

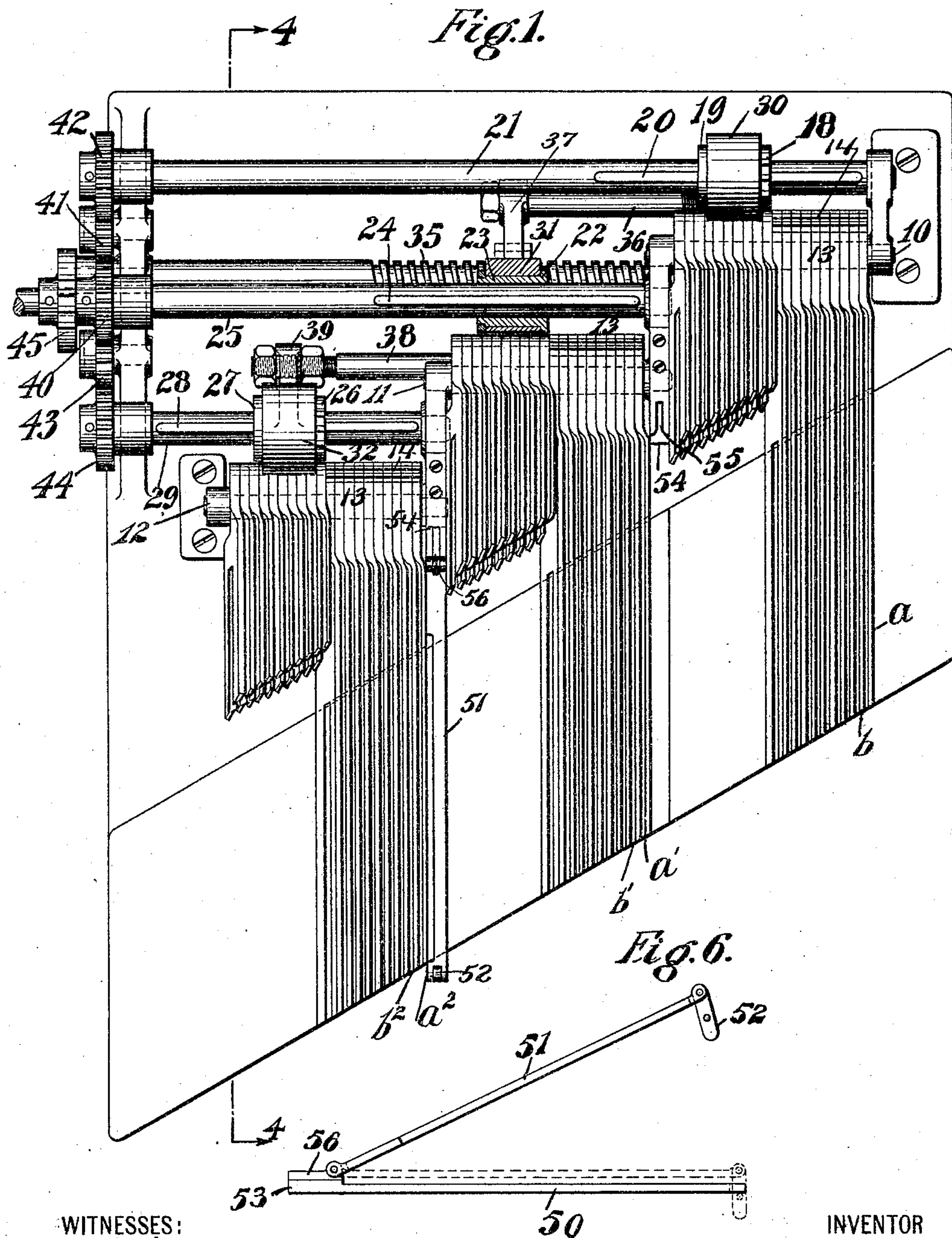
No. 777,699.

PATENTED DEC. 20, 1904.

A. SHEDLOCK.  
BOOKING APPARATUS.  
APPLICATION FILED MAR. 19, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

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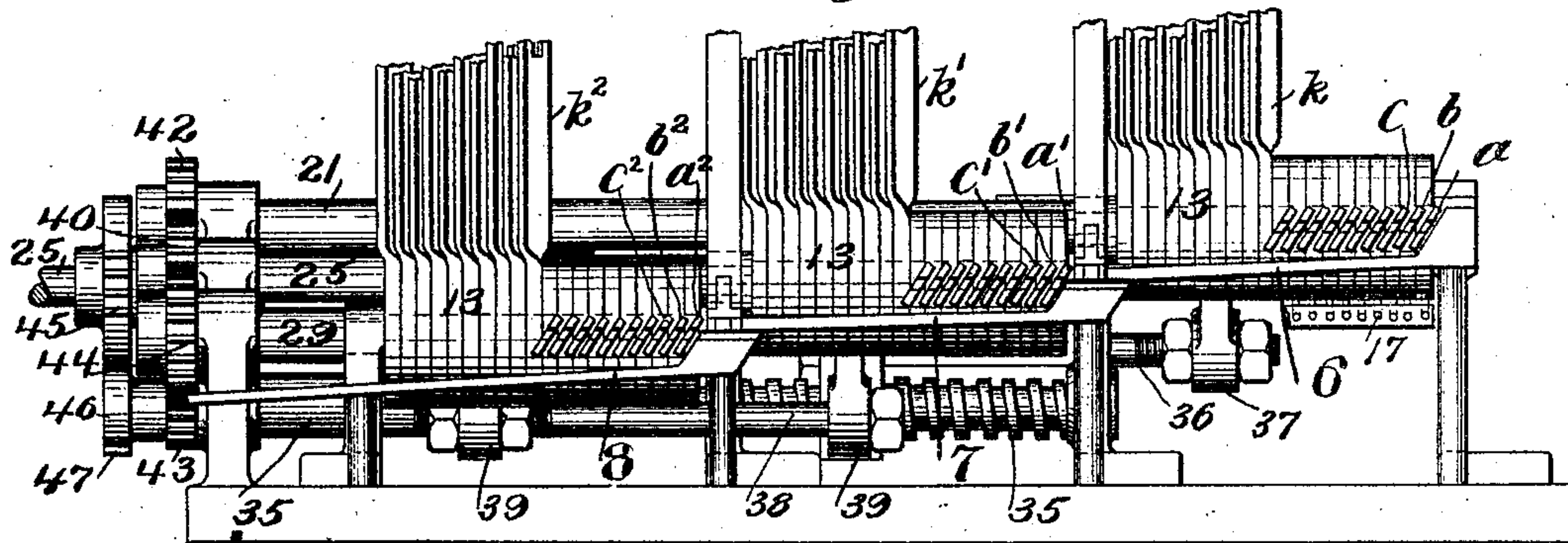
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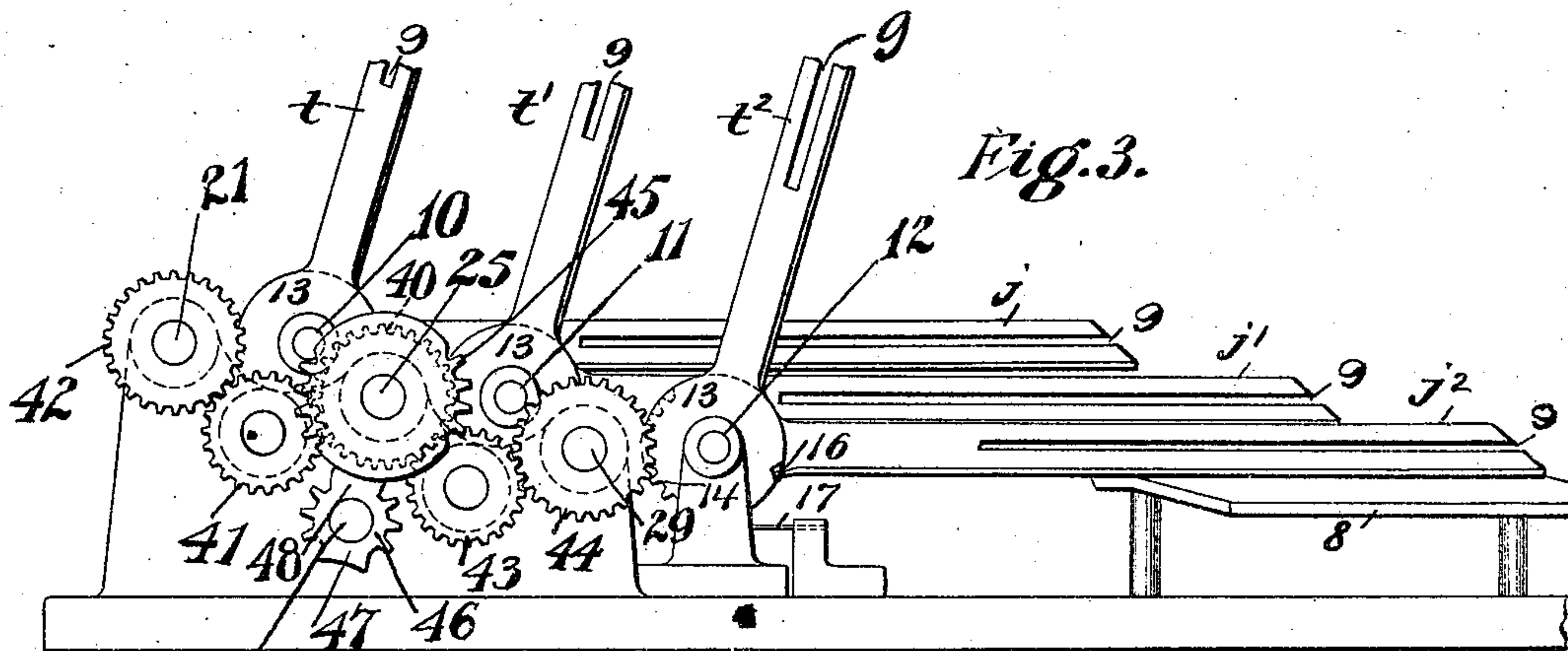
NO MODEL.

2 SHEETS—SHEET 2.

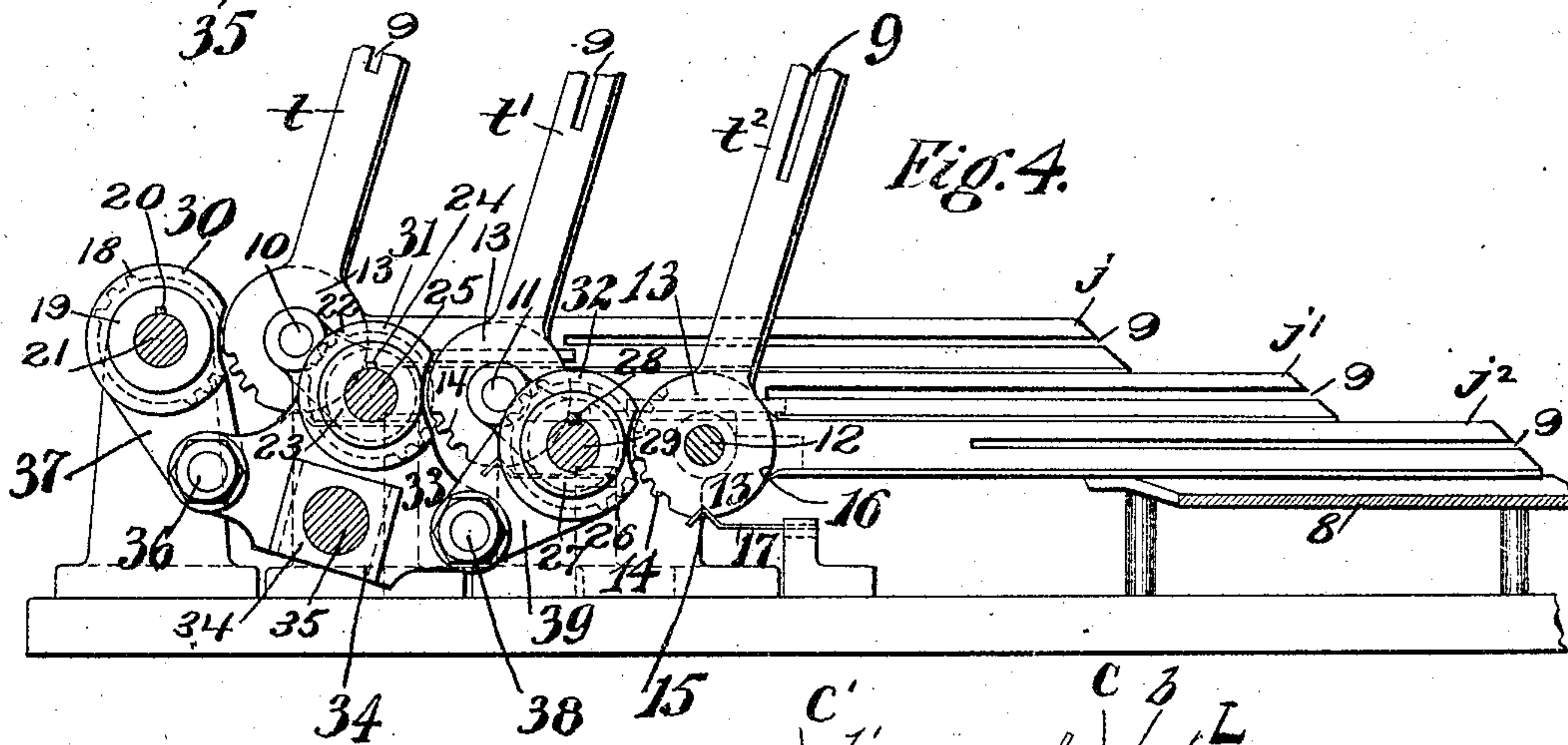
*Fig. 2.*



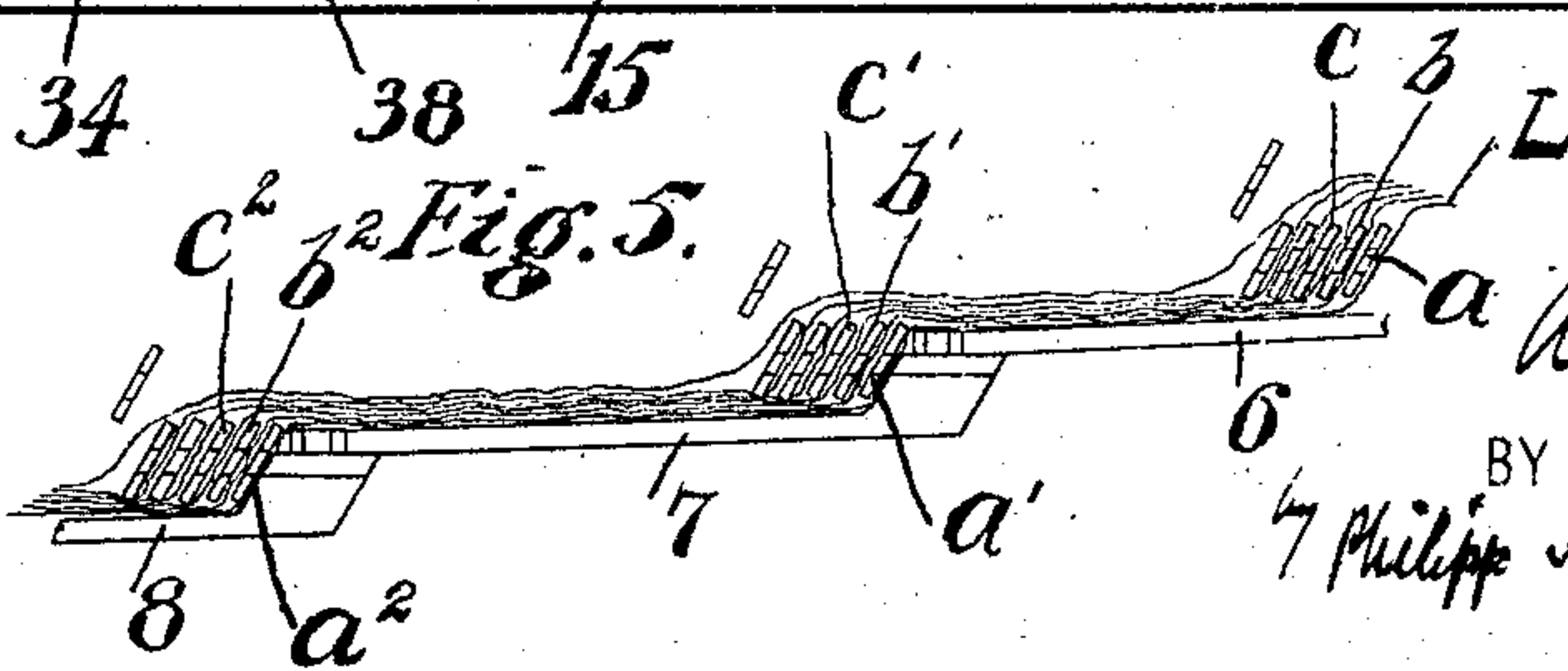
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

ALFRED SHEDLOCK, OF JERSEY CITY, NEW JERSEY, ASSIGNOR, BY  
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## BOOKING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 777,699, dated December 20, 1904.

Application filed March 19, 1903. Serial No. 148,488.

*To all whom it may concern:*

Be it known that I, ALFRED SHEDLOCK, a citizen of the United States, residing at Jersey City, county of Hudson, and State of New Jersey, have invented certain new and useful Improvements in Booking Apparatus, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention relates to certain improvements in booking apparatus.

It is desirable in many arts to hold sheets so that they may be separated into packs with their edges fanned out, and it is particularly desirable to do this in handling packs of tobacco-leaves which are to be cut into cigar-wrappers and to do this in such a way that each separate leaf will be securely held in proper position, so that when the leaves are cut they will be separated into packs the edges of which are fanned out, and to do this, furthermore, by means of holding devices which can be readily removed from the packs without seriously disturbing the position of the leaves.

It is the object of this invention to produce an improved holding device for packs of sheets, said apparatus operating to hold the sheets in such a manner that they may be cut and by cutting be separated into packs with the edges of the leaves fanned out.

With this and other objects in view the invention consists in certain constructions and in certain parts, improvements, and combinations, as will be hereinafter fully described and then specifically pointed out in the claims hereunto appended.

In the accompanying drawings, Figure 1 illustrates a plan view of the preferred form of apparatus. Fig. 2 is a front view. Fig. 3 is a side elevation on the gear side of the apparatus. Fig. 4 is a section on the line 4 4 of Fig. 1. Fig. 5 is a diagram illustrating the operation of the device, and Fig. 6 is a detail view of a clamp employed.

Referring to said drawings, which illustrate a preferred embodiment of the invention, the essential feature of the apparatus is comprised

in a plurality of spacing-plates between which leaves are held so that they may be cut. In the preferred form of the apparatus these spacing-plates will be arranged in sets, each plate of the set operating upon a different part of the sheet or leaf. In the construction shown a plurality of sets are employed, the sets being marked  $a a' a^2$ ,  $b b' b^2$ , and so on. While the spacing-plates might be depended upon alone to hold the sheets in packs ready for cutting, in the preferred form of the construction a suitable table or support will be provided, and the said table or support will have its operating-faces in different planes. In the construction illustrated a table having three operating-faces is employed, said faces being marked 6, 7, and 8. In the preferred form of the construction, furthermore, the spacing-plates will be so mounted that they stand edgewise or at an angle to the face of the support with which they cooperate, so that the leaves which are held between adjacent plates will have the portion which is held between the plates at an angle to the remaining portion of the leaf. It will be seen that when a number of leaves in succession have been placed in position and clamped by the spacing-plates they can be separated into packs by cutting, and after the spacing-plates are removed and the portion of the sheets or leaves which were between the plates turned down onto the support the edges of the leaves of each pack will be fanned out.

The operation will be clearly understood from the diagram Fig. 5. Referring to this diagram, a leaf marked L is laid on the support, different parts of the leaf lying on the faces 6, 7, and 8. The set of plates  $a a' a^2$  is then brought down into position, holding the leaf firmly against the shoulders which separate the portions 8 and 7 of the support and the shoulder which is at the end of the portion 6 of the support. A second leaf is now laid upon the support and the set of plates  $b b' b^2$  is brought down into operative position, this set of plates operating to hold the leaf in position against the adjacent plates of the  $a$  set. Another leaf is now laid on the



support and the set of plates  $c' c''$  is brought down into position, said set of plates operating to hold the leaf firmly in position against the adjacent plates of the  $b$  set. Successive leaves are laid upon the support and successive sets of holding and spacing plates are brought into position until the support is filled. It will be seen that each leaf is spaced from the adjacent leaf and also that each leaf is held in position with the portion between the holding-plates at an angle to the remaining portion of the sheet. If now the leaves are cut through this angularly-arranged portion and the spacing-plates removed, it will be seen that the leaves will be separated into packs and that the edges of each pack when the leaves are straightened out will be fanned out—that is, the leaves of the pack, although of the same length, will be arranged so that the edge of each leaf of the pack lies ahead of one of the edges of the adjacent leaf and behind the other edge of this leaf. The cutting might be accomplished by passing a knife along either edge of the spacing and holding plates; but in the preferred form of the construction each of the plates will be slotted, as indicated at 9. When the plates are in position, therefore, the leaves are cut by running a knife through the slots which at that time are in register. By thus arranging the slots in the plates each leaf is held firmly on each side of the cutting-point.

By the construction so far described it will be readily understood that the holding and spacing plates can be removed from their position after the leaves are cut without bending the leaves to any great extent. This is particularly advantageous in handling tobacco-leaves, as if they are given sharp bends they tend to break or become displaced when the plates are removed.

While the holding and spacing plates might be brought down into position by hand, mechanism is preferably provided to bring them into their operative position. This mechanism in the preferred form will be of such a character as to bring down the holding and spacing plates of each set simultaneously, but to cause the sets to come into position successively. The mechanism by which the result referred to may be accomplished may be of any suitable character. In the construction shown there are preferably three supports 10, 11, and 12, on which supports the sets of plates are loosely mounted, the  $a b c$ , &c., plates being mounted on the support 10, the  $a' b' c'$ , &c., plates being mounted on the support 11, and the  $a'' b'' c''$ , &c., plates being mounted on the support 12. Each of the plates is provided with an enlarged head 13, this head 13 having gear-teeth 14 cut thereon. Each head 13 is further provided with two notches 15 and 16, said notches cooperating with spring-detents 17, which hold the plates either in their upper or lower po-

sition. The gear-teeth on the heads 13 of the  $a b c$ , &c., plates are arranged to be successively engaged by a mutilated gear 18, the hub 19 of which is elongated. This gear 18 is splined to the shaft 21 by means of a feather 20. Similarly the gear-teeth on the heads 13 of the  $a' b' c'$ , &c., plates are arranged to be successively engaged by a mutilated gear 22, having an elongated hub 23, said gear being splined, by means of a feather 24, to a shaft 25. Similarly the gear-teeth on the heads 13 of the  $a'' b'' c''$ , &c., plates are arranged to be successively engaged by a mutilated gear 26, having an elongated hub 27, said gear being splined by means of a feather 28 to a shaft 29. The gears 18, 22, and 26 are secured together, so that they may be given a simultaneous longitudinal movement, thereby operating the plates of each set simultaneously and the sets themselves successively. In the construction shown this is accomplished by providing the hub of each gear with a collar, the collar on the hub 19 being marked 30, the collar on the hub 23 being marked 31, and the collar on the hub 27 being marked 32. The collar 31 is shown as formed in one piece with a yoke 33, (see Fig. 4,) said yoke carrying a nut 34, which is engaged by a screw-shaft 35, suitably mounted in the frame. This yoke 33 is connected, by means of a suitable rod 36, to an arm 37, extending from the collar 30. The yoke 33 is also connected by a suitable rod 38 to an arm 39, extending from the collar 32. It is apparent that when the screw 35 is turned the collars 30, 31, and 32 will be moved simultaneously along their operating-shafts.

The gearing by which the various movements are effected may be of any suitable description. As shown, the shaft 25, before referred to, is the power-shaft, said shaft being provided with a gear 40, (see full lines in Fig. 1 and dotted lines in Fig. 3,) said gear meshing with an idler 41, which in turn is in mesh with a gear 42 on the shaft 21. The gear 40 also drives an idler 43, which is in mesh with a gear 44 on the shaft 29. The shaft 25 is also provided with a mutilated gear 45, which meshes with a locking-gear 46, which is mounted on the screw-shaft 35. This locking-gear 46 has two locking projections 47 and 48, the teeth of the gear being located on each side of these projections. With the construction shown and assuming that the mutilated gears 18, 22, and 26 are in position to engage the gear-teeth on the heads 13 of the  $a a' a''$  set of plates, as the power-shaft 25 revolves these plates will be thrown down into the position shown in Figs. 1 and 2. At the time this takes place one of the locking projections 47 or 48 is running on the round part of the mutilated gear 45, so that no movement of the screw-shaft 35 can take place. After the teeth of the mutilated gears 18 22 26 have passed out of engagement with the teeth on



the heads 13 of the *a* set of plates the teeth on the mutilated gear 45 come into mesh with the teeth on the gear 46 and the screw-shaft is given one half-turn, which movement of the shaft, through the operation of the yoke 33 and the connections before described, moves the mutilated gears 18, 22, and 26 into position so that they will engage with the teeth on the heads 13 of the *b* set of plates and these plates be thrown down into the position shown in Fig. 1. These operations are repeated until all the plates have been brought down upon the support, at which time the machine is stopped.

The gearing is so timed as to permit the operator to lay the leaves to be cut in succession on the support between the successive descents of the sets of plates. After the plates are all in position the operator runs a knife through the slots 9, before described, in the plates, thus separating the leaves into two packs. Of course the number of packs will vary, according to the size of the leaves the apparatus is designed to operate upon. After the leaves have been cut the direction of rotation of the power-shaft 25 is reversed, and the plates are thrown up into their upper position.

In the preferred form of the apparatus a clamp will preferably be provided for each pack of leaves, so that the relative position of the leaves in each pack will not be disturbed as the spacing-plates are drawn from the packs, and these clamps will be removable from the apparatus, so that the packs may be preserved with their separate leaves in proper position until they are used. The construction of the clamp may be widely varied. As shown it consists of a jaw 50, said jaw having pivoted thereto a cooperating jaw 51, which carries a latch 52. The jaw 50 when the clamp is in position rests in a groove in the support, and the inner end 53 of the jaw is arranged to engage in a socket 54, formed in the frame of the apparatus, said socket being provided with a recess 55, which is engaged by a rib 56 on the end 53 of the clamp.

While the construction which has been described embodies a preferred form of the apparatus, it is to be understood that the invention may be embodied in constructions which differ widely from the construction shown and described. The invention is not, therefore, to be limited to the specific details of construction herein described and shown.

What is claimed is—

1. A booking apparatus provided with means for holding a plurality of sheets in position, the sheets being generally parallel with each other and each sheet having a portion standing at an angle to its body whereby when the sheets are cut and the portions standing at an angle are turned into the plane of the rest of the sheet, the sheets will be fanned out, substantially as described.

2. In a booking apparatus, a plurality of spacing-plates adapted to be brought into operation one after the other to separate sheets of material and hold certain portions of the sheet at an angle to the remainder of the sheet, whereby when the sheets are cut and the plates removed, the sheets will be fanned out, substantially as described.

3. In a booking apparatus, a plurality of sets of spacing-plates each plate of a set being adapted to operate upon a different part of a sheet and the sets being adapted to be brought into operation in succession, whereby a plurality of sheets of material will be held in position for cutting and after cutting separated into piles with their edges fanned out, substantially as described.

4. In a booking apparatus, a plurality of sets of spacing-plates adjacent plates being adapted to hold between them a sheet of material to be cut with a portion thereof extending at an angle to the plane of the remainder of the sheet, and the sets of spacing-plates being adapted to be brought into operation successively, whereby a pack of sheets may be cut into piles which after the spacing-plates are removed will have their edges fanned out, substantially as described.

5. In a booking apparatus, the combination with a support having its operating-face lying in different planes, of a plurality of sets of spacing-plates between which sheets of material may be held, said plates standing at an angle to the face of the support with which they cooperate, substantially as described.

6. In a booking apparatus, the combination with a support having its operating-face lying in different planes, of a plurality of sets of slotted spacing-plates between which sheets of material may be held, said plates standing at an angle to the face of the support with which they cooperate, substantially as described.

7. In a booking apparatus, the combination with a support, of a plurality of sets of spacing-plates between which sheets of material may be held for cutting, said spacing-plates being arranged at an angle to the support, and means for bringing the sets of spacing-plates successively into operative position, substantially as described.

8. In a booking apparatus, the combination with a support, of a plurality of sets of slotted spacing-plates between which sheets of material may be held for cutting, said spacing-plates being arranged at an angle to the support, and means for bringing the sets of spacing-plates successively into operative position, substantially as described.

9. In a booking apparatus, the combination with a support, of a plurality of sets of slotted spacing-plates between which sheets of material may be held for cutting, said spacing-plates being arranged at an angle to the support, and suitable gearing for bringing the



sets of spacing-plates successively into operative position, substantially as described.

10. In a booking apparatus, a plurality of spacing-plates adapted to be brought into operation one after the other to separate sheets of material and hold certain portions of the sheet at an angle to the remainder of the sheet, whereby when the sheets are cut and the plates are removed the sheets will be fanned out, and a clamp for holding the packs of sheets separated by the plates, substantially as described,

11. In a booking apparatus, a plurality of sets of spacing-plates adjacent plates being adapted to hold between them a sheet of material to be cut with a portion thereof extending at an angle to the plane of the remainder of the sheet, and the sets of spacing-plates being adapted to be brought into operation successively, whereby a pack of sheets may be cut into piles which after the spacing-plates are removed will have their edges fanned out, and a clamp for holding the packs of sheets separated by the plates, substantially as described.

12. In a booking apparatus, the combination

with a support having its operating-face lying in different planes, of a plurality of sets of spacing-plates between which sheets of material may be held, said plates standing at an angle to the face of the support with which they cooperate, and a clamp for holding the packs of sheets separated by the plates, substantially as described.

13. In a booking apparatus, the combination with a support, of a plurality of sets of slotted spacing-plates between which sheets of material may be held for cutting, said spacing-plates being arranged at an angle to the support, means for bringing the sets of spacing-plates successively into operative position, and a clamp for holding the packs of sheets separated by the plates, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALFRED SHEDLOCK.

Witnesses:

SYDNEY I. PRESCOTT,

GEO. H. SNYDER.