tank, it is seen that there is at one side a recess A^2 the full depth of the tank and having such width that it affords practical entrance to or into the tank at its end immediately in front of tank A'. By reference to Fig. 3 it is noticed that there is a space behind carrier B in tank A and beneath the carrier above where it overlaps the rear of tank A to the discharge in tank A', which is closed from access from both side and top and in which the debris coming into the tank ultimately is carried and accumulates. Hence the necessity of a side recess or space having the advantage of A^2 , so that the operator can at any time gain entrance into this otherwise inaccessible space and remove all accumulations without stopping the machine; otherwise they are liable to gather and be picked up by the carrier and clog the machine.

I might reverse the idea of having rollers on the carrier-chains by placing the rollers in the carrier tracks or guides and run the chain over them. However, I prefer the present construction.

If found necessary, there may also be side antifriction-rollers on the endless tracks or at intervals on the edge of the endless chains to relieve possible side friction.

A feature of cleansing-tank A' is the interposed screen or false bottom A^3 half way down in the tank, which prevents bottles that may fill and sink from going entirely to the bottom and serves in any event as a stop which yields and cannot break the bottle when the bottle drops upon it.

The recess A^2 may be upon either side, according to convenience, or it may be duplicated on the other side also.

What I claim is—

1. In bottle-soakers, a suitable tank, an endless bottle-carrier, endless tracks supporting the carrier at all points in its travel and rollers supporting the carrier on the track and ar-

ranged to sustain the load and prevent friction, substantially as described.

2. The tank and the endless tracks thereon, an endless carrier supported at its edges on said tracks, and stationary parts around which the carrier is reversed, substantially as described.

3. The tank and the endless tracks thereon, in combination with an endless carrier having rollers traveling on said tracks the entire circuit of the carrier, substantially as described.

4. In bottle-washing machines, an endless carrier comprising chains at its edges and cross-pieces connecting said chains constructed to carry bottles, endless tracks in which said chains travel, rollers to support the said chains throughout the entire length of their travel on said tracks, and drive-wheels engaging said chains and moving the carrier, substantially as described.

5. The tank and the endless tracks thereon constructed to support a series of rollers, in combination with an endless carrier engaged at its edges on said tracks and rollers supporting the carrier thereon, and drive mechanism in the line of said tracks engaging the said carrier between said rollers, substantially as described.

6. The tank and the endless tracks thereon having a separate section at one of its turns and means to adjust said separate section to lengthen or shorten the line of travel, substantially as described.

7. The tank having two compartments, the endless track supported on said tank and extending to the division-wall between said compartments and in position to discharge into the rear compartment, in combination with an endless carrier on said track provided with bottle-holding receptacles constructed to discharge the bottles by gravity, and means to confine the bottles in their receptacles terminating at the edge of said second compartment, substantially as described.

8. The tank having a side recess extending laterally beyond the body of the tank and open thereto, in combination with an endless carrier and supports therefor arranged to bring the carrier over the portion of the tank having said side recess and thus closing the space entered by said recess from the top, substantially as described.

Witness my hand to the foregoing specification this 9th day of December, 1901.

CHARLES H. LOEW.

Witnesses:

R. B. MOSER,

T. M. MADDEN.