

No. 832,433.

PATENTED OCT. 2, 1906.

D. K. STRAUB & J. A. POTTMEYER.
AUTOMATIC CRATE SOAKER.

APPLICATION FILED DEC. 4, 1905.

3 SHEETS—SHEET 1.

Fig. 1.

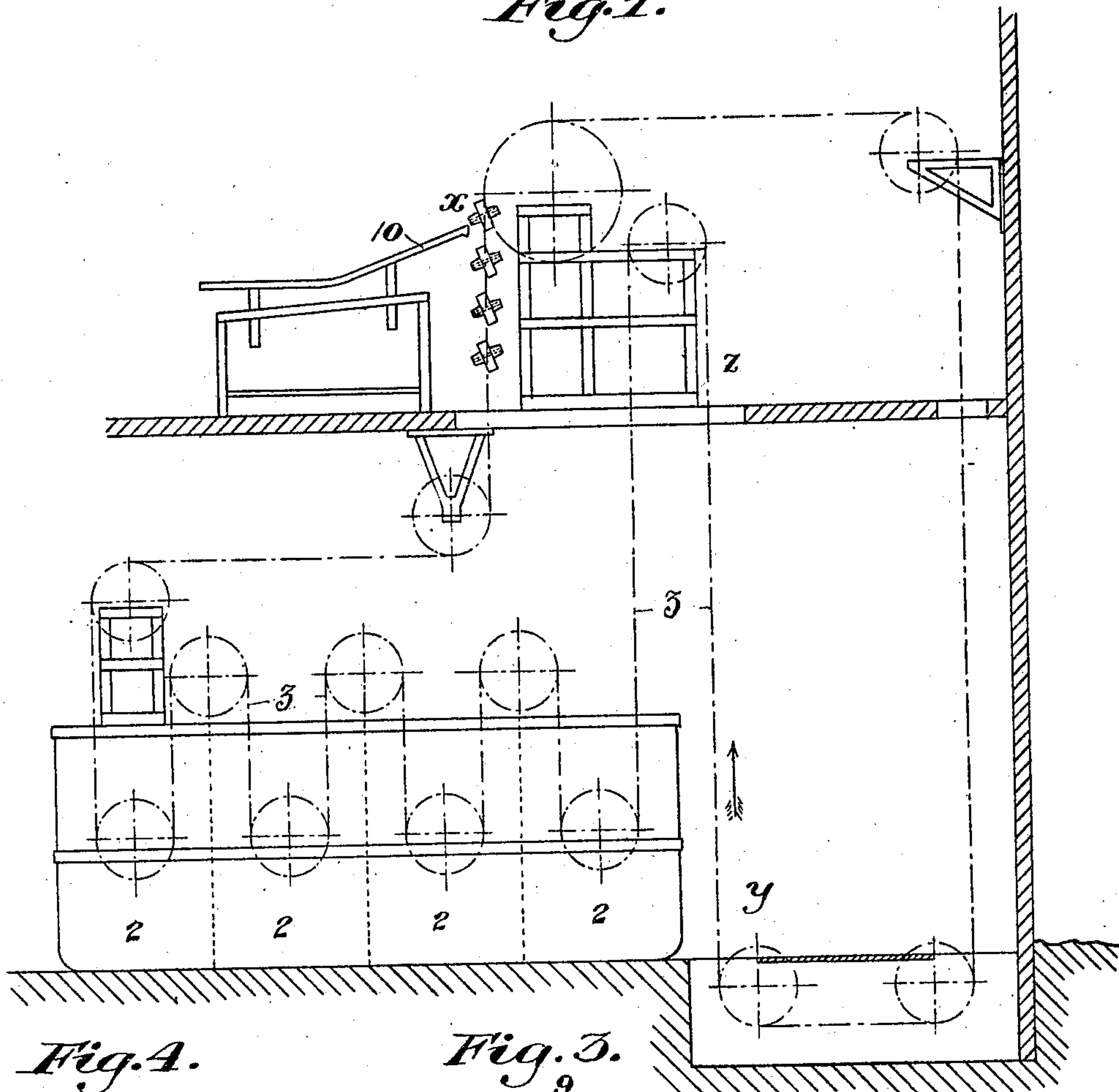


Fig. 4.

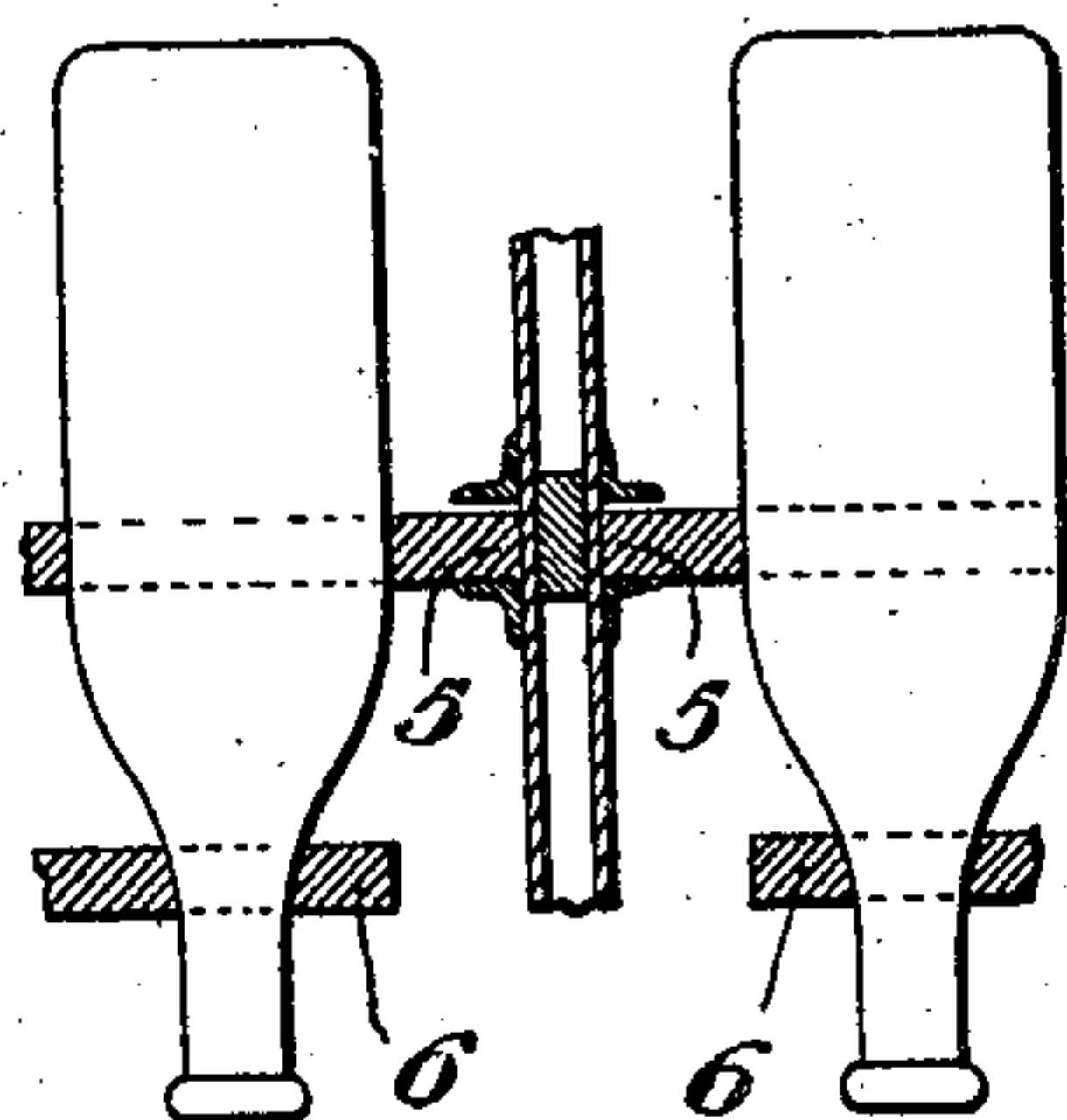


Fig. 3.

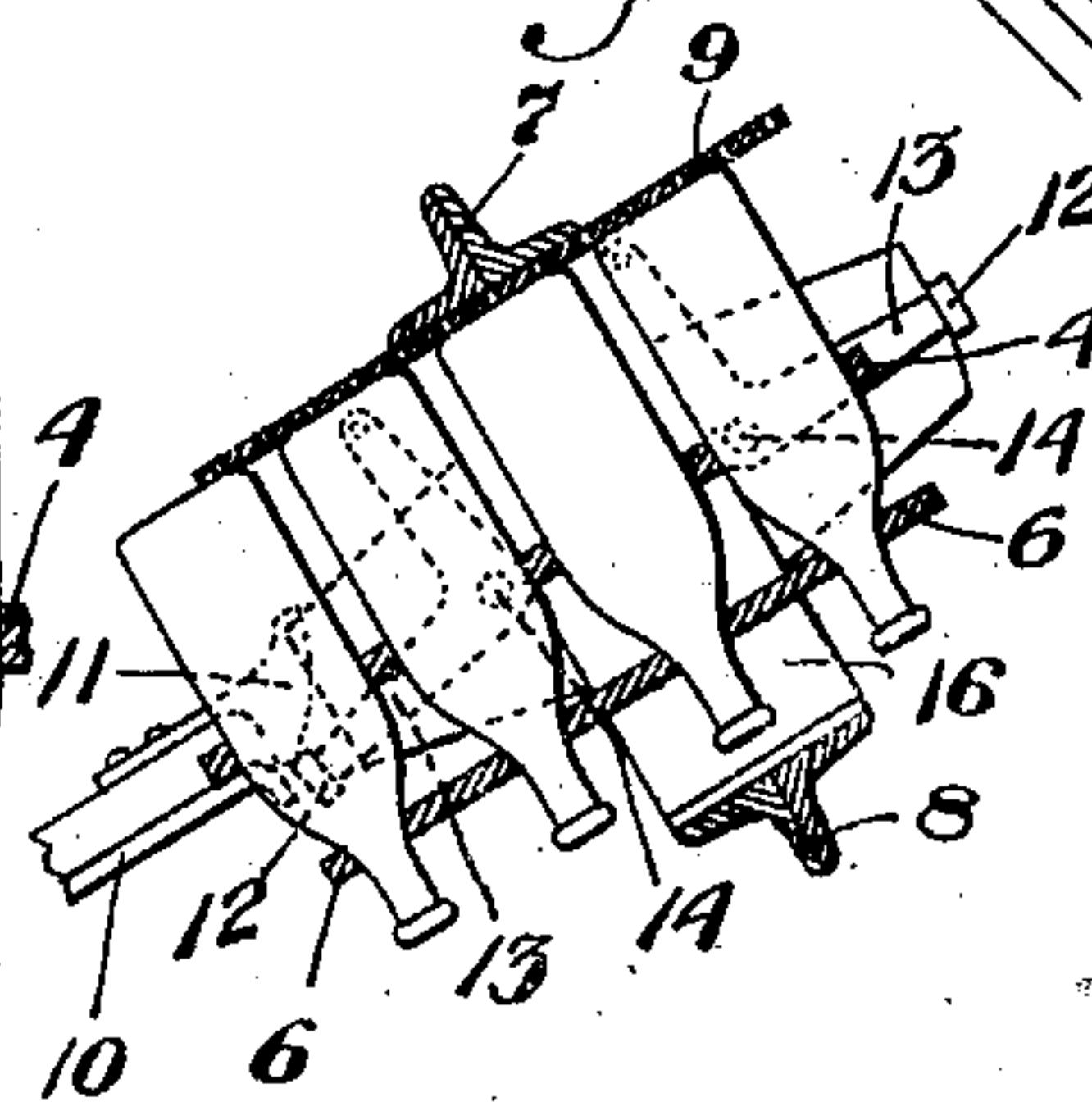
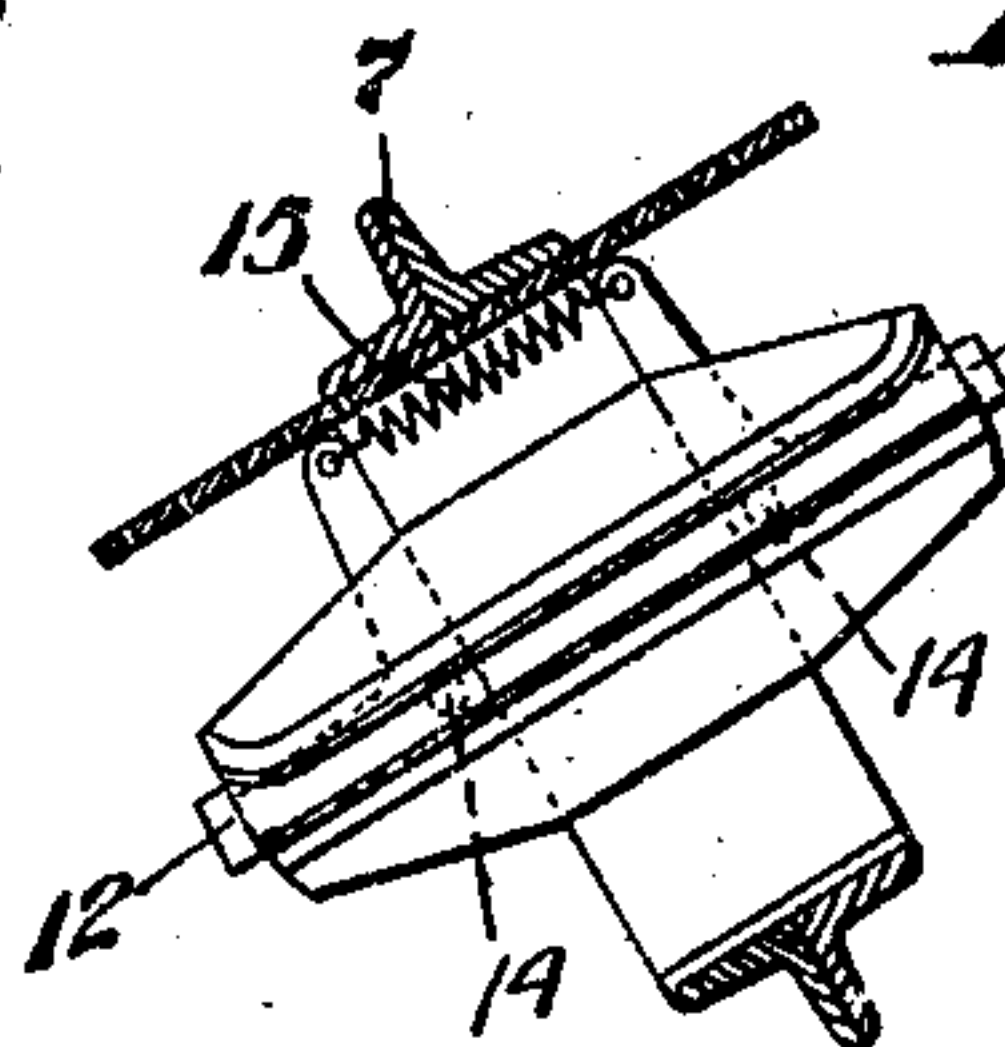


Fig. 2.



Witnesses:

E. R. Rodd.
Chas. S. Sibley.

Inventors.

Arthur K. Straub
John H. Pattinson
by C. M. Clarke
their atty.

No. 832,433.

PATENTED OCT. 2, 1906.

D. K. STRAUB & J. A. POTTMEYER,

AUTOMATIC CRATE SOAKER.

APPLICATION FILED DEC. 4, 1905,

3 SHEETS—SHEET 2.

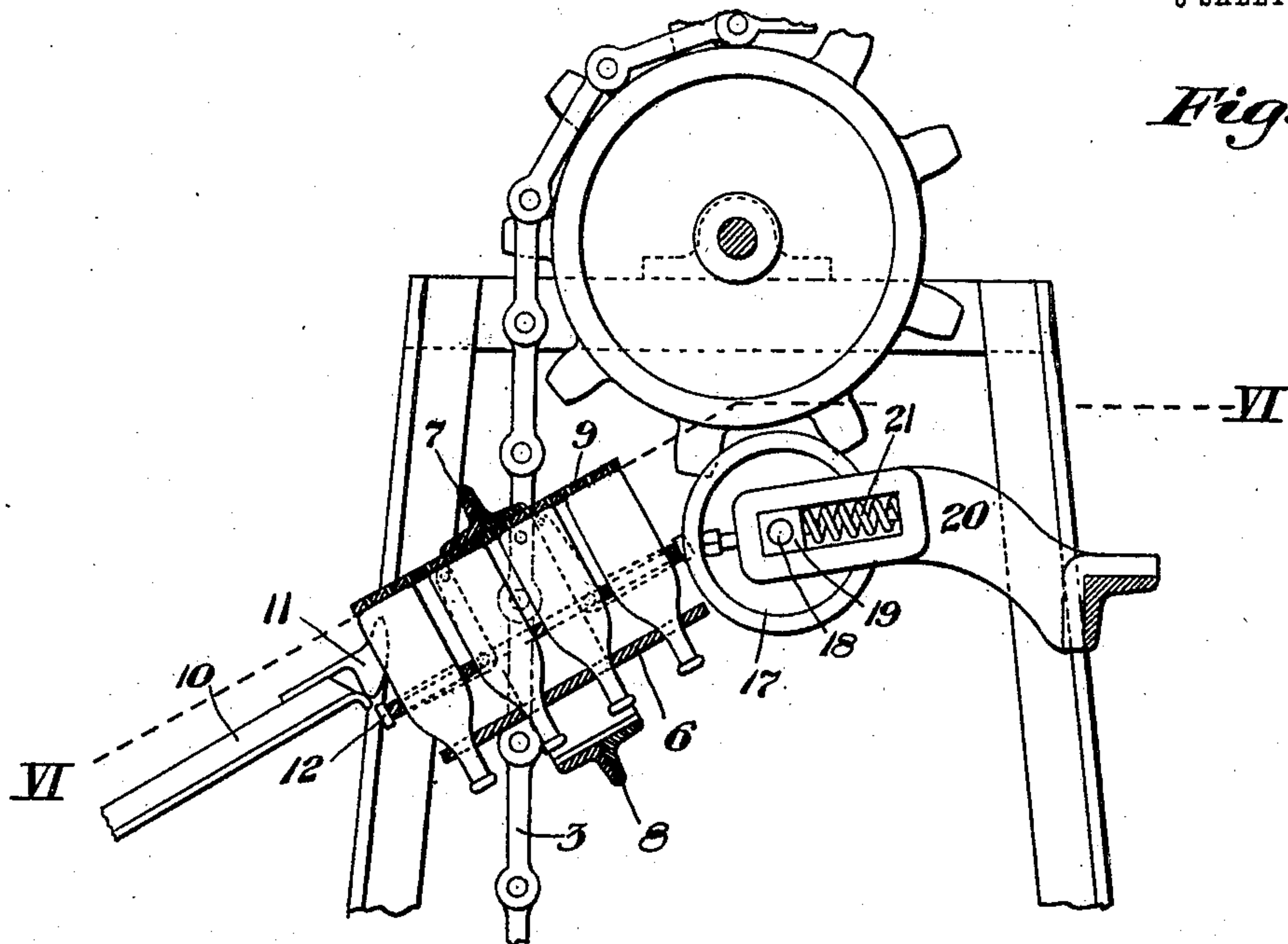


Fig. 5.

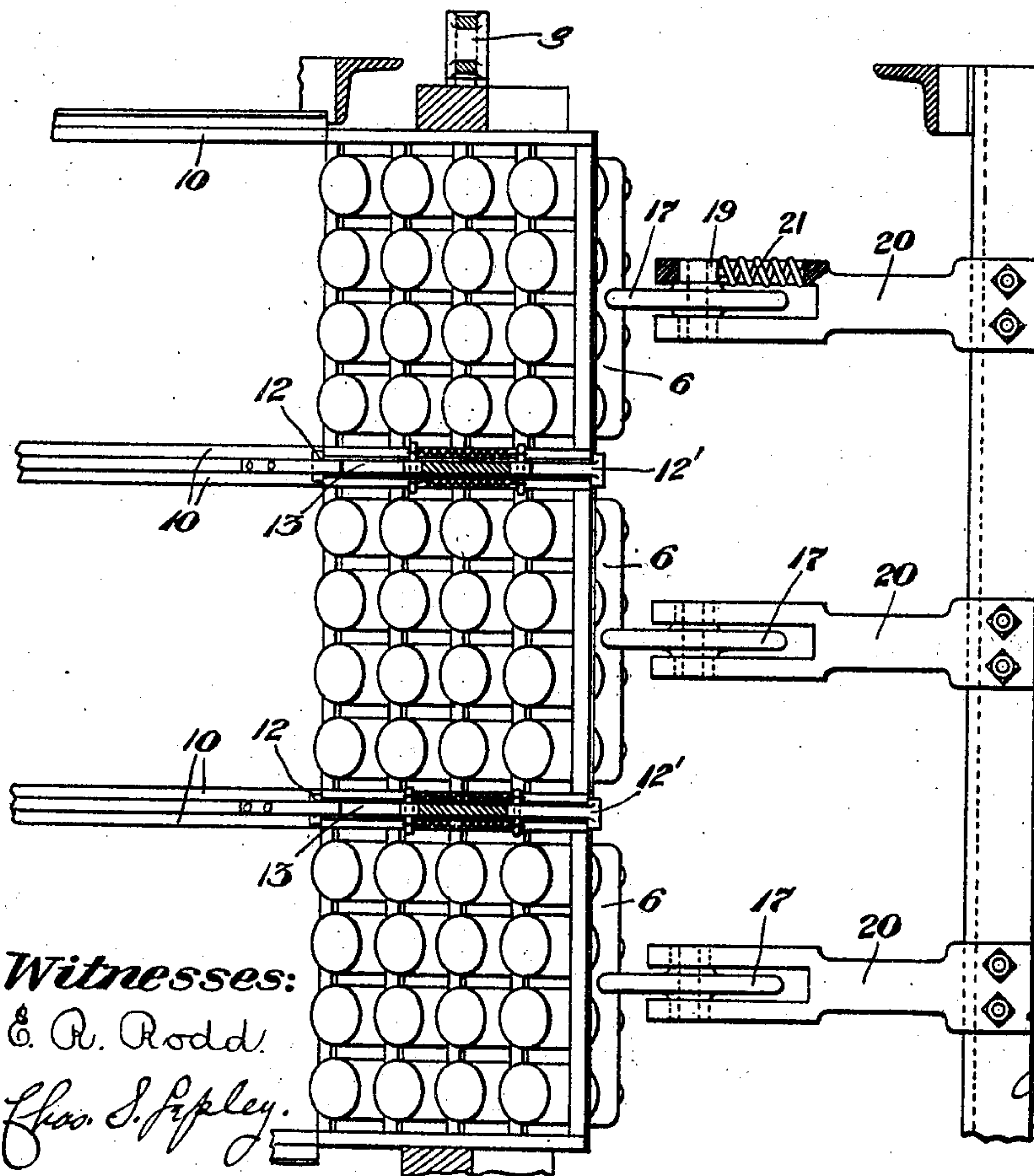


Fig. 6.

Witnesses:

C. R. Rodd.

Geo. S. Popley.

Inventors:

D. K. Straub
J. A. Pottmeyer

By C. M. Clarke
their atty.

No. 832,433.

PATENTED OCT. 2, 1906.

D. K. STRAUB & J. A. POTTMEYER.

AUTOMATIC CRATE SOAKER.

APPLICATION FILED DEC. 4, 1905.

3 SHEETS—SHEET 3.

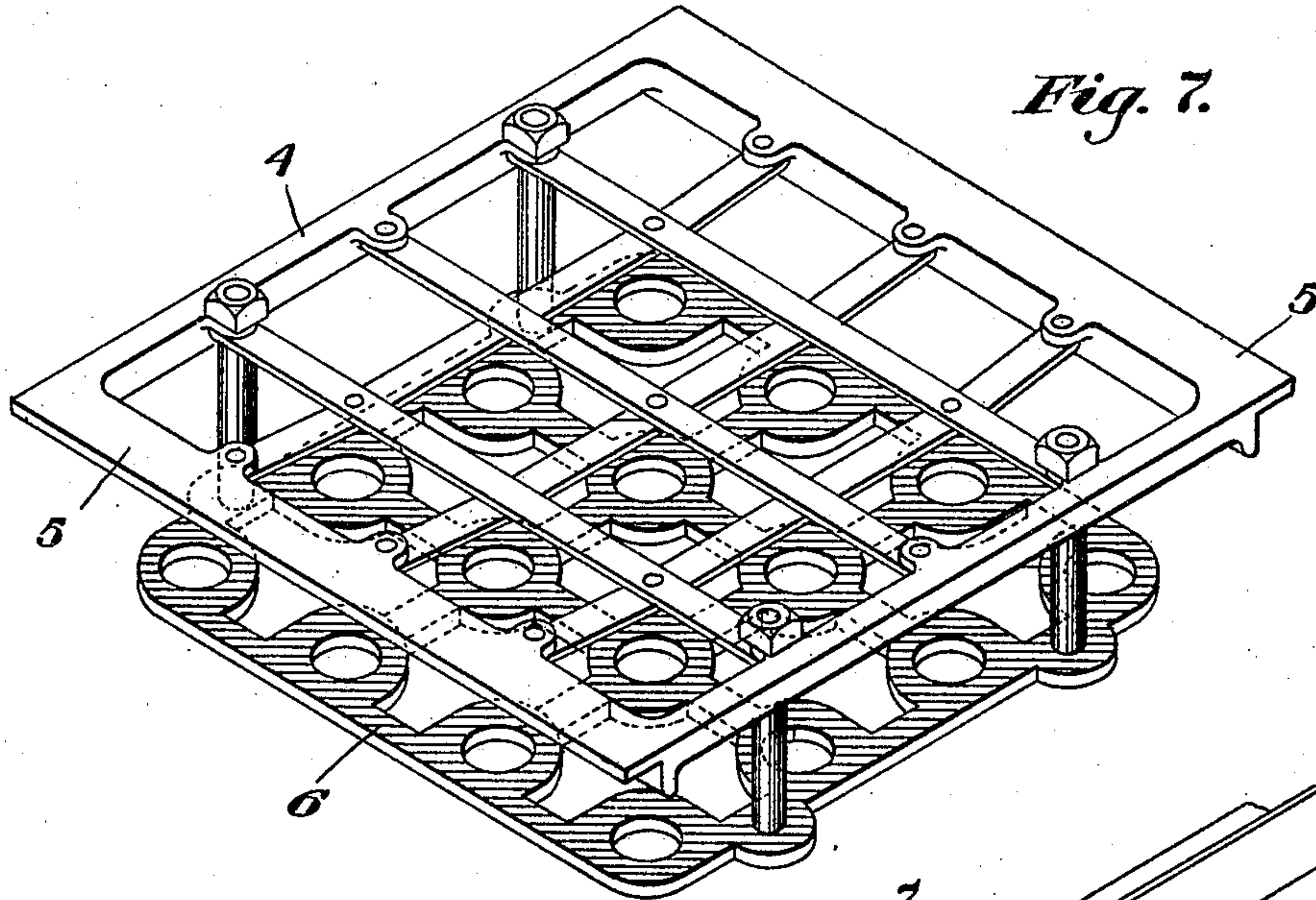


Fig. 7.

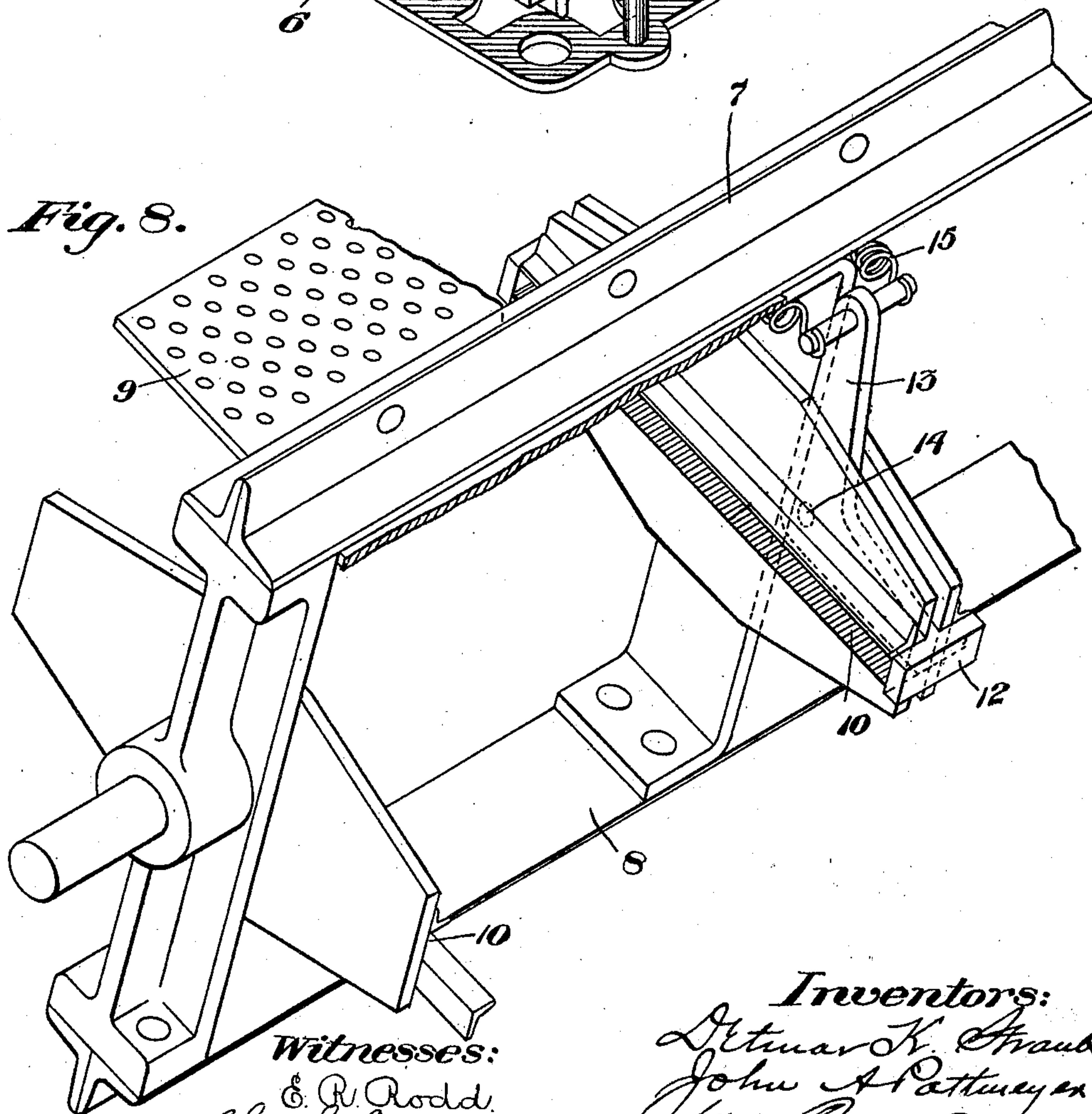


Fig. 8.

Witnesses:
E. R. Rodd.
Chas. S. Spley.

Inventors:
Detmar K. Straub
John A. Pottmeyer
by *C. M. Clark*
their attorney.

UNITED STATES PATENT OFFICE.

DETMAR K. STRAUB AND JOHN A. POTTMEYER, OF PITTSBURG, PENNSYLVANIA.

AUTOMATIC CRATE-SOAKER.

No. 832,433.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed December 4, 1905. Serial No. 290,188.

To all whom it may concern:

Be it known that we, DETMAR K. STRAUB and JOHN A. POTTMEYER, citizens of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Crate-Soakers, of which the following is a specification, reference being had therein to the accompanying drawings, forming part of the specification, in which—

Our invention refers to improvements in automatic crate-soakers for beer-bottles, wherein the bottles are conveyed in crates or baskets through soaking tanks or compartments by means of chain carriers and finally discharged therefrom upon receiving slides or skids.

In the apparatus upon which the present invention is an improvement the crates containing the bottles are carried by means of holding-frames provided with sliding ways for the crates arranged at an angle, the frames being secured at intervals to carrying-chains which move the crates and bottles around through a series of washing or soaking compartments, finally delivering them upon receiving-tracks.

Ordinarily the crates are released automatically from the inclined slides of the frames by means of latches which come into contact with cam-abutments, whereupon they slide outwardly and downwardly; but we have found in practice that the crates are apt to stick or bind in the slides, due to corrosion of the metal or other causes, even when released, and fail to be discharged at the proper time. The result of such failure is that the crates are frequently carried around by the frames and are dropped upon the floor or elsewhere, breaking the bottles and causing considerable loss, and it is to overcome such difficulty and accomplish the positive discharge of the crates that our present invention is designed.

Referring now to the drawings, Figure 1 is a sectional diagrammatic view of an automatic crate-soaker for beer-bottles embodying our improvement. Fig. 2 is a detail view, in side elevation, of one of the crate-carrying frames. Fig. 3 is a vertical sectional view through the frame and crate just before discharging the crate from the apparatus. Fig. 4 is a sectional detail view

showing the slides. Fig. 5 is a vertical sectional view of the upper portion of the apparatus, showing our improved crate-shifting device. Fig. 6 is a horizontal plan view on the line VI VI, of Fig. 5. Fig. 7 is a perspective detail view of one of the bottle-carrying crates detached. Fig. 8 is a similar view of one of the crate receiving and carrying frames.

2 represents the water-containing compartments through which the bottles to be soaked and washed are carried in their crates by endless chains 3, mounted upon suitably-located supporting sheave-wheels and drawn at the desired speed by means of any convenient operating mechanism. The bottles are primarily charged or loaded into holding-crates comprising a main plate 4, the side edges 5 of which constitute supporting-flanges adapted to engage the slanting receiving-grooves of the frame by which the crate is held.

6 is a neck-holding plate forming part of the crate, connected with the main plate, both of said plates having corresponding openings for the bodies and necks of the bottles, respectively.

The frames by which the crates are carried comprise upper and lower cross-bars 7 8, secured at each end to the links of the carrying-chains 3, one of said bars, 7, having secured to it a plate 9, preferably perforated, against which the bottoms of the bottles abut and upon which they rest when traveling downward toward the washing-compartments 2. The frames are designed to move the bottle-charged crates continuously around through the various compartments 2 and to bring them successively to the point of discharge *x*, Fig. 1, at which point they are released and ordinarily slide out by gravity, their flanges 5 resting in inclined tracks or ways 10, formed between angle-bars leading down to the desired point of removal. Ordinarily release of the crates from the frames is accomplished automatically by means of stationary abutments 11, against which the latch ends 12 of holding-arms 13 come into contact as the crates are slowly raised by the chain-actuated frames. These arms 13 constitute one portion of a bell-crank lever pivoted at 14 in the frame and normally held in crate-restraining position by springs 15, connected at the other end of a corresponding locking-lever on the other side.

It will be understood that the crates are charged into the frames by the operator from their other side at the points marked *y* and *z* and retained therein by said opposite arms and their corresponding latch ends 12'.

In order to insure the positive discharge of the crates downwardly through the inclined slides or ways 10, in which they occasionally stick sufficiently to overcome the force of gravity, we have provided a device arranged to come into resisting contact with the rising crates, so as to exert an increasing pressure against them, but still capable of being moved back sufficiently to allow the crate to continue around in its original position should its adherence or attachment to the frame still be sufficiently strong to overcome the dislodging action of said device. For this purpose we employ a roller 17, one for each crate-frame, across the width of the apparatus, as shown in Fig. 6, and so located that it will at the proper time make contact with the rear edge of plate 6. The rollers 17 are mounted by their journals 18 in sliding boxes 19 in a carrying-frame 20, mounted on the frame of the apparatus, said frame 20 having springs 21 at each side normally pressing outwardly against boxes 19 and holding them against the outer terminal of the frame. By this construction the rollers may be depressed by the crates in rising until the flange edges 5 are in register with tracks 10, at which time the latch extremities 12 will have been depressed by abutments 11, whereupon the crates and their contents will be positively moved from their position in the frames, independently of any sticking, and will effectually accomplish the objects in view, the crates then sliding out of the frames by gravity.

The invention is very simple and efficient and greatly contributes to the successful operation of bottle-soaking apparatus. It may be changed or varied in different details by the skilled mechanic; but all such changes are to be considered as within the scope of the following claims.

What we claim is—

1. The combination with a movable carrying-frame provided with inclined ways and a sliding goods-carrier mounted in said ways, of a relatively stationary abutment arranged to make contact with the goods-carrier and to move it with relation to the carrying-frame, substantially as set forth.

2. The combination with a movable carrying-frame provided with inclined ways and a bottle-containing crate mounted in said ways, of a resiliently-mounted roller arranged to make contact with the crate and to move it with relation to the carrying-frame, substantially as set forth.

3. The combination with a movable frame provided with inclined ways to receive a bottle-containing crate and having a latch to retain the crate in the frame, of means for tripping the latch, and means for positively moving the crate in the frame, substantially as set forth.

4. The combination with a movable frame provided with inclined ways to receive a bottle-containing crate and having a latch to retain the crate in the frame, of means for tripping the latch, and a resiliently-mounted roller arranged partly in the path of the crate, substantially as set forth.

5. The combination with a movable frame provided with inclined ways to receive a bottle-containing crate and having a latch to retain the crate in the frame, of means for tripping the latch, a carrying-bracket having compressible springs and a roller journaled in said bracket against said springs, and adapted to make contact with the edge of the crate, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

DETMAR K. STRAUB.
JOHN A. POTTMEYER.

Witnesses:

C. M. CLARKE,
CHAS. S. LEPLEY.