

S. DE PROCOUDINE-GORSKY.

APPARATUS FOR THE TREATMENT OF PHOTOGRAPHIC NEGATIVES OR THE LIKE WITH LIQUIDS.

APPLICATION FILED JULY 17, 1919.

Patented Mar. 29, 1921.

1,373,311.

2 SHEETS—SHEET 1.

Fig. 1

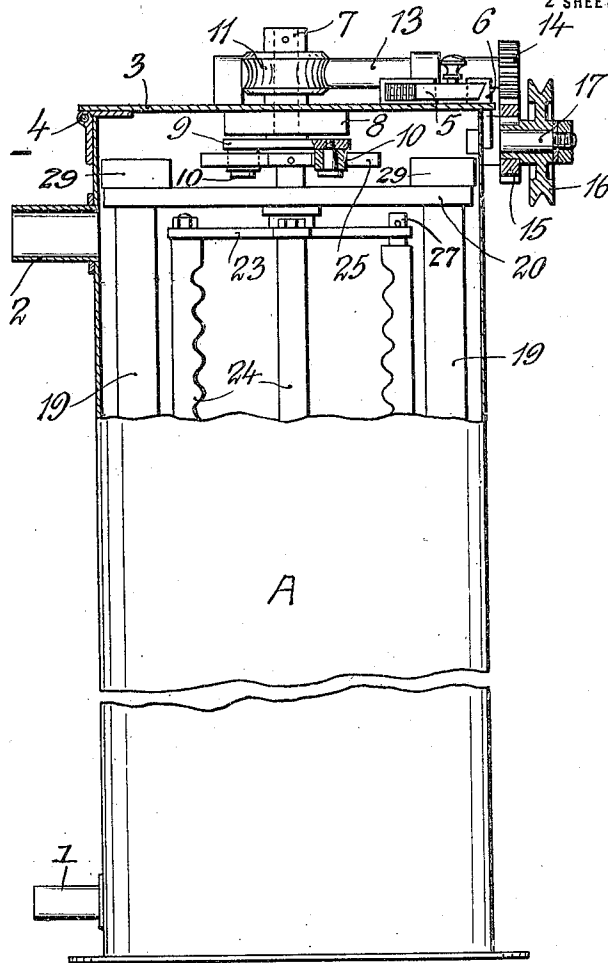
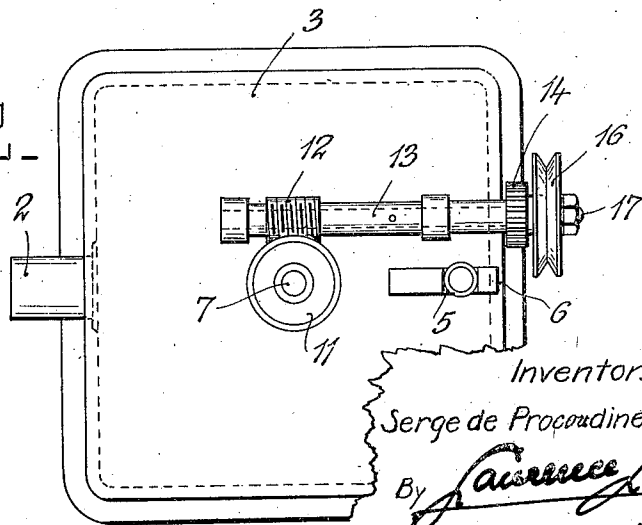


Fig. 2



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Fig. 3.

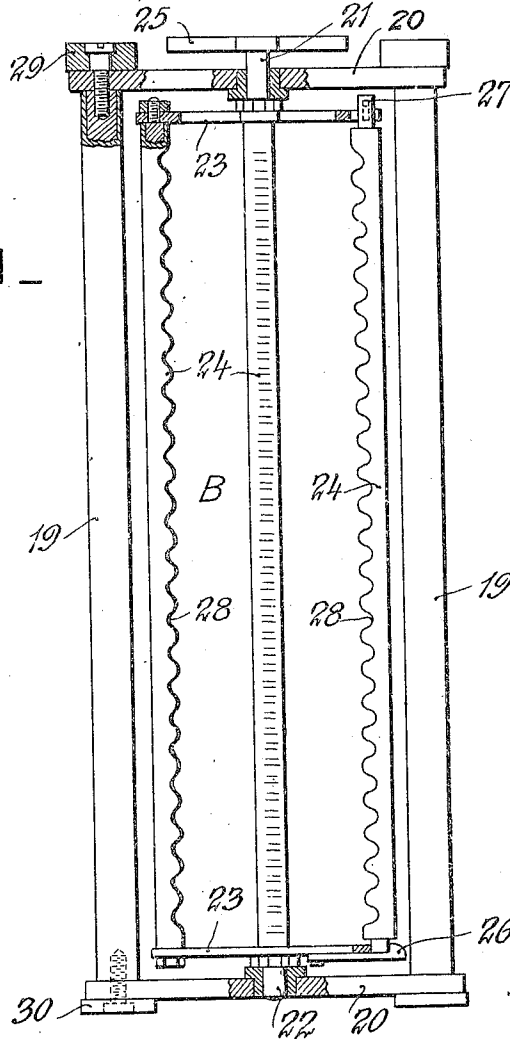
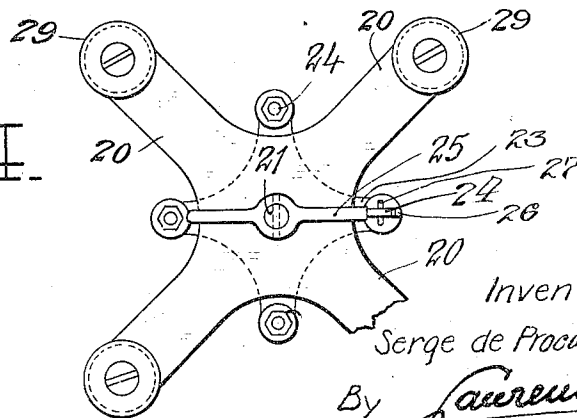


Fig. 4.



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UNITED STATES PATENT OFFICE.

SERGE DE PROCOUDINE-GORSKY, OF GRANSTAD, KONNERUD, NEAR DRAMMEN,
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APPARATUS FOR THE TREATMENT OF PHOTOGRAPHIC NEGATIVES OR THE LIKE WITH LIQUIDS.

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Specification of Letters Patent.

Patented Mar. 29, 1921.

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To all whom it may concern:

Be it known that I, SERGE DE PROCOUDINE-GORSKY, a Russian subject, residing at present at Granstad, Konnerud, near Drammen, Norway, have invented certain new and useful Improvements in Apparatus for the Treatment of Photographic Negatives or the like with Liquids; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The present invention relates to an apparatus for the treatment of photographic negatives with water or other liquids in which the liquid and the objects treated have a motion relatively to each other. An apparatus constructed in accordance with the invention is illustrated on the annexed drawing, in which Figure 1 is a side view partly in vertical section. Fig. 2 is a plan view, while Figs. 3 and 4 show a vertical section and a plan view respectively of a stand or frame carrying the objects to be treated and to be put in the liquid-container.

In the illustrated example the apparatus consists of a tank (A) which is provided at its bottom and top with pipes (1) and (2) through which the liquid enters and leaves the tank. The tank is closed by means of a hinged cover (3) which is locked by means of a spring-pressed bolt (5) and keeper (6). The center of the cover is provided with a shell (8), carrying the rotary shaft (7), the lower part of which is fitted with a cross-bar (9) having pins (10).

The shaft (7) carries a worm-wheel (11) outside the tank, which meshes with the worm (12) on the axle (13). The small toothed wheel (14) on the aforesaid axle engages with the toothed wheel (15), when the cover is locked. The toothed wheel (15) is keyed on to the boss of the pulley (16), which rotates free on the pin (17), fixed to the tank. A stand B (Figs. 3 and 4) is placed in the before mentioned tank, said stand consisting of upper and lower spiders (20) connected by rods (19) and carrying an inner rotating frame, which is provided with bearing shafts (21) and (22). This

frame comprises rods (24) which have cuts or kerfs (28) on the inner side. One of the rods (24) is connected with the upper cross-shaped piece (23) by means of the joint (27) and it is kept in position at the lower cross-shaped piece (23) by aid of the spring-latch (26). On the upper bearing shaft (21) of the supporting frame a cross-piece (25) is arranged, which is in level with the aforesaid pins (10) on the axle (7), when the stand B is placed in the basin A.

The products or objects which are to be treated, for instance photographic negatives are put in between the kerfs (28) on the rods (24) either horizontally in the frame (23, 24) or in an inclined position. To enable the negatives to be put in place, one of the rods (24) is swung out on hinge (27) and after the negatives are in place such rod is returned to the position shown in Fig. 3 where it is held by spring latch (26).

The projecting blocks or disks (29) in Fig. 3 which are arranged above the edge of the frame are made of ebonite, india-rubber, guttapercha, or a similar elastic material and are arranged with the object of avoiding the tank A being scratched by the frame B when same is put in or taken out of the tank, similar blocks or disks (30) being arranged on the bottom of the frame.

When the frame B with the objects, which are to be treated are put in the tank A and the cover (3) has been locked, the axle (7) is put in motion which in its turn transfers the motion to the frame (23, 24) by means of the pins (10). The objects put in the frame B are thus kept in motion within the liquid, with the result that they will uniformly and continuously come in contact with different portions of the liquid. The rotation of the pulley (16) is transferred to the axle (7) in such a way that the latter is caused to rotate slowly.

Instead of using a worm gearing for this speed reduction, any other suitable mechanism may be used.

I claim as my invention—

1. In apparatus for treating photographic plates and the like with liquid, the combination of a container having inlet and outlet pipes for the liquid; a cover on said container; a shaft carried by said cover and extending into the container; means for rotating said shaft; a removable stand in said

container; a frame rotatably mounted in said stand and having means for supporting the plates within it; a cross-piece connected to the upper end of said frame; and driving
5 means carried by said shaft for engagement with said cross-piece.

2. In apparatus for treating photographic plates and the like with liquid, the combination of a container having inlet and outlet pipes for the liquid; a cover on said
10 container; a shaft carried by said cover and extending into the container; means for rotating said shaft; a removable stand in said container and having members for carrying
15 the plates between them, one of said members being removably fitted in the frame to enable the insertion of the plates therein; a cross-piece connected to the upper end of said frame; and driving means carried by
20 said shaft for engagement with said cross-piece.

3. In apparatus for treating photographic

plates and the like with liquid, the combination of a container having inlet and outlet pipes for the liquid; a cover on said
25 container; a shaft carried by said cover and extending into the container; means for rotating said shaft; a cross-piece connected to the lower end of said shaft; a removable stand in said container; a rotatable frame in
30 said stand having upper and lower bearing shafts engaged therewith, said frame having means for supporting the plates therein; a cross-piece connected to the upper bearing shaft; and driving means connecting said
35 cross-pieces.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

SERGE de PROCOUDINE-GORSKY

Witnesses:

OLGA MÜLLER,
MAGNUS BRIGGS.