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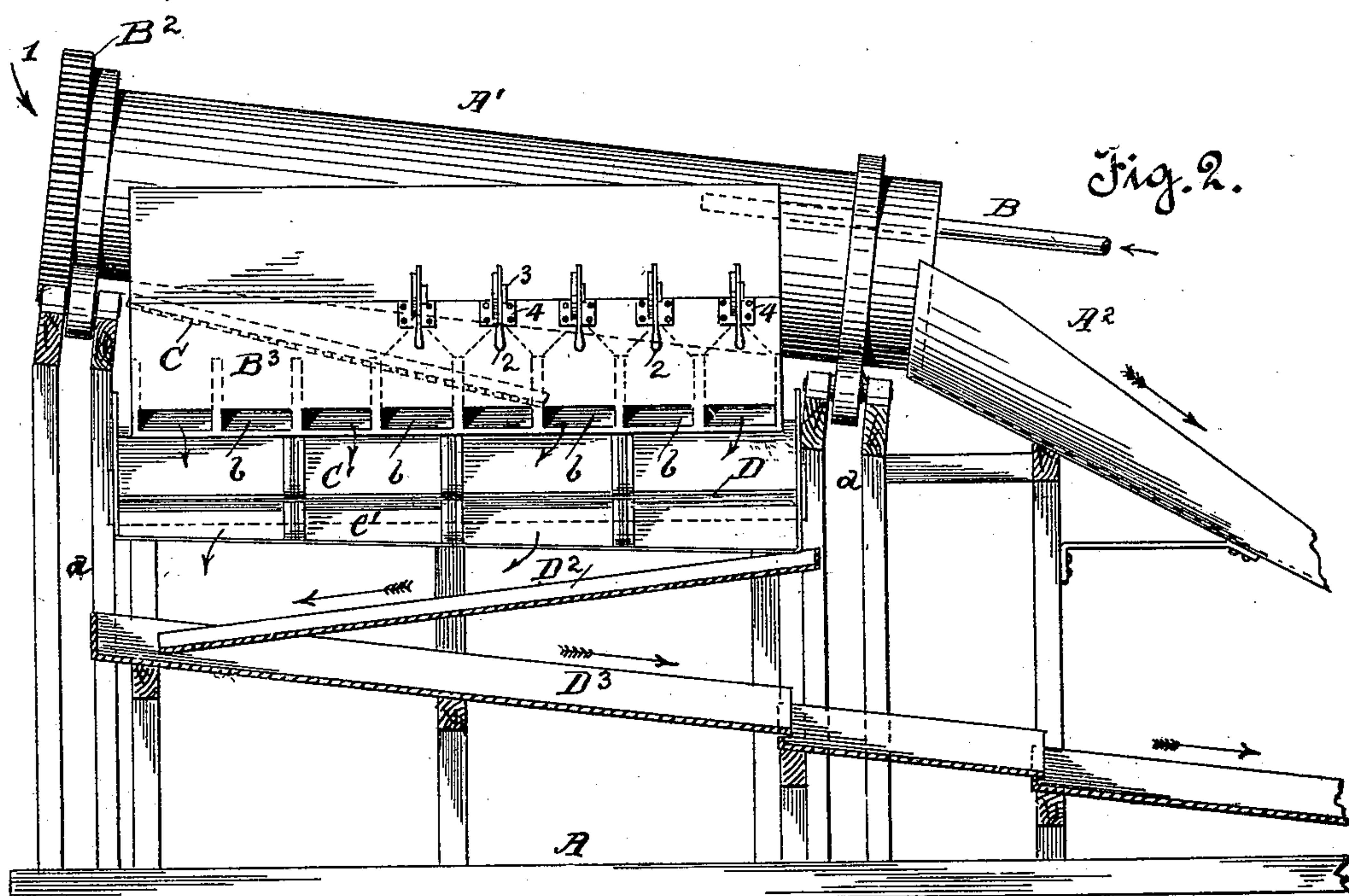
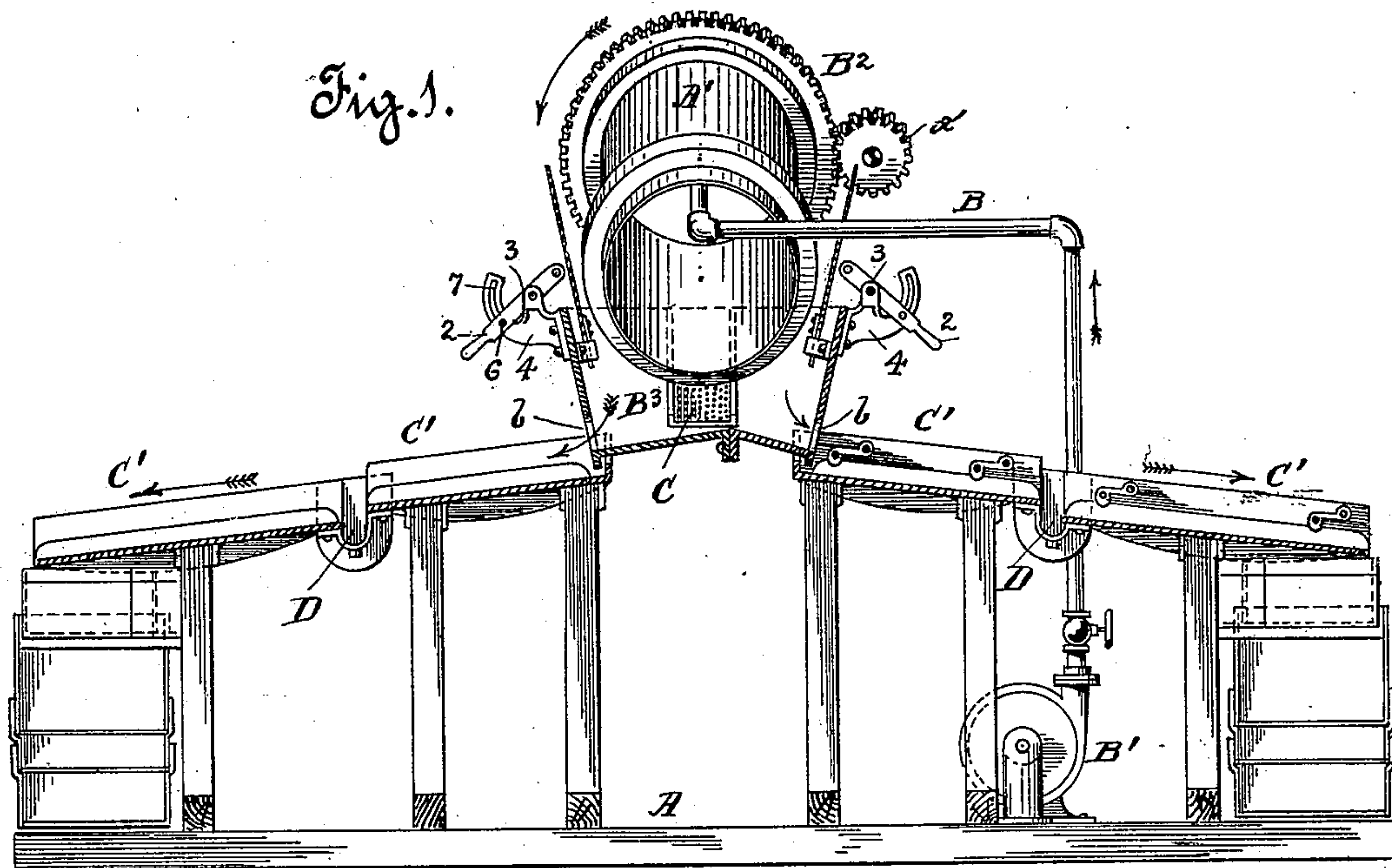
Patented July 3, 1900.

R. H. POSTLETHWAITE.
GOLD SAVING APPARATUS.

(Application filed Dec. 6, 1897.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.

Elmer Wicker
Elmer Wicker.

Fig. 10.



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by *W. A. Ackner*
his atty.

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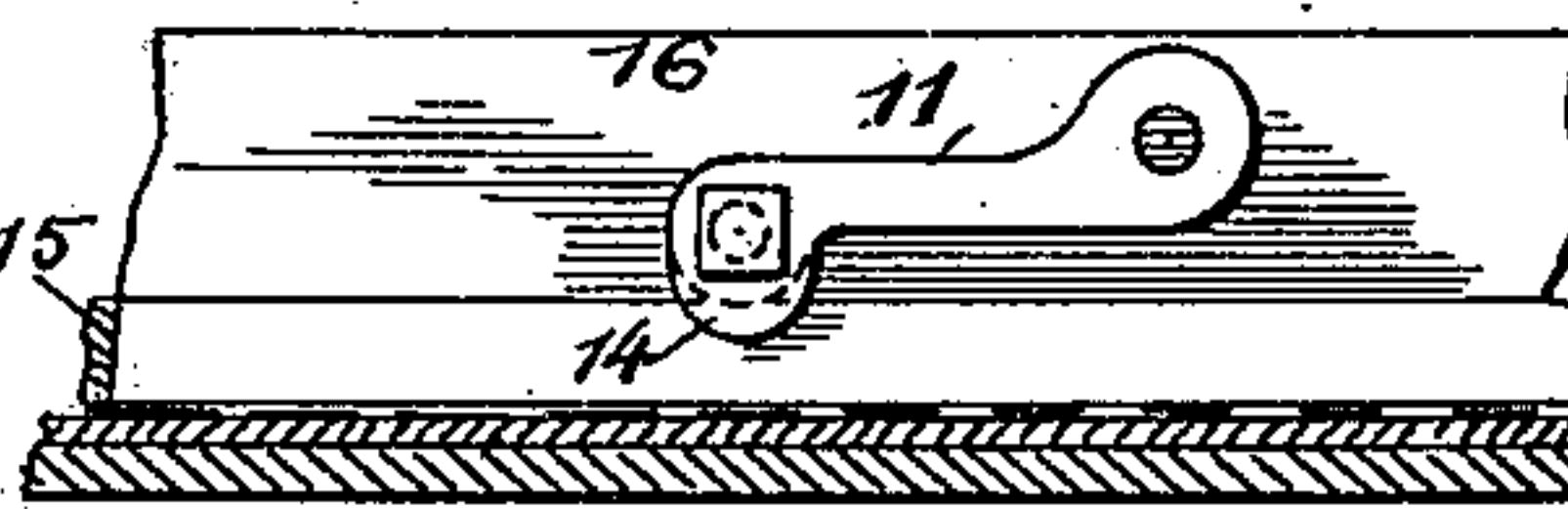
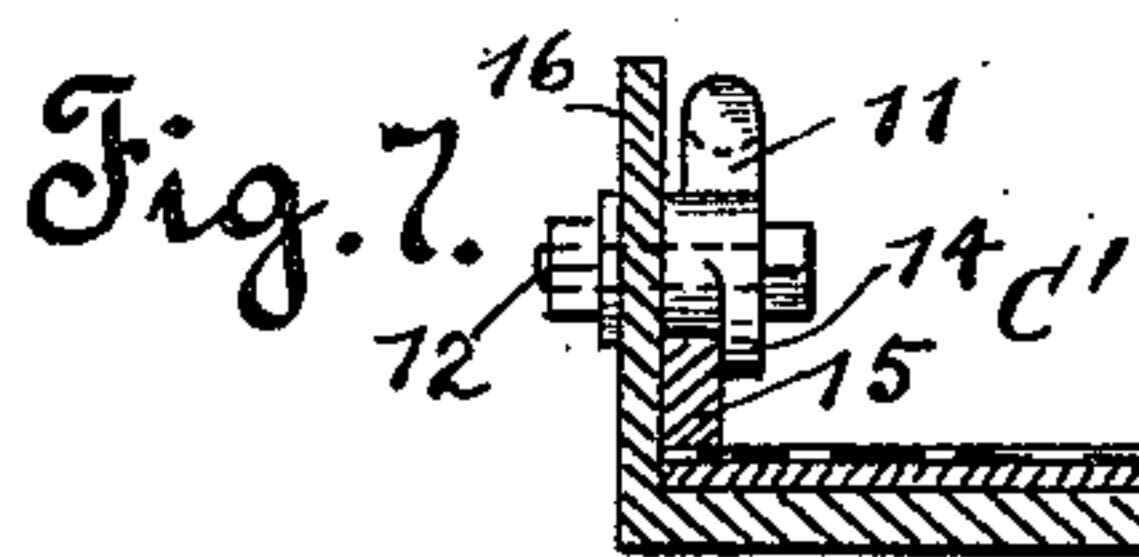
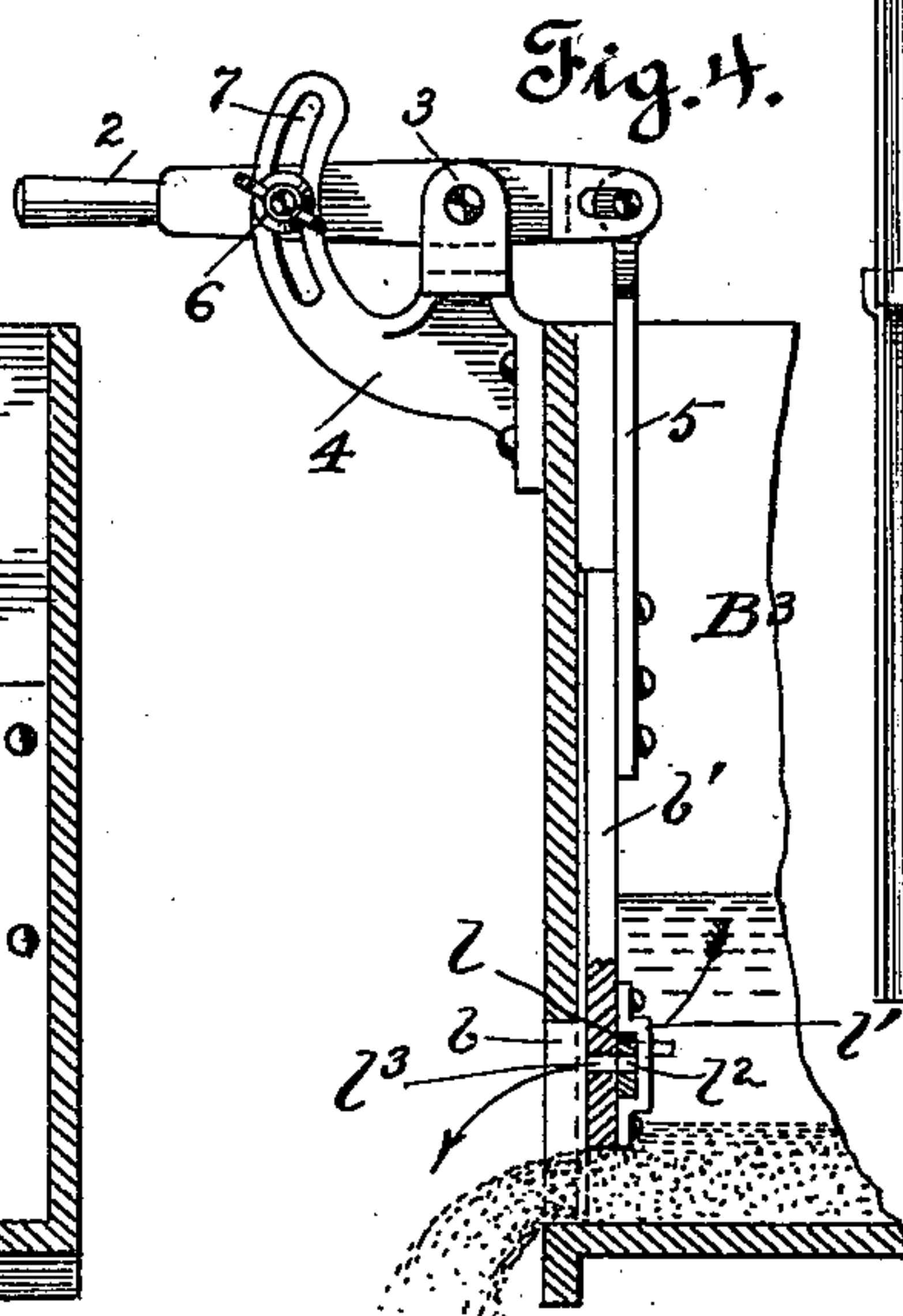
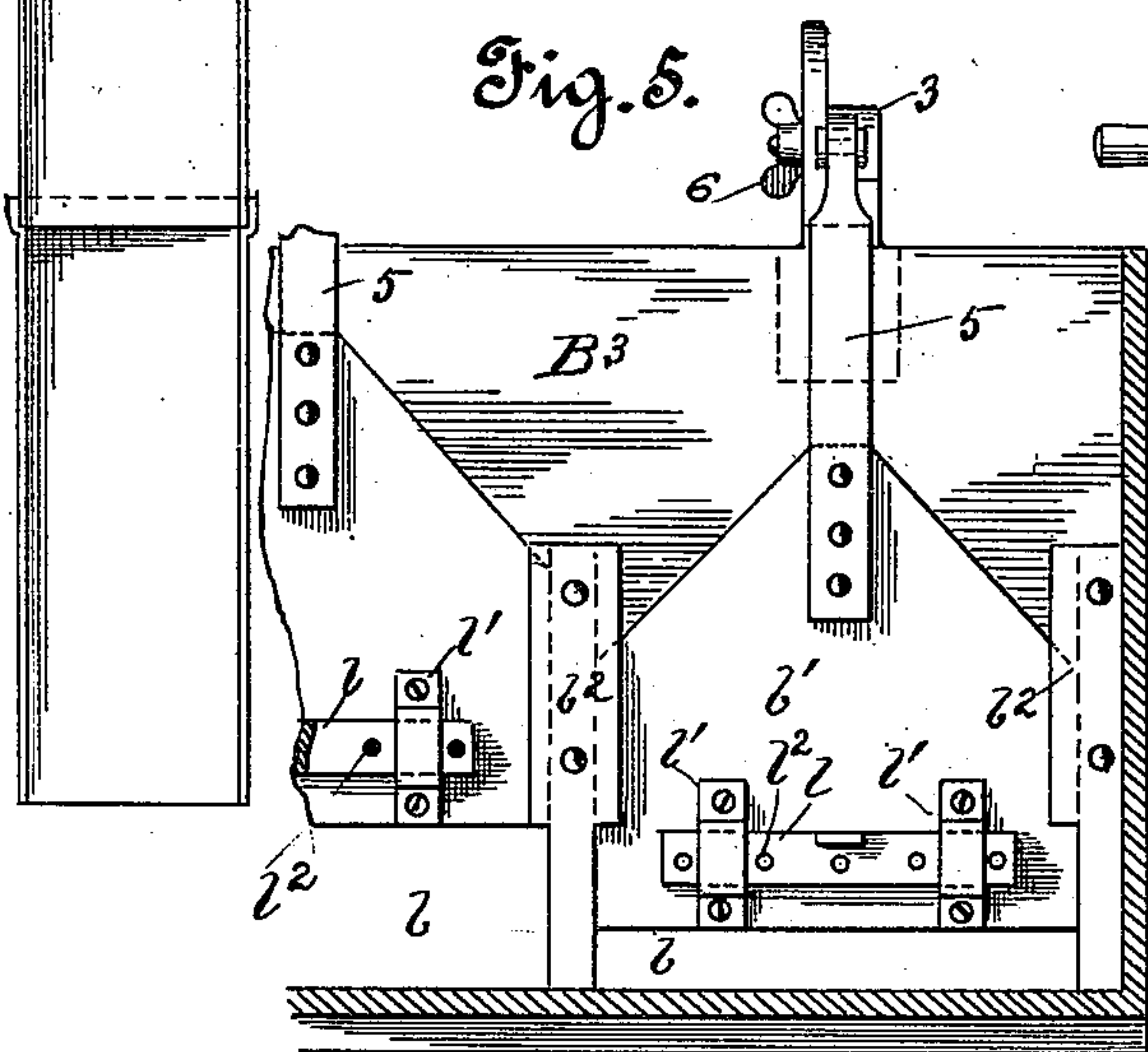
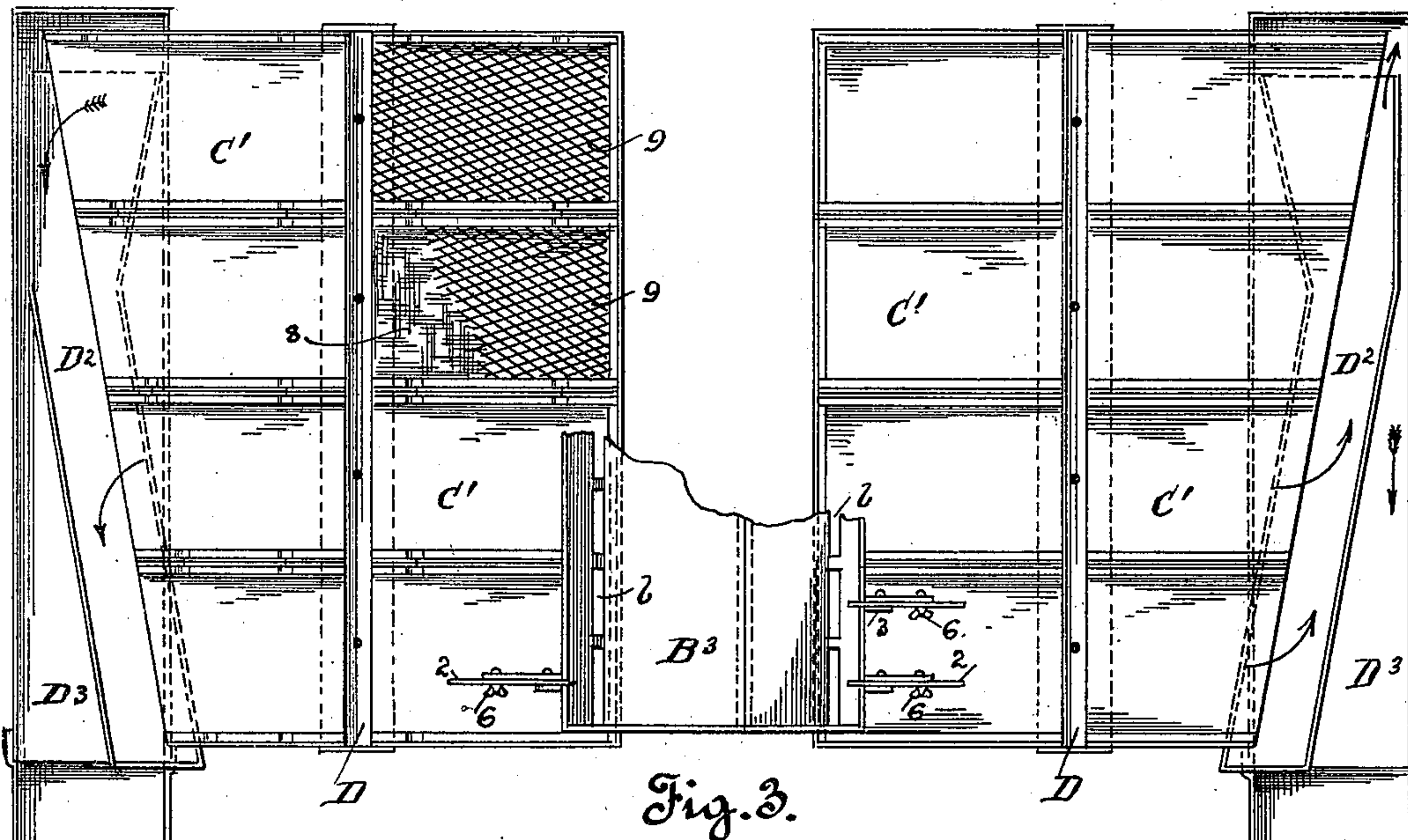
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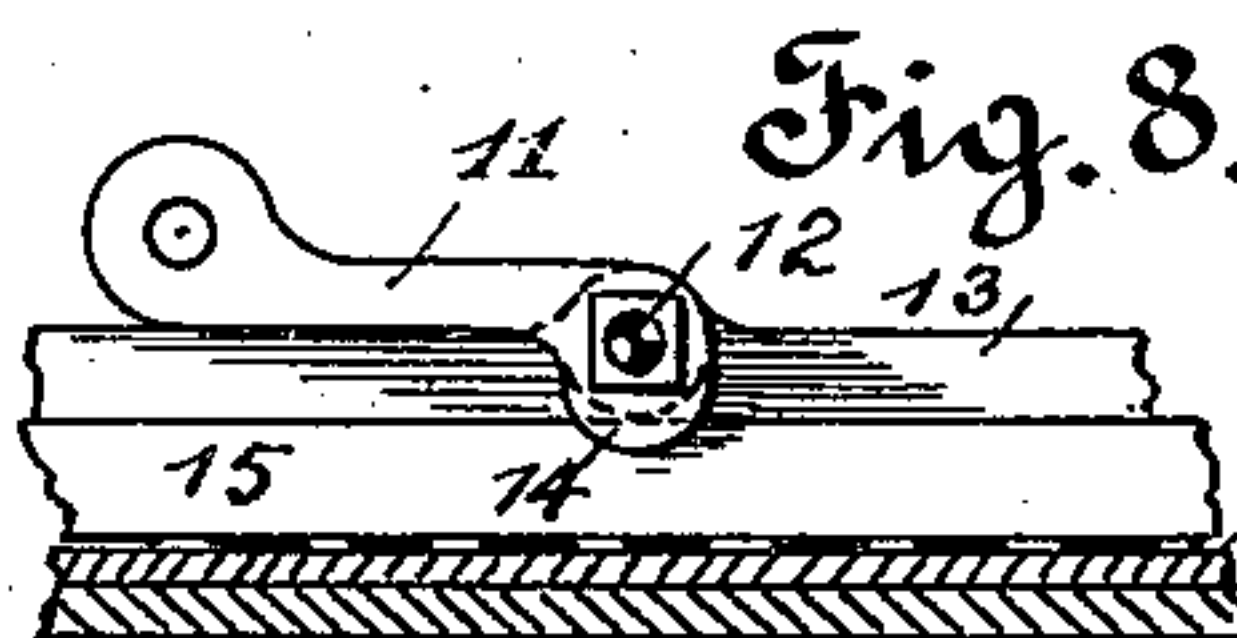
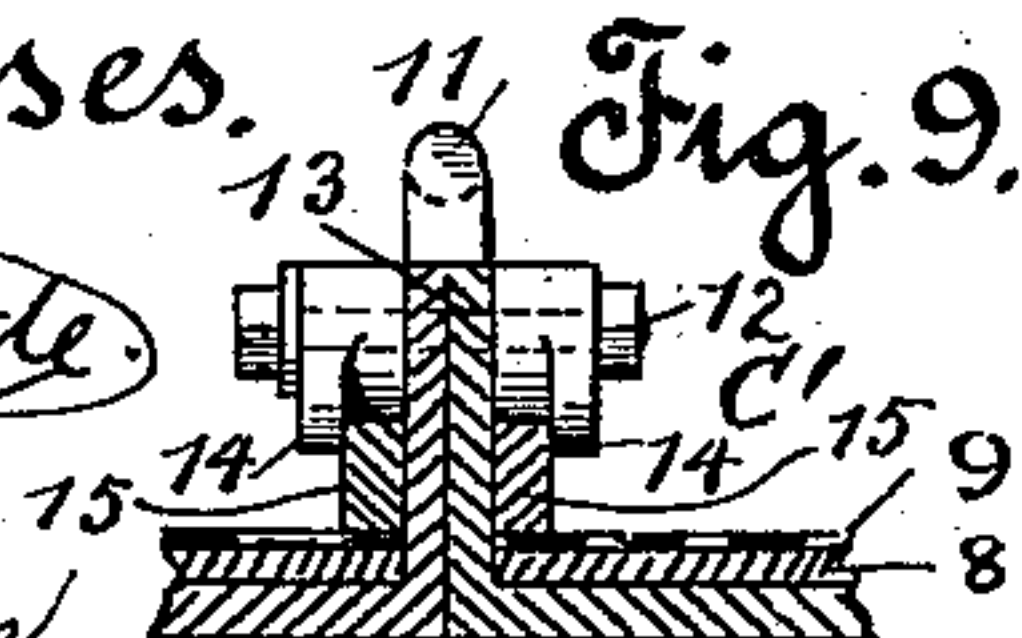
2 Sheets—Sheet 2.



Witnesses.

Stellmeyer

Elmer Wickes



Inventor.
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by *naack*
his atty.

UNITED STATES PATENT OFFICE.

ROBERT HODGSHON POSTLETHWAITE, OF SAN FRANCISCO, CALIFORNIA,
ASSIGNOR TO THE RISDON IRON AND LOCOMOTIVE WORKS, OF SAME
PLACE.

GOLD-SAVING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 652,900, dated July 3, 1900.

Application filed December 6, 1897. Serial No. 660,939. (No model.)

To all whom it may concern:

Be it known that I, ROBERT HODGSHON POSTLETHWAITE, a subject of the Queen of Great Britain, residing at the city and county of San Francisco, in the State of California, have invented certain new and useful Improvements in Gold-Saving Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof.

The present invention relates to certain new and useful improvements in gold-saving apparatus, and more especially to the construction of these separating or collecting tables upon or by means of which the precious material is secured as the pulp or ore is carried thereover; and it consists in the arrangement of parts and details of construction, as will be hereinafter fully set forth in the drawings and described and pointed out in the specification.

The invention is mainly designed for use in connection with that class of gold-saving apparatus known as "gold-dredgers," or such machines employed for the purpose of recovering the precious material from the bottoms of rivers or marsh or swamp land; and the object thereof is to facilitate the handling of the soil and permit the extraction of the gold therefrom at the minimum expense, in order that the same may be advantageously and profitably worked where the percentage of gold or precious metal is very small per cubic yard.

In order to understand the invention reference must be had to the accompanying sheets of drawings, forming a part of this application, wherein—

Figure 1 is a rear end view, in elevation, showing the grizzly, the distributing-box, separating-tables, and the runways for conveying the base material from the said tables or platforms. Fig. 2 is a side view, in elevation, of the mechanism illustrated in Fig. 1. Fig. 3 is a detail top plan view of the separating tables or platforms, showing a portion of the distributing-box. Fig. 4 is a broken vertical sectional view of the distributing-box, disclosing one of the gates for controlling the outflow of the material onto the separation tables or platforms. Fig. 5 is a broken

detail view of said distributing-box viewed from the inside. Fig. 6 is a detail broken side view of the side of the separating table or platform, showing the lock-cam for holding the fibrous matting and metal covering in place. Fig. 7 is an end view of the lock-cam illustrated in Fig. 6. Fig. 8 is a view similar to Fig. 6, disclosing the lock-cam for clamping the inner flanges of the separating table or platform; and Fig. 9 is an end view of the lock-cam illustrated in Fig. 8. Fig. 10 is a perspective view of the expanded metal plate.

In the drawings, the letter A is used to indicate a dredge boat, float, or platform upon which the gold-saving apparatus is mounted, and A' the rotary grizzly into which the material to be worked is fed. This material enters the grizzly at its open end, as indicated by arrow 1, and such material as does not escape through the openings thereof is discharged from the lower end thereof into the discharge chute or runway A². The grizzly A' is arranged at an incline, being supported by the frame or uprights a, and said grizzly is formed of meshed or reticulated material, in order that the lighter or finer particles of the material may escape during the rotation of the same. To assist the disintegration of the material delivered into the grizzly, there is provided a water-pipe B, which leads into the grizzly at its lower end. This pipe is connected to and leads from the suction or force pump B'. To the upper end of the grizzly, preferably, is formed the cog-ring B², which is driven by the pinion a', meshing therewith. This pinion is driven by any suitable mechanism. (Not shown.) The grizzly works within the distributing-box B³, and the material discharged from the said grizzly during its rotation near its lower end falls directly into said distributing-box, while the material discharged or escaping from the forward or upper end of the grizzly falls onto the perforated trough C, arranged at an incline between the distributing-box and the said grizzly. The material delivered onto the trough or runway C is gradually scattered within the box B³. The bottom of the distributing-box is inclined toward the sides, the apex of the inclination being slightly to one

side of the center of the trough or runway C, depending upon which way the grizzly is rotating. The purpose of this inequality of the bottoms is that as the grizzly is rotated the greater portion of the material passing there-
 5 through will be deposited on the side having the narrower bottom, and by making the opposite bottom section relatively wider the material will be more nearly equally distributed
 10 between the tables.

By forming the bottom of the distributing-box doubly inclined the material entering from the grizzly and trough or runway C in a semiliquid condition will flow readily to-
 15 ward each side thereof and escape therefrom through the elongated openings *b*, formed therein. The material escaping through the opening *b* flows onto the separating tables or platforms arranged at either side of the said
 20 distributing-box. The outlet of material through the opening *b* is controlled by means of the gates *b'*, which work between guide-strips *b²*, arranged on the inner face of the sides of the distributing-box. The gates are
 25 raised and lowered independent of each other by means of a lever 2, fulcrumed between the ears 3, upwardly projecting to the curved arm 4, attached to the sides of the box C. The inner end of each lever 2 is connected to
 30 a rod 5, upwardly projecting from the gates *b'*, Figs. 4 and 5. By means of the set-nut 6, which works through the slot 7, formed in the curved arm 4, the lever 2 may be locked, so as to hold the gate *b'* at any desired height.
 35 By means of these gates the overflow of disintegrated material can be properly controlled to effect a proper distribution. By closing those on one side the entire overflow can be directed onto the table at the opposite side;
 40 also, a greater or less amount of the material can be allowed to flow onto the various sections of the tables, as necessity and the condition of the material being worked may require.

As before stated, the material escaping from the distributing-box C flows onto the separating tables or platforms. These are supported at an incline at each side of the distributing-box, and each table or platform
 50 consists of a series of metallic channels or troughs C', suitably united. There are two tables or platforms at each side of the distributing-box, which are connected by means of the transverse pocket D, so as to drop the
 55 lower table a slight distance below the upper table. In the transverse pocket D may be placed quicksilver, so as to amalgamate the gold caught therein, or the same may act or serve as a riffle interposed between the plat-
 60 forms or tables.

In the bottom of each of the troughs or channels C', composing the separating tables or platforms, is placed a blanket 8 or layer of fibrous material, such as canvas or mat-
 65 ting, and over said layer of fibrous material is placed a layer 9 of expanded metal. The

layer 9 is filled with perforations before the metal is expanded, and after being expanded these perforations are drawn into slots hav-
 ing raised edges, which present an uneven
 70 surface or obstructions to the material flowing thereover. As the material passes over the layer of expanded metal the precious metal will be caught, and, working through
 75 the opening formed therein, will settle upon the blanket 8 or layer of fibrous material placed thereunder. During the travel of the material from one platform to the other the transverse pocket D will catch a certain per-
 80 centage of the precious metal which escapes from the upper table, while what is not collected by the said pocket will be caught upon the lower table or platform. The blanket
 85 and layer of expanded metal is held in place in the inner troughs or channels of the separating tables or platforms by means of the lock-cams 11, which cams are fulcrumed upon
 90 the bolt or pin 12, passing through the flanges 13 of the inner troughs or channels. The lock-cam 11 is provided with a bifurcated eccentric head 14, which straddles the flanges
 95 13, and as the lock-cam is thrown over rides upon the rods 15, placed alongside of the flanges 13, and forces the same firmly down upon the layer of expanded metal, so as to
 100 hold the same and the blanket 8 in place. The rods 15 may be of iron or consist simply of pieces which run the length of the trough or channel. When the troughs or channels are
 105 in place, the flanges of each abut against each other. For this reason the inner lock-cams are double ones, so as to lock two rods or strips 15 at the same time. The lock-cam
 110 fulcrumed to the flange 16 of the outer trough or channel is a single one, as it is only re-
 115 quired to tie down one strip or rod 15, being the last of the series.

Such material as escapes from the lower separating table or platform flows into the inclined runways D² and is conveyed to and
 120 discharged into the riffle-runways D³ near the upper end thereof. This riffle-runway is placed at an incline, Fig. 2, and as the water flows thereover very slowly any of the precious
 125 metal escaping from the lower tables or plat- forms will settle by gravity and be caught therein during the flow of the material to-
 130 ward the lower end thereof.

When a "clean-up" of the separating tables or platforms is desired, it is only neces-
 135 sary to unlock the lock-cams and remove the rods or strips which hold down the layer of expanded metal and blanket or layer of fibrous material, when the layer of expanded metal and blanket may be readily removed in or-
 140 der that the precious material may be taken from the blanket.

In referring to "expanded metal" in this specification I desire it understood that I
 145 have referred to a metal plate having cuts and which is expanded in a manner to cause the metal between the cuts to assume an in-

cline to the normal plane of the plate as distinguished from smooth wire or ordinary perforated metal.

Having thus described my invention, what I claim as new, and desire to secure protection in by Letters Patent, is—

1. In a gold-saving apparatus, the combination of a rotary open grizzly, a distributing-box arranged longitudinally beneath the grizzly and adapted to receive the material from the different parts of the latter, an inclined perforated distributing-trough arranged between the upper portion of the grizzly and box, a series of escape-openings formed along the longitudinal sides of the distributing-box, gates for said openings, and inclined tables or platforms arranged at the sides of said distributing-box and adapted to receive the material escaping from said openings, substantially as described.

2. In a gold-saving apparatus, the combination of a rotary grizzly, means for delivering the material into the same, and a distributing-box arranged longitudinally beneath the grizzly having a bottom composed of longitudinal oppositely-inclined portions of different widths onto each of which portions the material escaping from the grizzly falls, and having side discharge-openings substantially as set forth.

3. In a separating table or platform for gold-saving apparatus, the combination of a series of parallel troughs or channels located side by side so as to form distinct runways for the material from which the precious metal is to be extracted, of a blanket or layer of fibrous material located in each trough or runway, a layer of perforated expanded material having

a roughened upper face and placed over the blanket or layer of fibrous material, the rods or strips for holding the said layers in position, and of the lock-cams fulcrumed to the flanges of the troughs or channels, which cams hold the rods or strips firmly in place.

4. In a separating table or platform, the combination with the removable blanket or layers of fibrous material, of an upper layer or plate of perforated expanded metal having a roughened upper face, and of devices for securing the said layers to the tables or platforms.

5. A separating table or platform for recovering precious metals, having its riffle-plate or upper surface composed of a piece or layer of perforated expanded metal having a roughened upper face.

6. The combination of a separating-table, a blanket thereon, and a perforated expanded metal plate on said blanket having the metal around said perforations upturned or bent to form roughened surfaces for the plate, substantially as described.

7. The combination with a separating-table and a blanket thereon, of a sheet of expanded metal on said blanket provided with perforations, and having portions of the metal between the perforations bent to extend at an angle to the surface of the blanket to form pockets, substantially as and for the purpose set forth.

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

ROBERT HODGSHON POSTLETHWAITE.

Witnesses:

THOS. J. BARBOUR,
D. J. BASSETT.