

No. 711,288.

Patented Oct. 14, 1902.

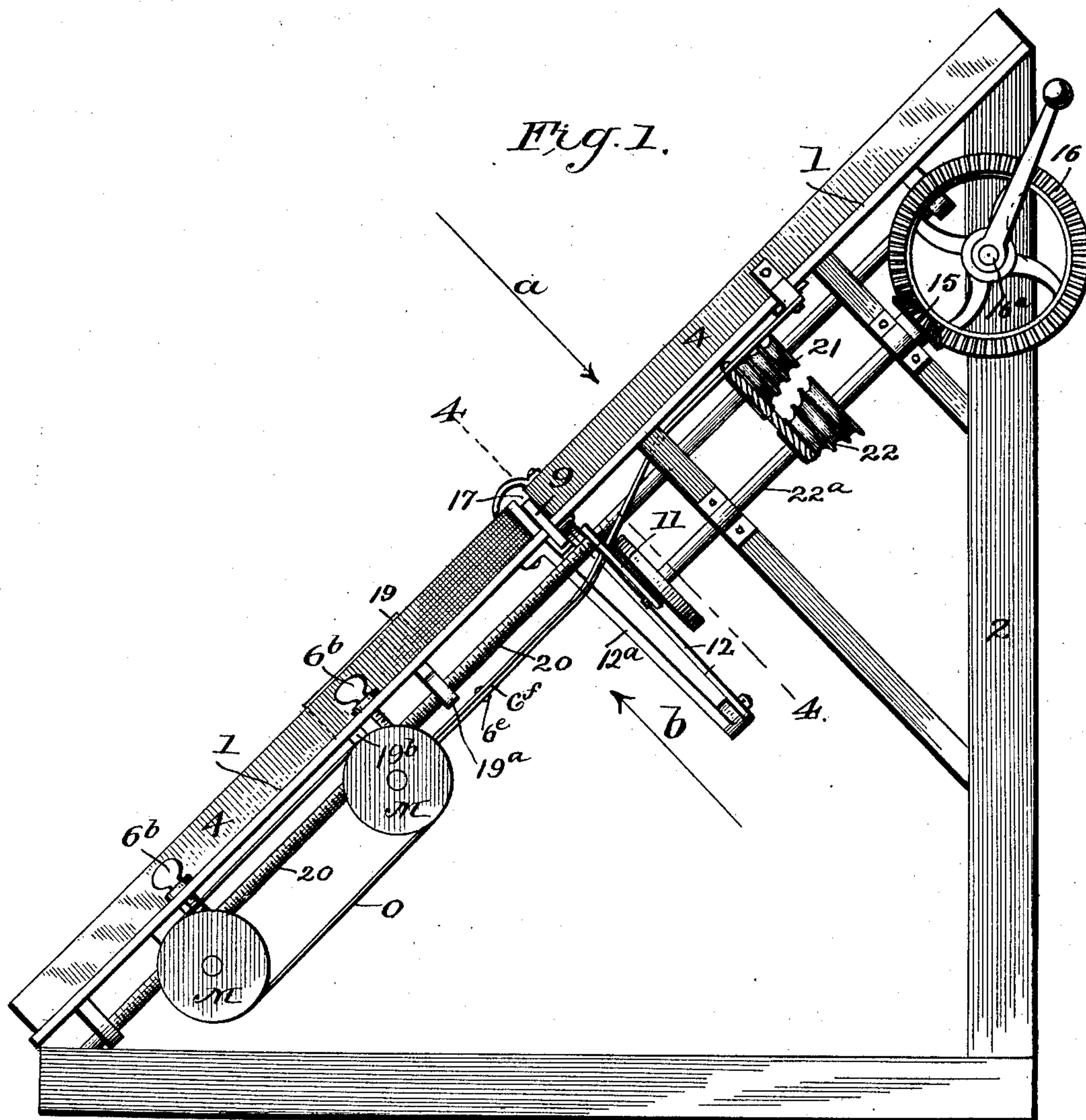
B. COLE & A. O. WILSON.

LINOTYPE LEADER.

(Application filed May 17, 1902.)

(No Model.)

4 Sheets—Sheet 1.



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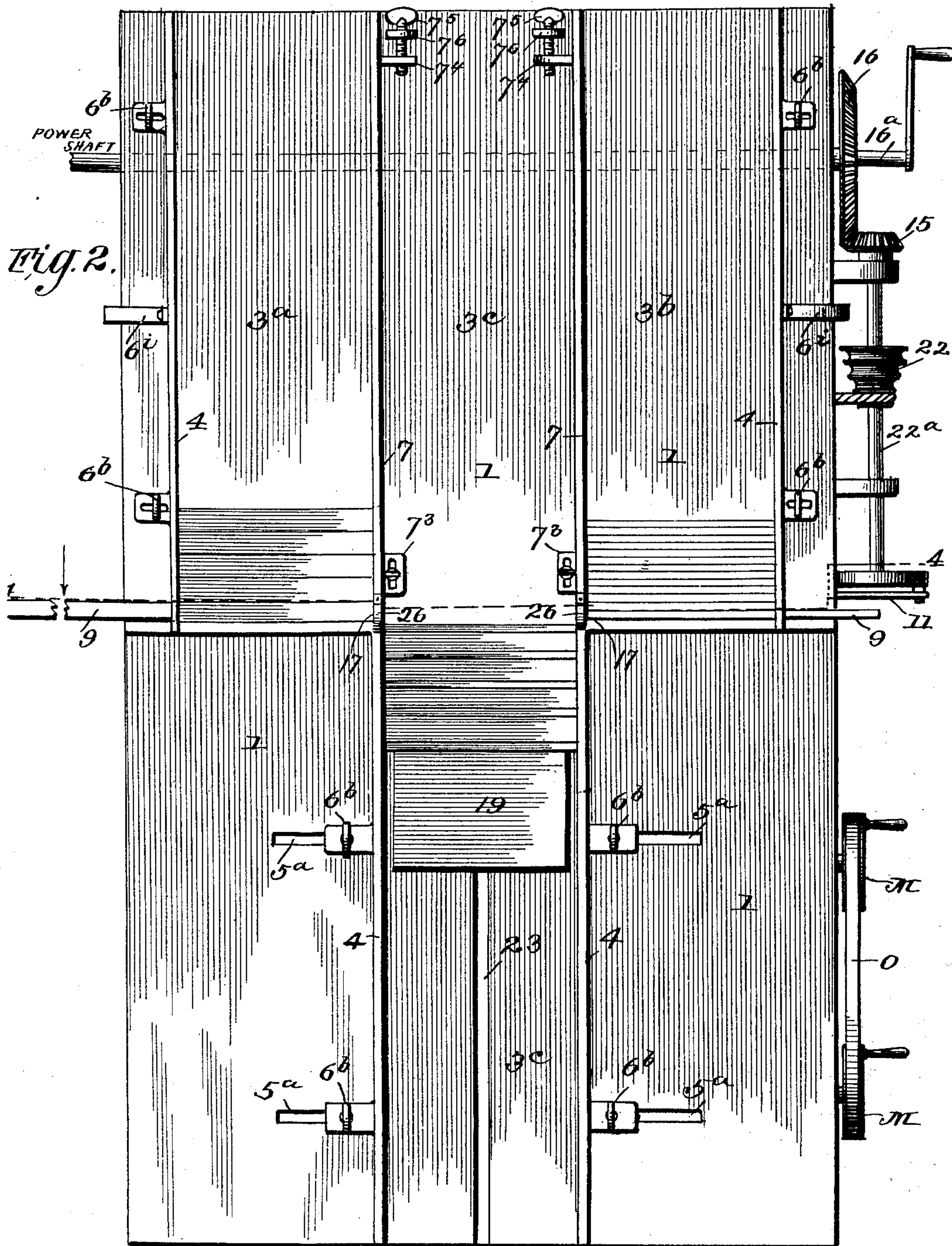
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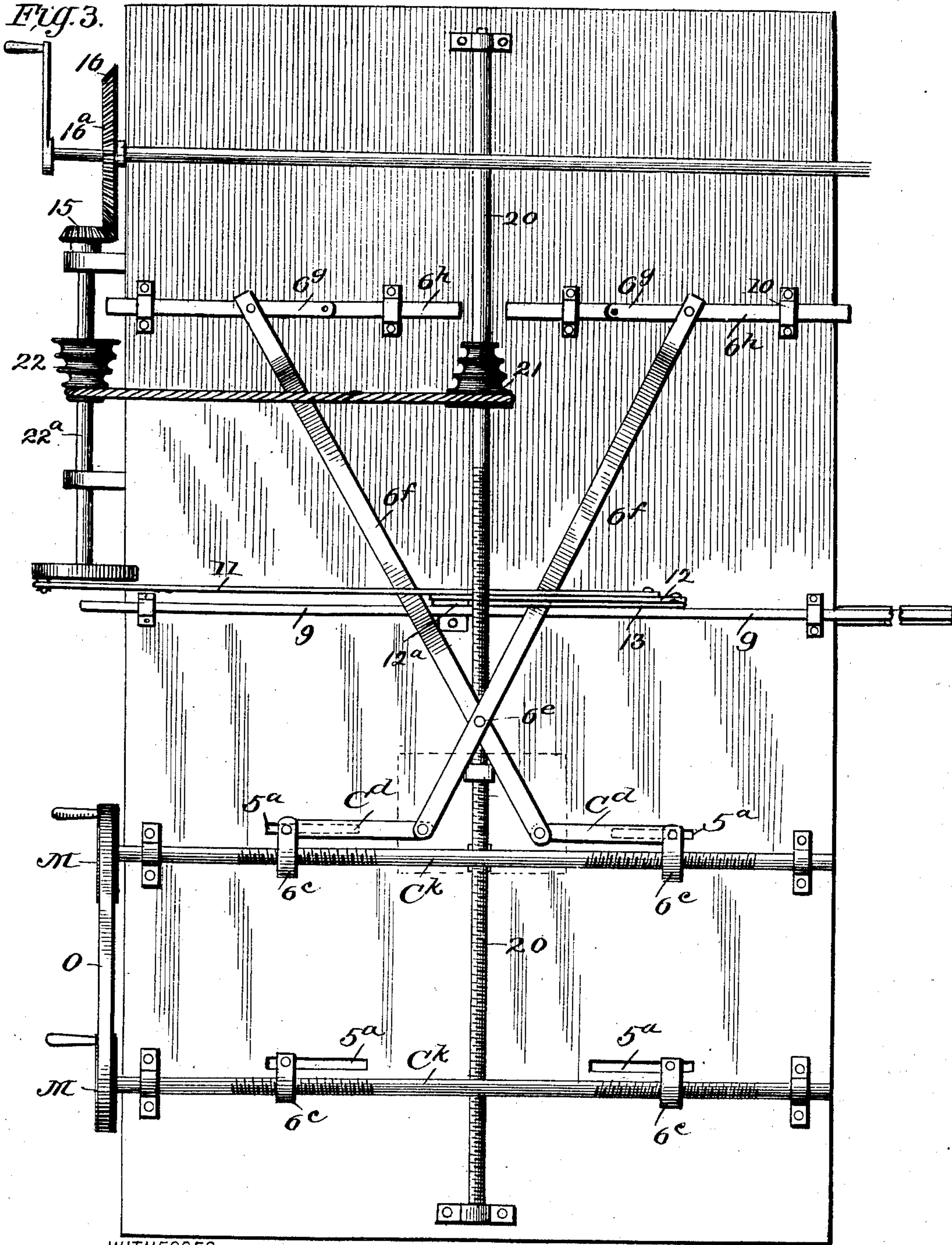
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Fig. 4.

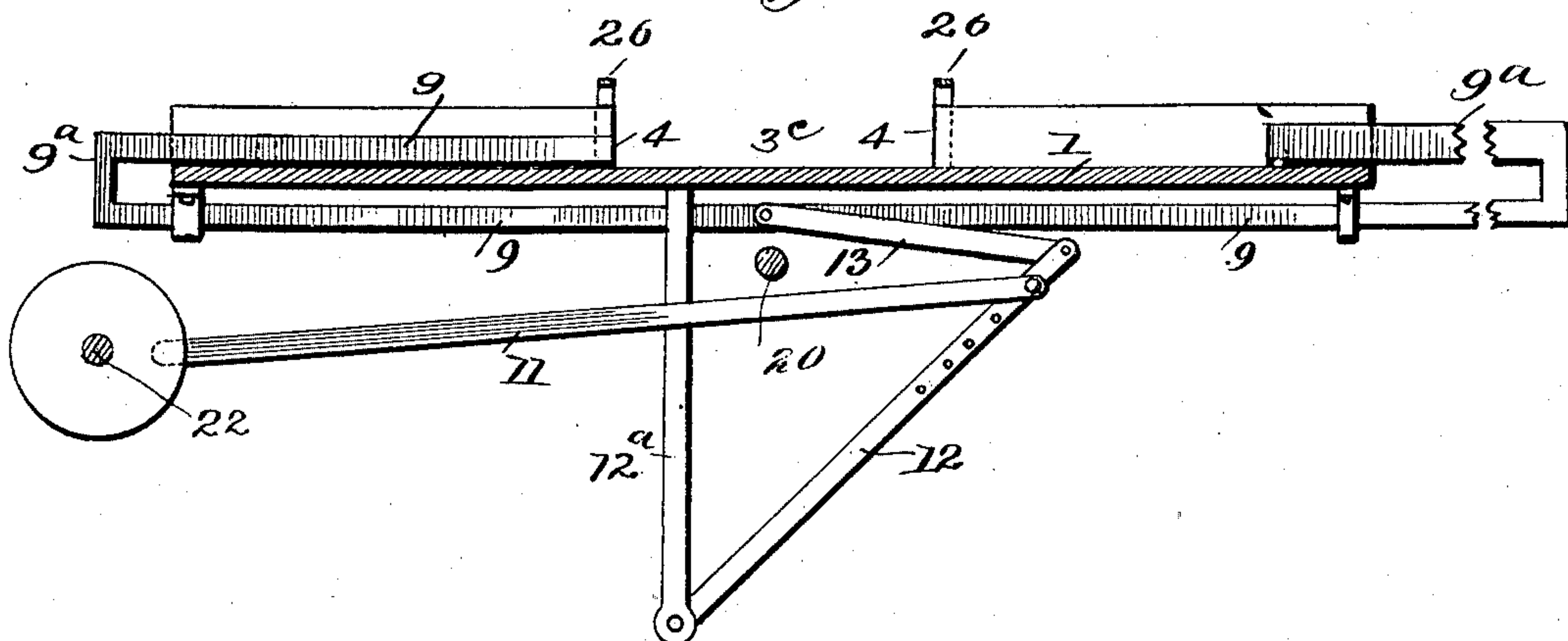


Fig. 5.

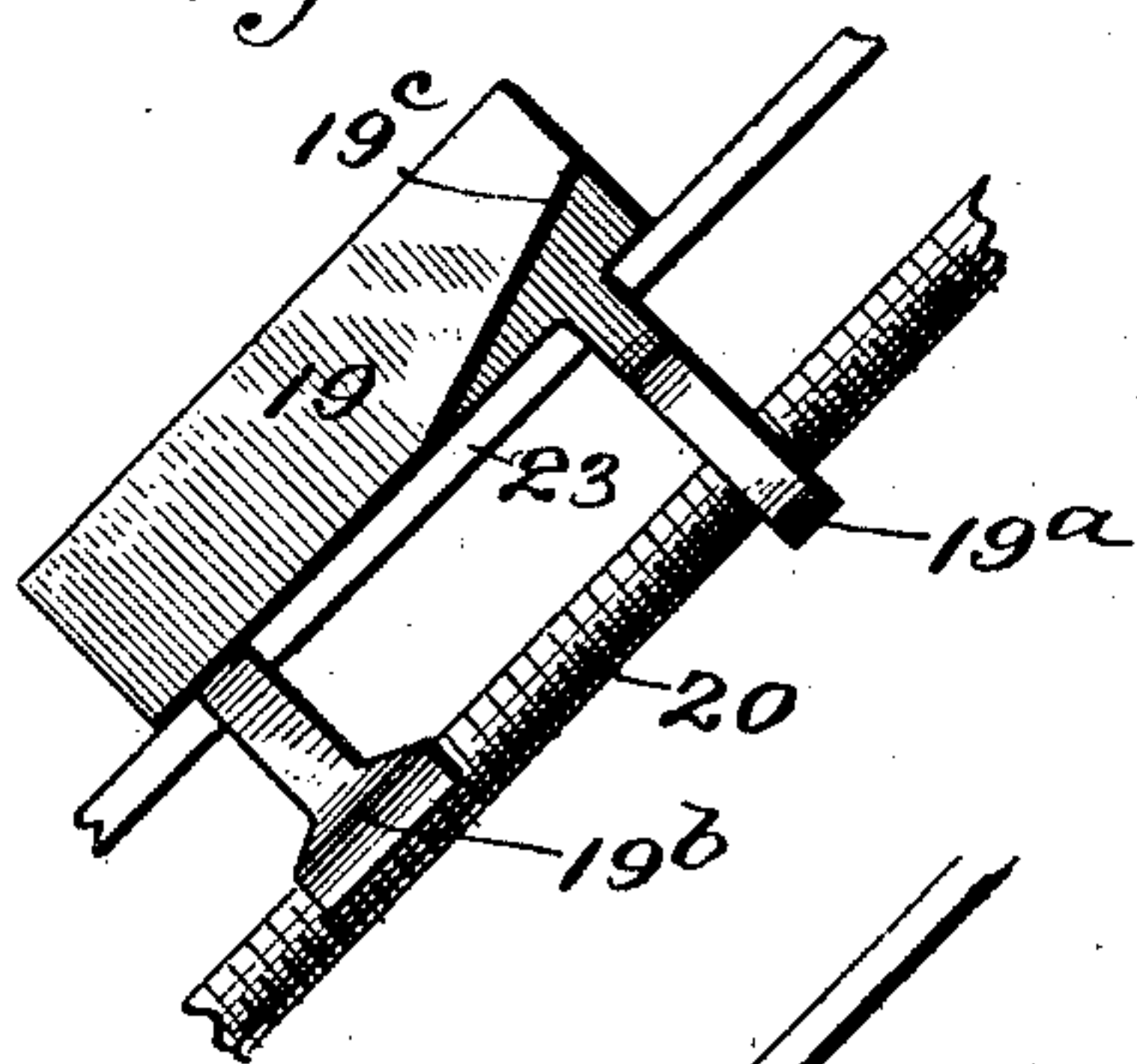


Fig. 6

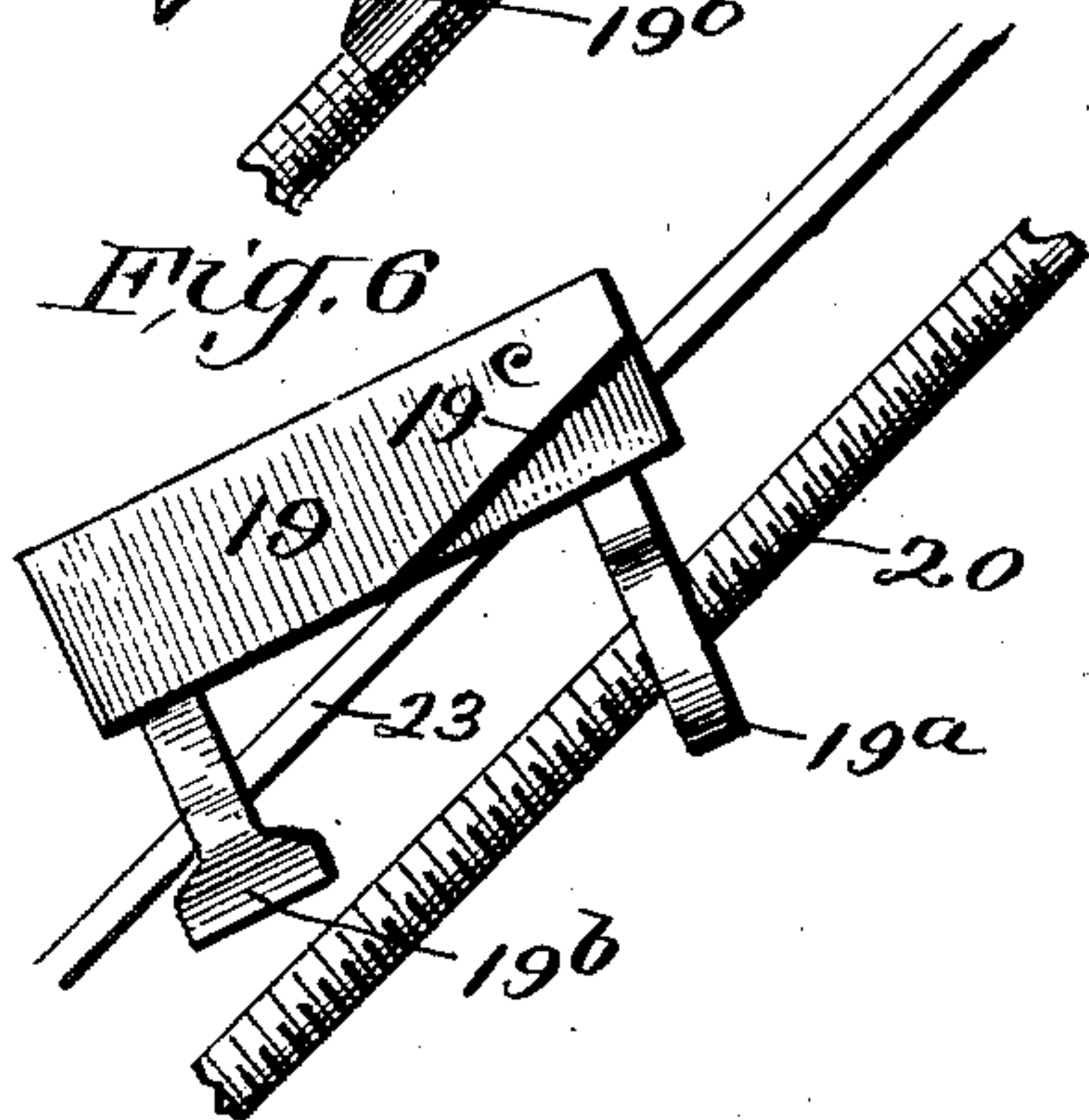


Fig. 7.

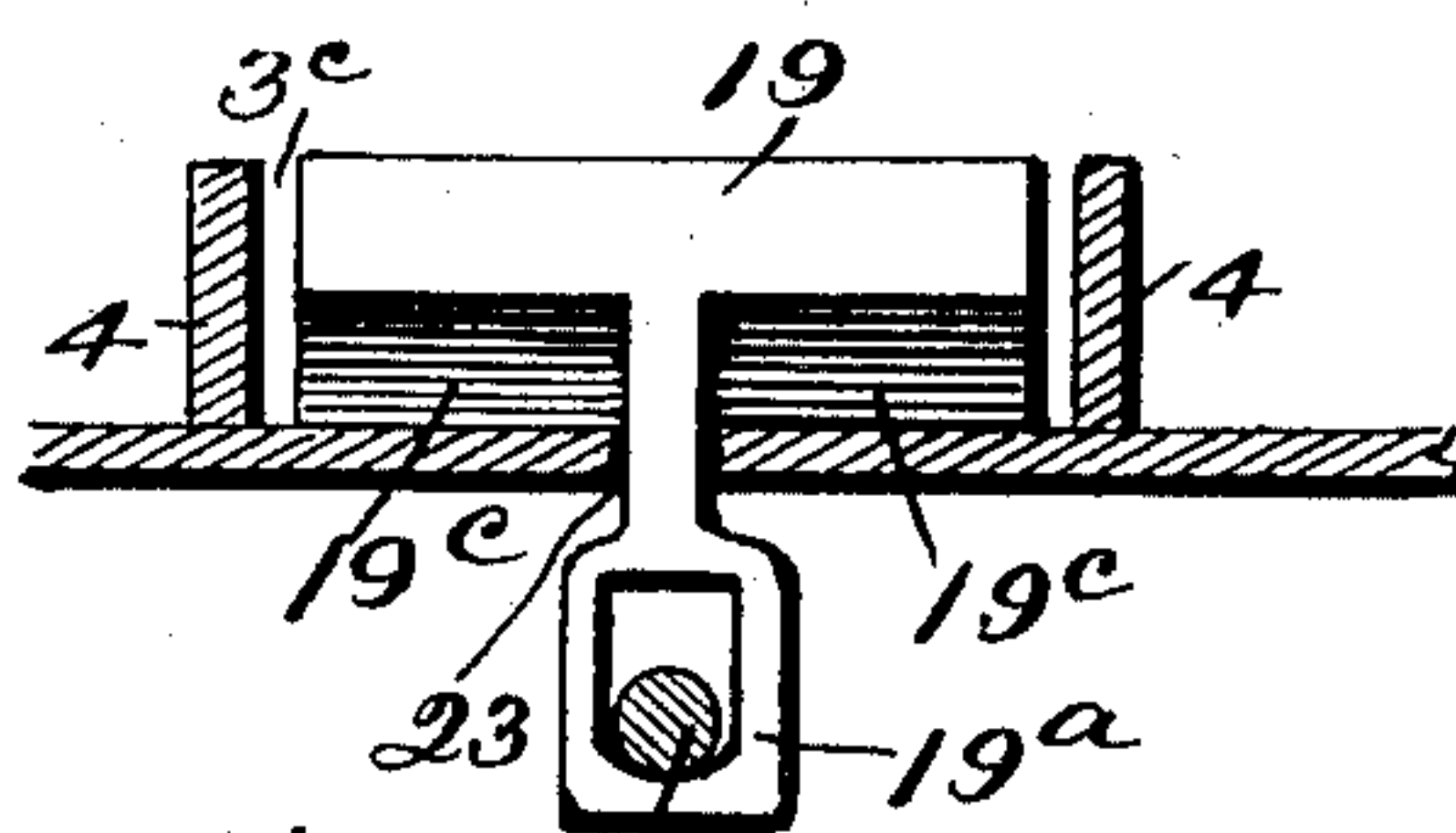
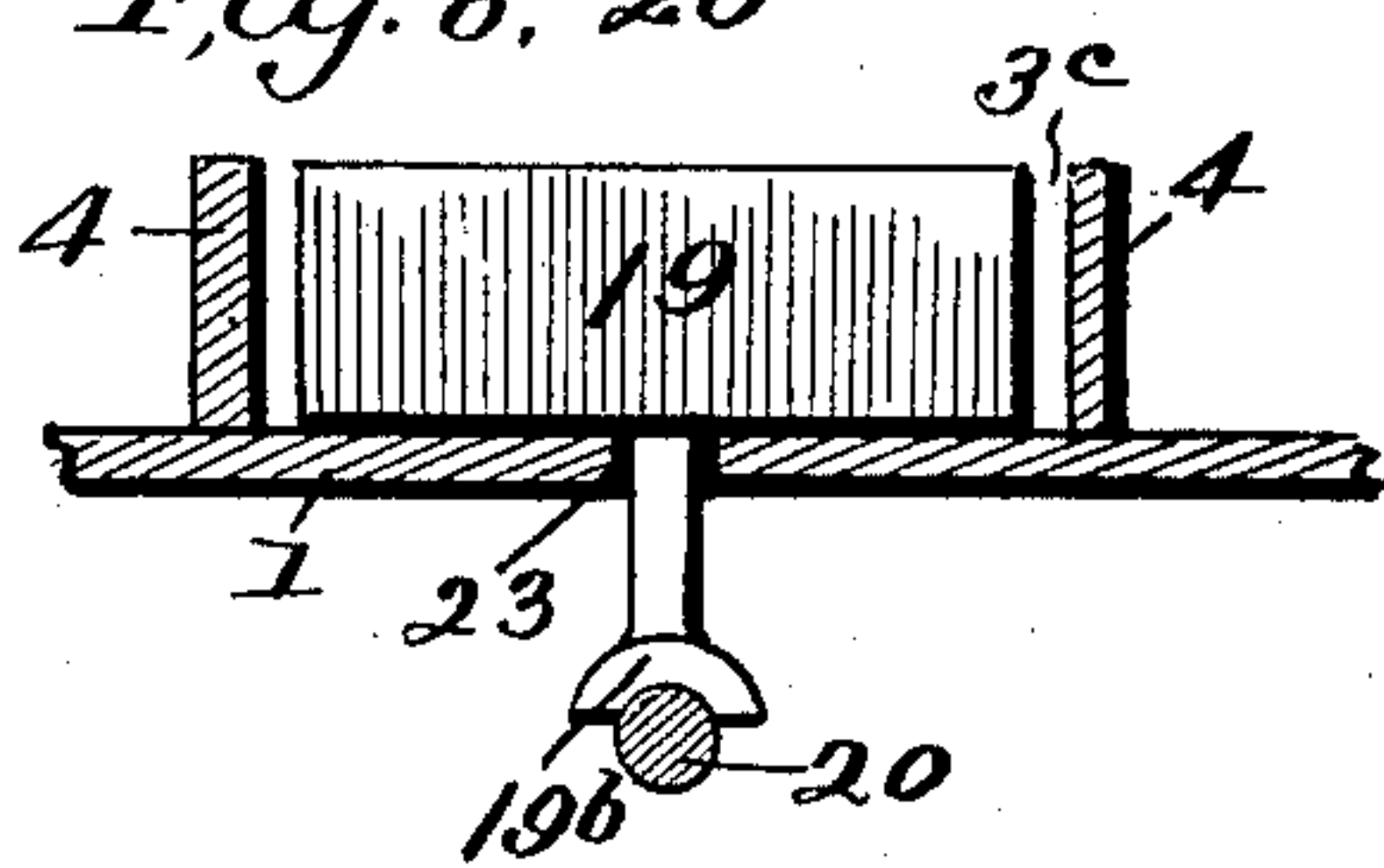


Fig. 8.



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UNITED STATES PATENT OFFICE.

BION COLE AND ALBERT O. WILSON, OF LINCOLN, NEBRASKA.

LINOTYPE-LEADER.

SPECIFICATION forming part of Letters Patent No. 711,288, dated October 14, 1902.

Application filed May 17, 1902. Serial No. 107,765. (No model.)

To all whom it may concern:

Be it known that we, BION COLE and ALBERT O. WILSON, citizens of the United States, and residents of Lincoln, in the county of Lancaster and State of Nebraska, have invented certain new and useful Improvements in Linotype-Leaders, of which the following is a specification.

Our invention has in view improvements for leading linotype-slugs. We are aware that mechanism adapted to place a lead between successive linotypes as they are formed and deposited in a galley to receive them is not new, and we do not, therefore, desire that our invention become confused therewith, since it involves in its broad sense the idea of feeding slugs and leads from stored quantities into a common galley or hopper in interlaid position, also in feeding different sizes of leads and slugs, both as to length and thickness, with peculiar mechanism operating first to feed one and then the other a lead or slug and deposit them in a galley or hopper, where they may be readily removed by the operator. We would call attention to marked differences between our invention and the old mechanism above referred to, in which provision is made for storing leads; but the idea does not comprehend stored slugs as provided with our machine—that is, the linotypes are cast and leaded in successive operations before leaving the machine which produces them.

Our invention forms no part of a machine for producing linotypes. It is a separate and distinct machine adapted to support stored slugs and leads in separate quantities, with mechanism operating to feed first one and then the other to a common galley or hopper in interlaid position. We think that the idea just described is original with us, and consequently do not desire to be limited to any special mechanism operating to such end, since the detailed construction shown and described by us may be modified without departing from the limits of our invention.

Having thus stated the broad idea involved in our invention, we will now proceed to describe in detail one form of mechanism adapted to interlay slugs and leads according to our invention. For a full understanding thereof we refer to the accompanying draw-

ings, which form a part of this specification, and in which—

Figure 1 is a view showing our completed machine in side elevation. Fig. 2 is a view showing our machine in front elevation looking in direction of arrow *a*, Fig. 1. Fig. 3 is a view showing a rear elevation of our machine looking in direction of arrow *b*, Fig. 1, the table-supporting means being removed. Fig. 4 is a transverse sectional view taken on line 4 4 of Figs. 1 and 2. Fig. 5 is a detail side view of the follower, showing the same in operative position. Fig. 6 is a similar view with the follower adjusted out of operative position. Figs. 7 and 8 are views showing reverse ends of the follower.

In carrying out our invention we employ a sloping bed-plate or table 1, supported by braces 2. Since any suitable base for our table may be utilized, we deem reference thereto unnecessary in this specification.

The front of the sloping bed-plate 1 is provided with three channels 3^a, 3^b, and 3^c—the channel 3^a for the reception of linotype-slugs, the channel 3^b for the reception of brass or other material leading-strips, and a galley or hopper 3^c for the reception of interlaid linotype slugs and leads.

The three channels just referred to are formed by adjustable walls 4, held in position by thumb-screws 6^b, passing through elongated slots in suitable ears rigid with and on the outside of the said wall, as shown.

To facilitate adjustment of the walls 4, we arrange on the under or opposite side of the table mechanism described as follows: From the outer walls 4 of the channels 3^a and 3^b project arms 6ⁱ, which pass a suitable distance beyond the edge of the table and then rearwardly, ending in horizontal members or bars 6^h, supported in suitable guides 10 on the under side of the table. The thumb-screws 6^b, supporting the walls 4, forming the lower part of the channel 3^c, pass through slots 5^a to the other side of the table and into adjustable nuts 6^c, arranged on two right and left screw-threaded shafts C^k—i. e., they are threaded to work the said nuts connecting each of said lower walls 4 together or apart, as will be described farther on. From each nut 6^c on the upper shaft C^k extends a pitman C^d, having connection with the lower

end of two crossed bars 6^f, pivoted together at 6^e, as shown. The upper ends of the bars 6^f have connection with the sliding bars 6^h through short arms 6^g. The threaded shafts 5 C^k obviously must be supported by suitable brackets or bearing at each side of the table. The shafts C^k are operatively connected by a belt O, passing over a pulley M, arranged on the projecting ends thereof, as shown.

10 With the mechanism just described it is apparent upon rotating either pulley M in one direction, manually or by other power, that the nuts 6^e, to which the walls 4 of the lower part of the channel 3^c have connection, and 15 the sliding bars 6^h, connecting the outer side walls 4 of the channels 3^a and 3^b, will through the intermediate mechanism described be simultaneously moved, and thus facilitate adapting the channels to slugs and leads according to the width thereof. At the lower 20 end of the inner walls 7 of the channels 3^a and 3^b openings 17 are provided, through which the slugs and leads are forced, as will be hereinafter referred to. In order to adapt the 25 said openings 17 to varying thickness of slugs and leads, the walls 7 are provided with longitudinal adjustment. In carrying out such idea we provide the lower ends of said walls 7 with ears 7³, having vertical slots adapted to 30 receive thumb-screws 8, threaded into the table 1. The upper ends of these walls 7 have ears 7⁴ with threaded holes adapted to receive adjusting-screws 7⁵, supported by brackets 7⁶, fixed to the table 1.

35 We do not desire to limit ourselves to the particular means just described for adjusting the said walls 7, as the same may be modified as desired, since our invention comprehends any suitable means therefor, the idea 40 being to afford means for changing the size of the holes 17 and also support for the said walls.

In the lower part of the channel 3^c we provide a follower 19, having on its under side 45 an enlarged loop 19^a and a half-collar 19^b, both of which travel in a vertical slot 23 in the table. The half-collar 19^b is threaded on its under side for engagement with threads on a vertical shaft 20, supported at the top 50 and bottom of the table 1 by suitable bearings, and the loop 19^a surrounds the said shaft 20, as shown, adapting the follower to be tilted for disengagement of the half-collar 19^b. To admit of such tilting action of 55 the follower 19, its upper under side on opposite sides of the loop 19^a is beveled off, as indicated at 19^c. With such construction it is apparent that when it is desired to move the follower 19 upward the simple tilting action above described will free it from the 60 screw-threads on the shaft 20. In the tilted position stated the follower is free to be moved from the lower end of the channel 3^c up to the openings 17 in position as when first starting up to lead the slugs.

65 On the shaft 20 we secure a cone or stepped pulley 21, having belt connection with a simi-

lar pulley 22, arranged in reverse position—i. e., end for end—on a shaft 22^a, supported in suitable bearing at or near the side of the 70 table. The upper end of the shaft 22^a is provided with a fixed pinion 15, in mesh with a driving-gear 16 on a shaft 16^a, which may be worked manually, as with a crank, or from other source of power. 9 indicates a push- 75 bar having sliding support in suitable brackets on the under side of the sloping table. The free ends 9^a of the push-bar turn up and then extend horizontally inward part way 80 over the top of the table, with the said ends 9^a in position to enter openings in the walls 4 of the channels 3^a and 3^b. The bar 9 should be of such length and its ends 9^a so spaced that when one end 9^a has shoved a lead or slug into the channel 3^c the other end will be 85 withdrawn from its channel. The push-bar 9 is reciprocated back and forth through means, such as a pitman 11, having crank connection with the shaft 22^a, and it extends to 90 an arm 12, whose upper end is connected with the push-bar by a pitman 13. The lower end of the arm 12 is pivoted to a bracket 12^a, projecting from the rear side of the table.

In order to regulate the throw or movement of the push-bar 9, the arm 12 may have a series of perforations admitting change or shifting of the point of connection between the 95 pitman 11 and the said arm 12. With such adjustment of the said parts obviously the movement of the push-bar can be regulated 100 according to the width of the slug being leaded.

An arch 26 is arranged over the openings 17, as shown, serving to guide the slugs and leads when shoved by the push-bar. 105

With all the parts assembled as above described and the channels containing the desired number of slugs and leads upon power being applied to the shaft 16^a the push-bar 9 will be reciprocated through the mechanism 110 as described and operating to engage, say, a lead and push it through the opening 17 in the side wall 7 of the channel containing them into the channel 3^c and on the follower 19. Return movement of the push-bar will 115 force a slug through the opening 17 in the wall 7 on that side and into the channel 3^c, when it will drop on the lead first fed and resting on the follower. During the operation just described motion will be communicated to the threaded shaft 20 through the 120 belt and cone-pulleys 22 21 with effect to move the follower downward. It will be understood that the movement of the follower 19 must be so timed as to move in space conforming to the thickness of each lead and slug fed 125 into the channel 3^c.

Among other points of novelty in our invention we would call attention to three leading features—first, that with our machine 130 slugs in stored quantities are leaded; second, that the leads and slugs are arranged in channels in position adapted to be fed into inter-laid position to a galley or hopper, where they

may readily be removed by the operator, and, third, that in our machine the slugs and leads are fed by gravity down the channels 3^a and 3^b in position to be shoved into the channel 3^c and fall on the follower 19.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In combination, means for holding type slugs and leads in separate and stored quantities, and means for successively feeding the slugs and leads to interlaid position, substantially as described.

2. The combination in a linotype-leader, means for supporting leads and slugs in stored quantities and means operating to engage successively the lowermost lead and slug, feeding them inwardly to a common receptacle into interlaid position, the leads and slugs being supported and adapted to move by gravity into position to be fed and likewise fall to a common receiver timed in its downward movement according to the special slug being leaded as set forth.

3. The combination in a linotype-leader of a channel for holding slugs and a similar channel for holding leads, an intermediate channel adapted to receive the leads and slugs, means operating to engage the lowermost slug or lead and feed it into interlaid position upon a suitable receiver within the said intermediate channel, and means deriving motion through the slug and lead feeding mechanism adapted to give timed movement to the leaded-slug receiver whereby it is moved downward according to the special slug being leaded, substantially as described.

4. A linotype-leader employing a suitable table supported in inclined position, channel-ways upon the table adapted to support separate quantities of leads and slugs, an intermediate channel-way adapted to receive the leads and slugs, and means for feeding the slugs and leads into interlaid position upon a common receiver in the said intermediate channel and in position adapted to be removed by the operator, substantially as described.

5. The combination in a linotype-leader of the character described of means for supporting slugs and leads in separate piles, means for receiving the leaded slugs, a double-ended push-bar operating to successively engage the lowermost slug or lead and means for operating the said push-bar, substantially as described.

6. The combination in a machine operating to interlay linotype slugs and leads, of means for supporting the leads and slugs, a push-bar adapted to engage and shove the lowermost slug or lead to a common receptacle into interlaid position, means connecting the push-

bar mechanism and a follower adapted to receive the interlaid slugs and leads, means for timing the downward movement of the follower adapted to be set according to the special slug being leaded, a power-shaft and means connecting it and the push-bar and follower mechanism, substantially as described.

7. The combination in a linotype-leader involving means for supporting leads and slugs in stored quantities and means operating to interlay the slugs and leads, of a follower adapted to receive the leaded slugs, a threaded shaft supporting the said follower and means connecting the follower and shaft whereby the former is given a gradual downward movement and also adapted for disengagement with the said shaft permitting it to be freely slid thereon from end to end of its movement, substantially as described.

8. The combination in a linotype-leader of an inclined table and channel-way on the table formed by side walls having lateral adjustment and inner walls having longitudinal adjustment, means for leading the slugs and a common receptacle adapted to receive them, substantially as described.

9. The combination in a linotype-leader of an inclined table and channel-ways on the table formed by adjustable walls as specified, means connecting the outer walls whereby they may all be moved laterally in one operation and means whereby the inner walls may be adjusted longitudinal substantially as described.

10. The combination in a linotype-leader of an inclined table having channel-ways for supporting slugs and leads as specified, a push-bar adapted to engage and feed the lowermost lead or slug, means for reciprocating the push-bar, an intermediate channel having within it a follower adapted to receive the leaded slugs, means connecting the push-bar and follower and operating to move the latter downward in timed movement according to the special slug being leaded and means for operating the push-bar and follower mechanism receiving power from a common source, substantially as described.

11. The combination, in a linotype-leader, means for holding stored slugs and leads and means for feeding them to interlaid position, substantially as described.

12. A linotype-leader employing means operating to successively feed slugs and leads to interlaid position, the feeding means, utilizing gravity in placing the slugs and leads in position to be fed, substantially as described.

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Witnesses:

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