

No. 754,529.

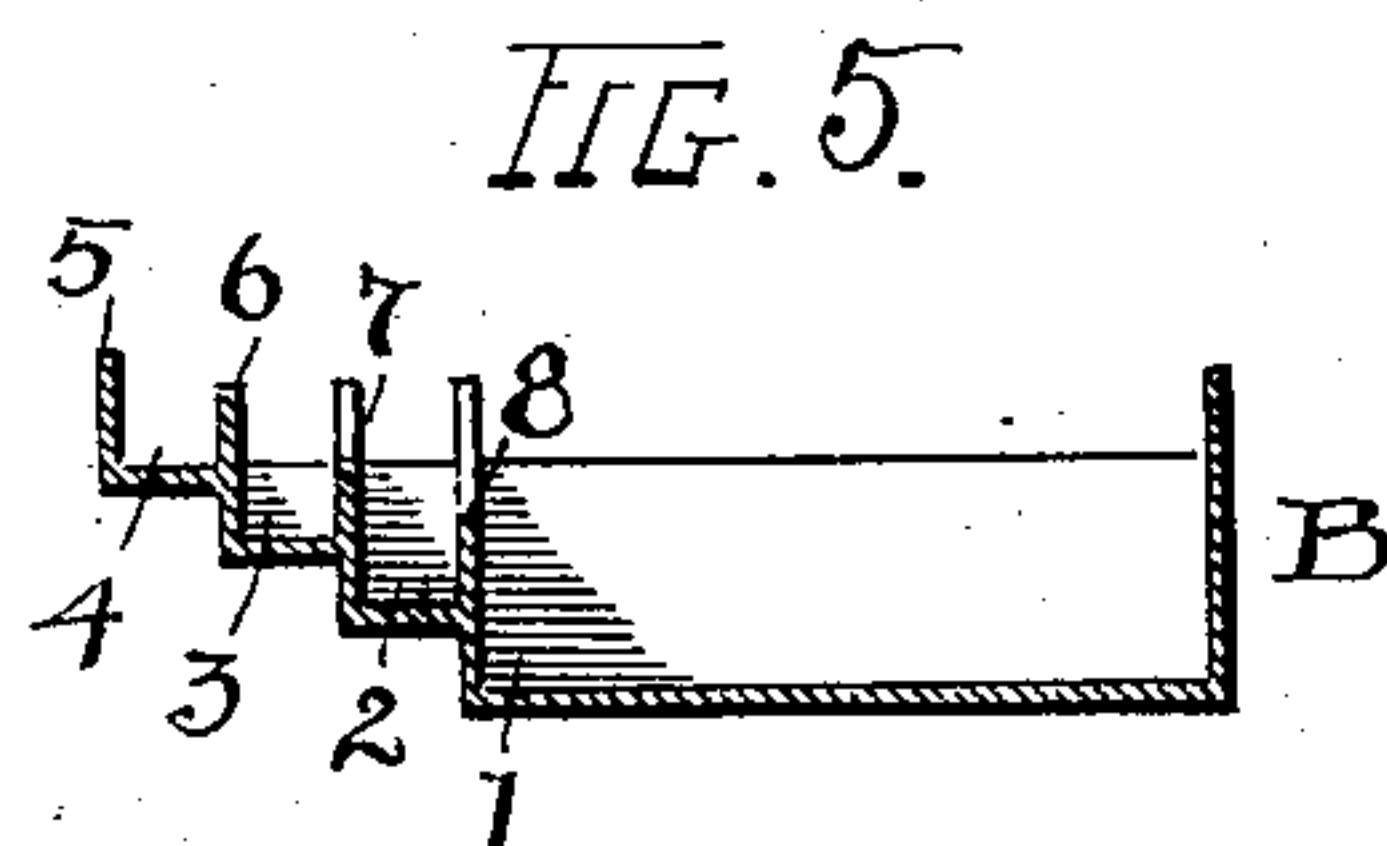
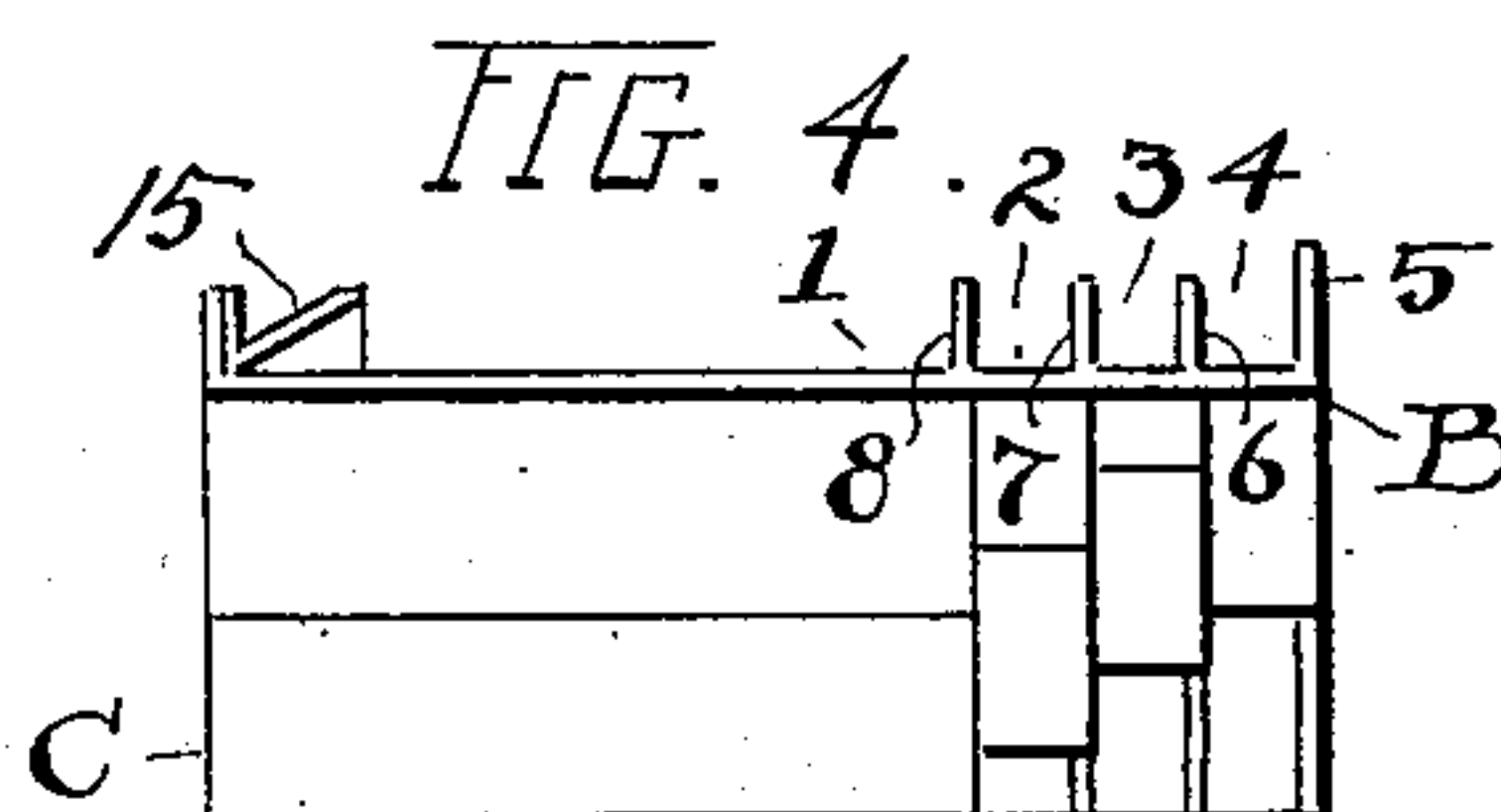
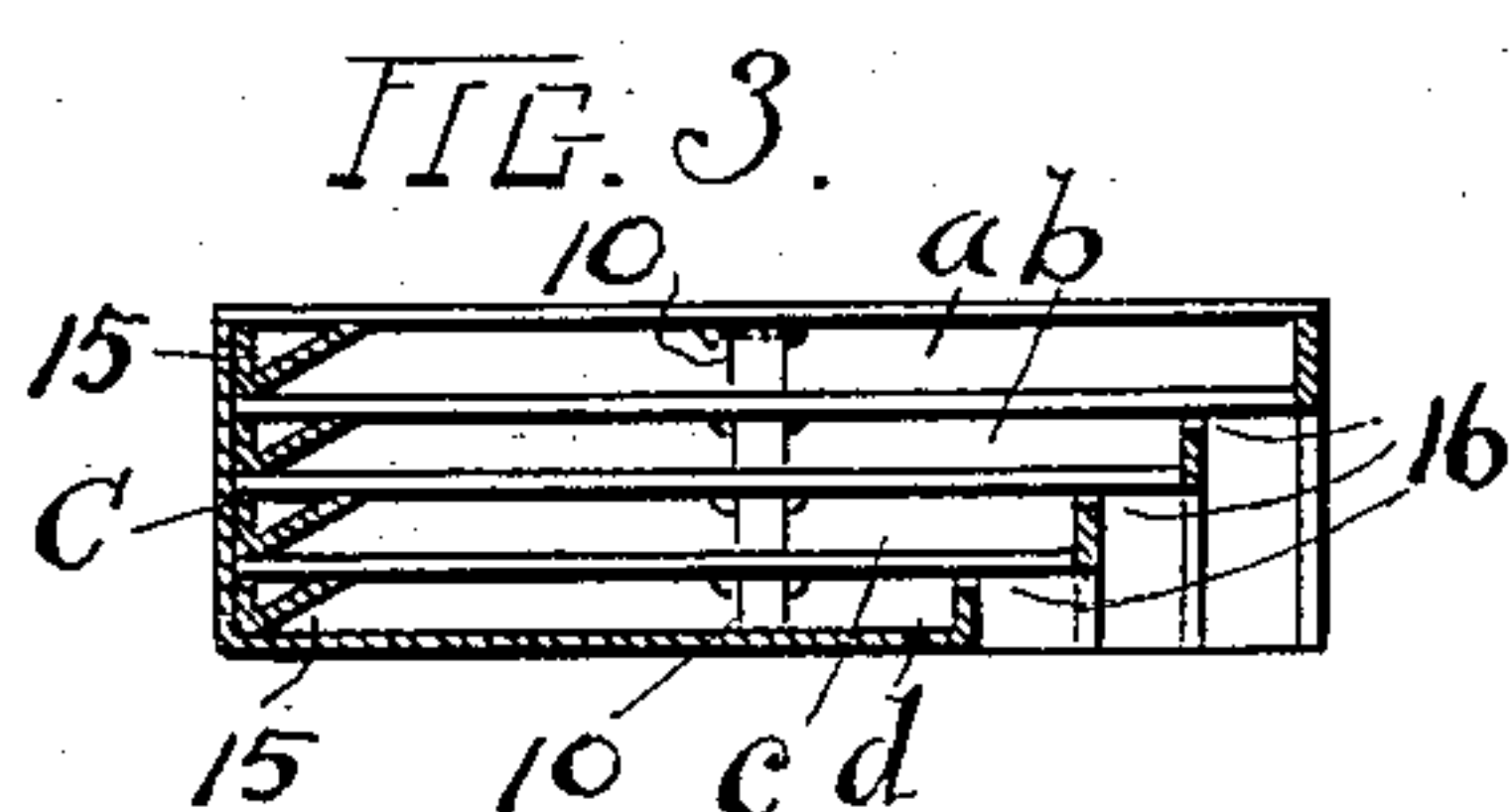
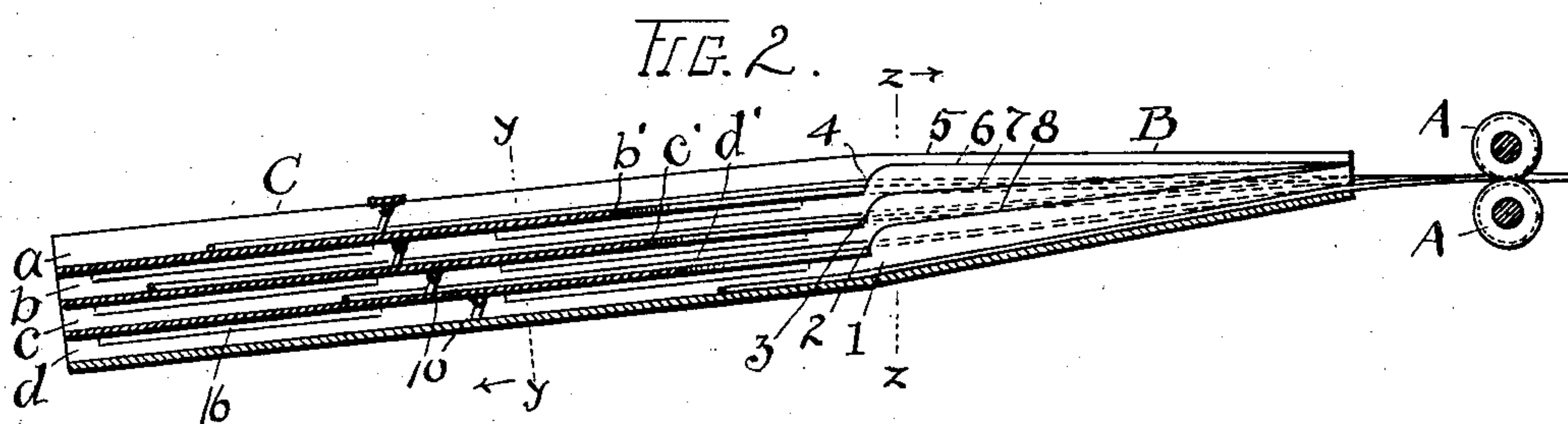
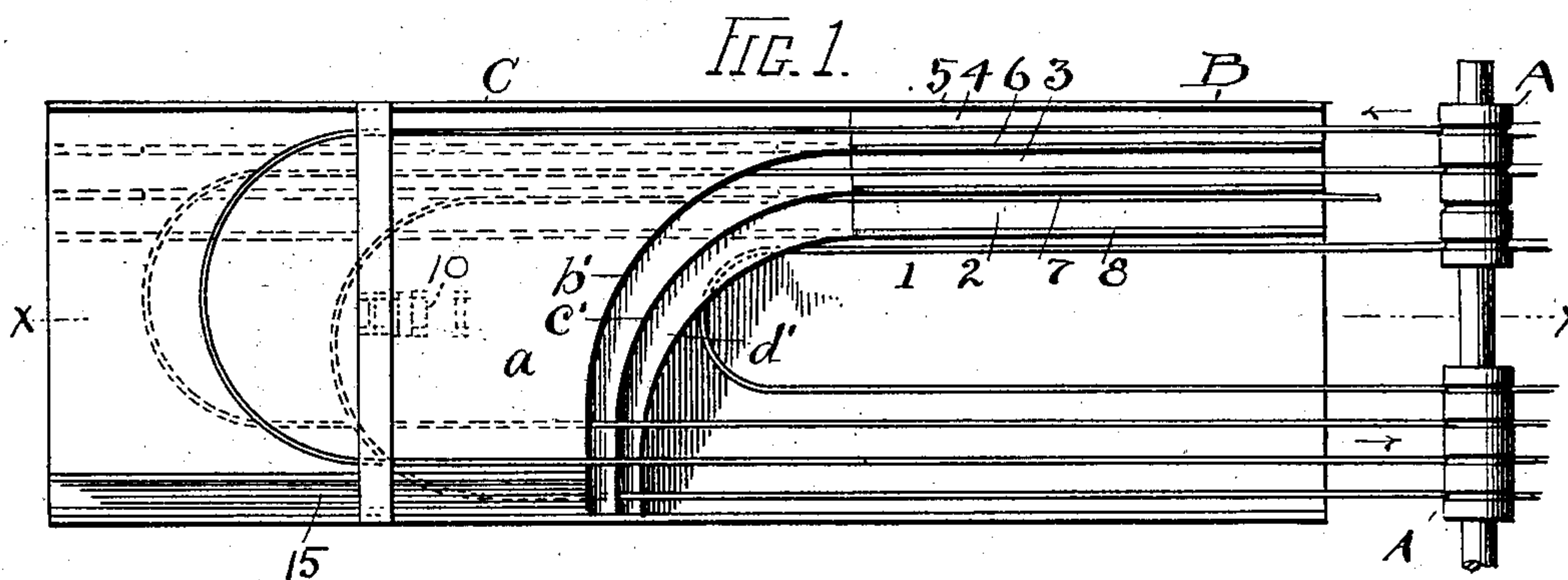
PATENTED MAR. 15, 1904.

C. M. ZELLERS.

COMBINED GUIDE AND GUARD FOR OVERFEED WIRES.

APPLICATION FILED DEC. 7, 1903.

NO MODEL.



WITNESSES:

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CLAUDE M. ZELLERS, OF CLEVELAND, OHIO.

COMBINED GUIDE AND GUARD FOR OVERFEED WIRES.

SPECIFICATION forming part of Letters Patent No. 754,529, dated March 15, 1904.

Application filed December 7, 1903. Serial No. 184,074. (No model.)

To all whom it may concern:

Be it known that I, CLAUDE M. ZELLERS, 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 a Combined Guide and Guard for Overfeed Wires; 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 improvements in combined guide and guard for overfeed wires in rolling-mills; and the invention consists in means for guiding and guarding the overfeed or loops of wires which run over the same surface and which, if allowed free course, as usual, are liable to become entangled one with another, and my invention is designed to prevent such entanglement by keeping each wire separate from all the others as well as to save the expense of special labor for keeping the wires free in their overlapping portions, all substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a set of rolls and of my improved guide and guard mechanism for the wire loops; and Fig. 2 is a longitudinal sectional elevation thereof on line *x x*, Fig. 1. Fig. 3 is a cross-section on line *y y*, Fig. 2. Fig. 4 is a front end elevation of the improvement where the wire enters from the rolls. Fig. 5 is a cross-section on line *z z*, Fig. 3.

As thus shown the device is an independent structure having a width, say, of about eight feet and length in proportion, or as the needs of the rolls require, and the device is erected in proximity to a set or pair of rolls A, which are provided, as usual, with a series of passes for the wire. The plan of the invention provides for keeping the overfeed or loops of the several wires separate by horizontal substantial divisions of the device, so that they will come one over the other and all have free play within their own area or domain.

To these ends the invention comprises an initial longitudinally subdivided or walled portion B and a compartmented rear portion C, and said portions B and C constitute, essentially,

one structure, but with different functions, as will appear. Thus the portion B has as many guide-channels 1 2 3 4 with side walls 5, 6, 7, and 8 as there are wires to be handled, and the said walls are high enough to keep any given wire from working over into another channel than its own and at last to guide the loop as it forms back into its compartment in portion C. This portion is subdivided or constructed with superposed compartments, (indicated by *a*, *b*, *c*, and *d*, respectively.)

Preferably the walls 6, 7, 8, and 9 gradually incline toward their respective compartments and then curve and merge with the floor thereof. Each channel inclines from the same plane at the front to its compartment at the rear, and the wall at the inner side of the channel has the same relative height its entire length. With inclined walls and grooves leading to the respective compartments the wire for its corresponding compartment is compelled to travel thereto and cannot spring or get into the wrong compartment.

It is not expected ordinarily that the wire loops will run back farther than the guard provided therefor, and yet it is best to leave the rear of the several compartments open to meet a contingency of this kind. In each case the guide-wall runs back to the floor of the compartment to which it leads, and the curved lines *b'*, *c'*, and *d'* indicate the initial edges of the floors of the corresponding compartments. Furthermore, as guides for the wire loops within the compartments I provide drop-checks 10, pivoted in the top of each subdivision and adapted to swing back to pass the wire loops to the rear, but compelling the loop as it is taken up by the receiving-rolls to run behind the said check; thus insuring a direct feed of the wire to its end and preventing possible entanglement of the wire in its compartment. The said compartments are further constructed in width, each according to the particular passes the wires take in the rolls, as in this instance the compartment of least width is at the bottom for the wire that takes the innermost passes of the rolls.

Obviously, as usual, a man will stand between the rolls to lead the ends of the wires from one roll to the other, after which the

several wires work back on their own guides to the proper compartment, and the same man can see that this leading occurs aright, if it be necessary; but once in their compartments
5 the wires cannot need any other or further help than the device itself affords.

A V-shaped wall or inclined portion 15 is provided at the outer wall within each compartment to catch or wedge and prevent re-
10 bound of the end portion of each wire after it has passed from the first rolls and cleared the grooves and whipped around check 10. The wire travels quite rapidly in some cases and whipping or vibration of the wire is apt to
15 curl or knot the wire and cause delay or trouble at the rolls.

The walls at one side of compartmented rear portion C are slotted their full length more or less, as at 16, to allow the introduction of rods
20 or implements to remove any accumulation or scrap from said compartments. Said slots are preferably arranged somewhat above the bottom of each compartment, as it is essential to retain a side wall to confine the wire in its
25 travel at this side.

When the initial loop is formed, the wire is fed into its respective channel and the loop rests and slides upon the inner channel-wall, as at 7, if channel 3 is used, and the outer wall,
30 as at 6, then forms an outer abutment to prevent spreading of the loop and a wrong lead to the wrong compartment, and said outer wall extends above the inner wall more and more until it is rounded to drop and merge
35 with the floor of the higher compartment, as compartment a.

The bottom of each compartment forms the cover or top of the lower compartment, and these divisional plates or bottoms are remov-
40 able one after the other if ever it be deemed necessary to get into one of the compartments.

Thus each bottom or cover plate rests at one side upon ledges or offset walls of por-
45 tion C, and which in reality are continuations of the bottom of channels 2, 3, and 4, and the other side of each plate is supported by the inclined portions 15, which rest upon the next lower plate and which are also removable
50 with the plates.

What I claim is—

1. A combined guide and guard for over-
feed wires in rolling-mills, the same compris-
55 ing a series of guide-channels at the initial end of the device and a series of compartments one above the other in the guard portion of the device for different wires, substantially as described.

2. The device substantially as described

comprising a series of open guide-channels for 60 the wire having parallel walls and separate horizontally-disposed covered spaces at the end of said walls to receive the overfeed wires, substantially as described.

3. A device to handle overfeed wires in wire- 65 rod mills, the same having a series of horizontally-disposed compartments one above the other to confine and separate the overfeed wires and means to direct the wires to vary-
70 ing elevations and into separate compart-
ments, substantially as described.

4. In rolling-mills, a set of rolls having a plurality of passes, a guard having a corre-
75 sponding series of separate compartments with horizontal division-walls supporting and sepa-
rating the overfeed wires one above the other, and a lead for each wire from the rolls to said compartments, substantially as described.

5. In a device substantially as described, a series of compartments for separate overfeed 80 wires and a backwardly-yielding check in each compartment to cause the wire loop to feed in substantial alinement with its pass in the receiving-coil, substantially as described.

6. The device having a series of compart- 85 ments one above the other and guides leading to said compartment having gradually-declin-
ing walls, substantially as described.

7. In a device as described, a series of com-
partments to receive the overfeed-wire loops 90 and said compartments having inwardly-in-
clined portions at one side thereof, thereby preventing vibration or whipping of the wires in the compartments, substantially as de-
scribed. 95

8. An overfeed device for rolling-mills com-
prising several compartments one above the
other and separate channels leading to said
compartments, each channel having its outer
wall extending above the inner wall, substan- 100
tially as described.

9. In a device to separate overfeed wires in
rolling-mills, the separate compartments one
above the other, and an open wall at the side
of the compartments to provide access to said 105
compartments, substantially as described.

10. A device to separate overfeed wires for
rolling-mills comprising a series of compart-
ments one above the other provided with re-
movable division-covers, substantially as de- 110
scribed.

In testimony whereof I sign this specifica-
tion in the presence of two witnesses.

CLAUDE M. ZELLERS.

Witnesses:

R. B. MOSER,
C. A. SELL.