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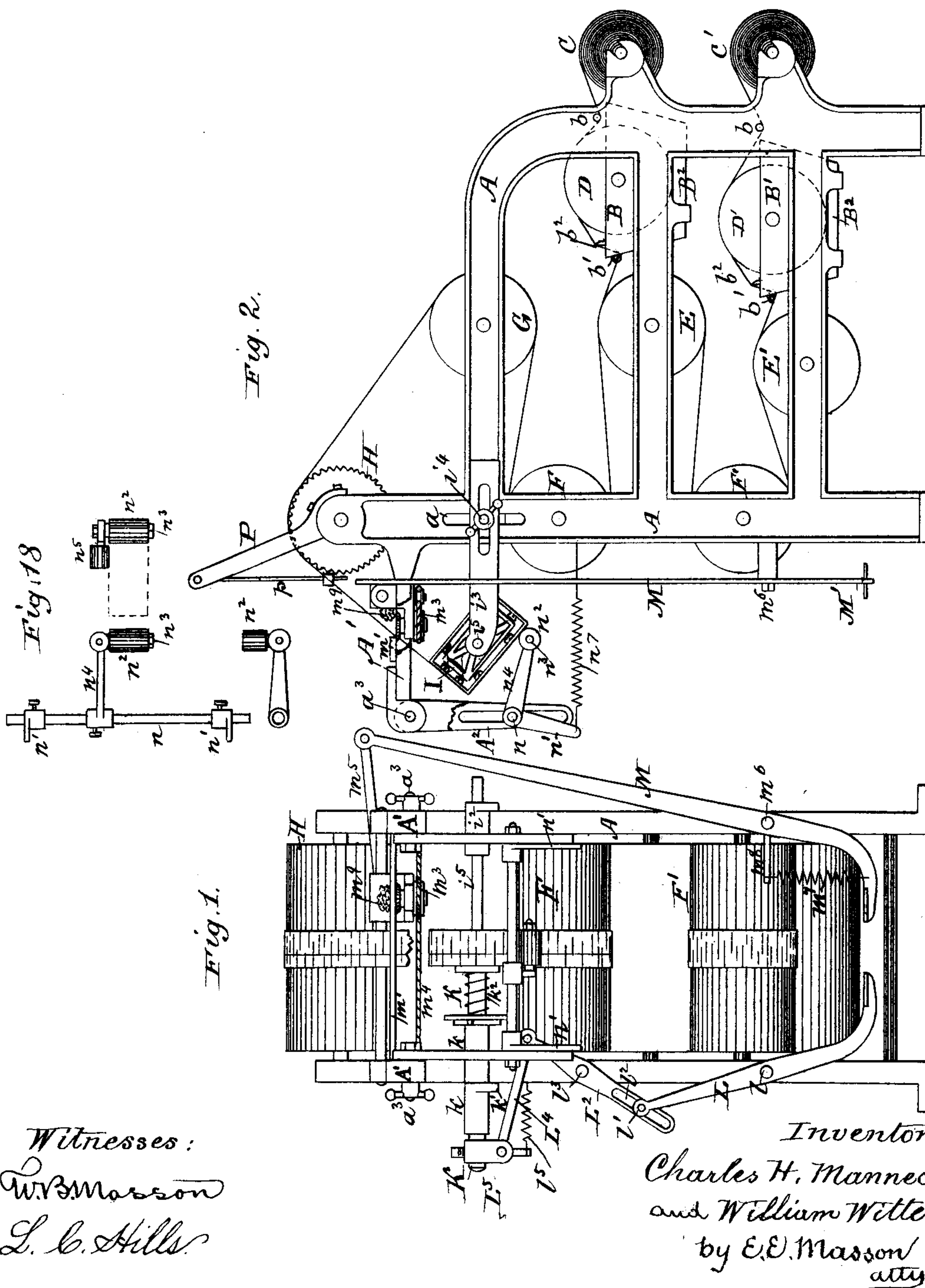
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C. H. MANNECK & W. WITTE.

BOX COVERING MACHINE.

No. 278,442.

Patented May 29, 1883.



Witnesses:
W. B. Masson
L. C. Hills

Inventors
Charles H. Manneck
and William Witte
by E. E. Masson
att'y.

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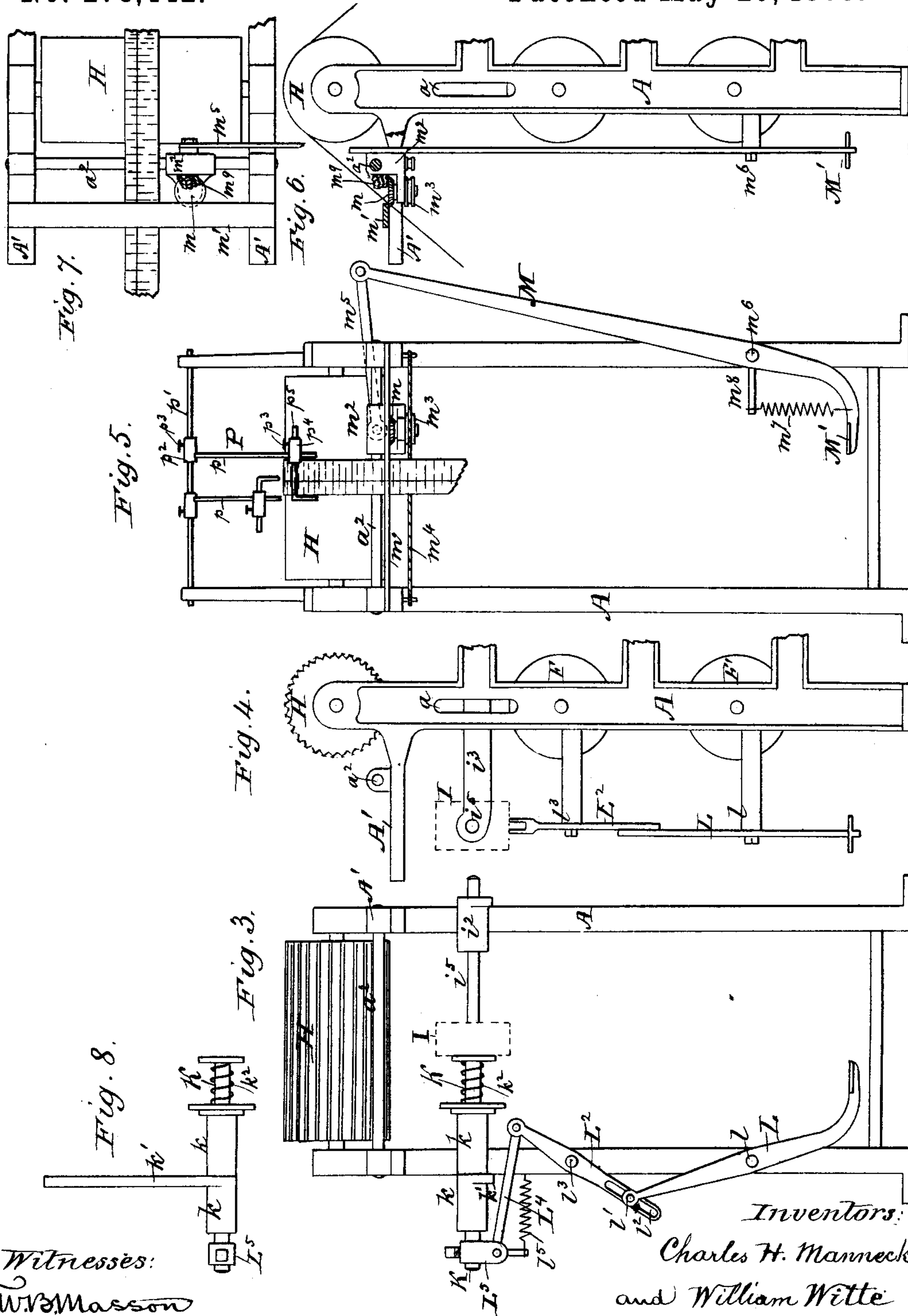
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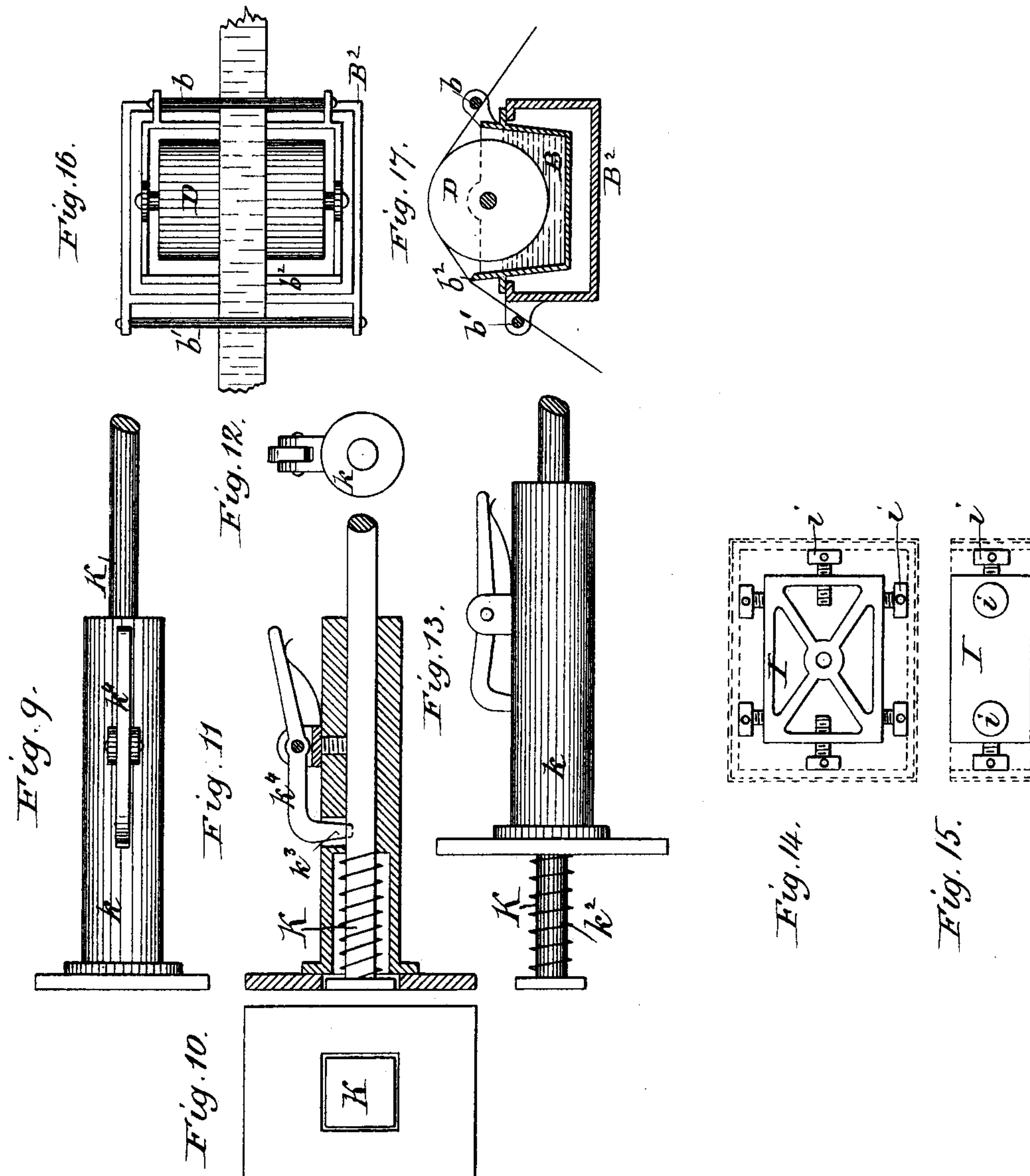
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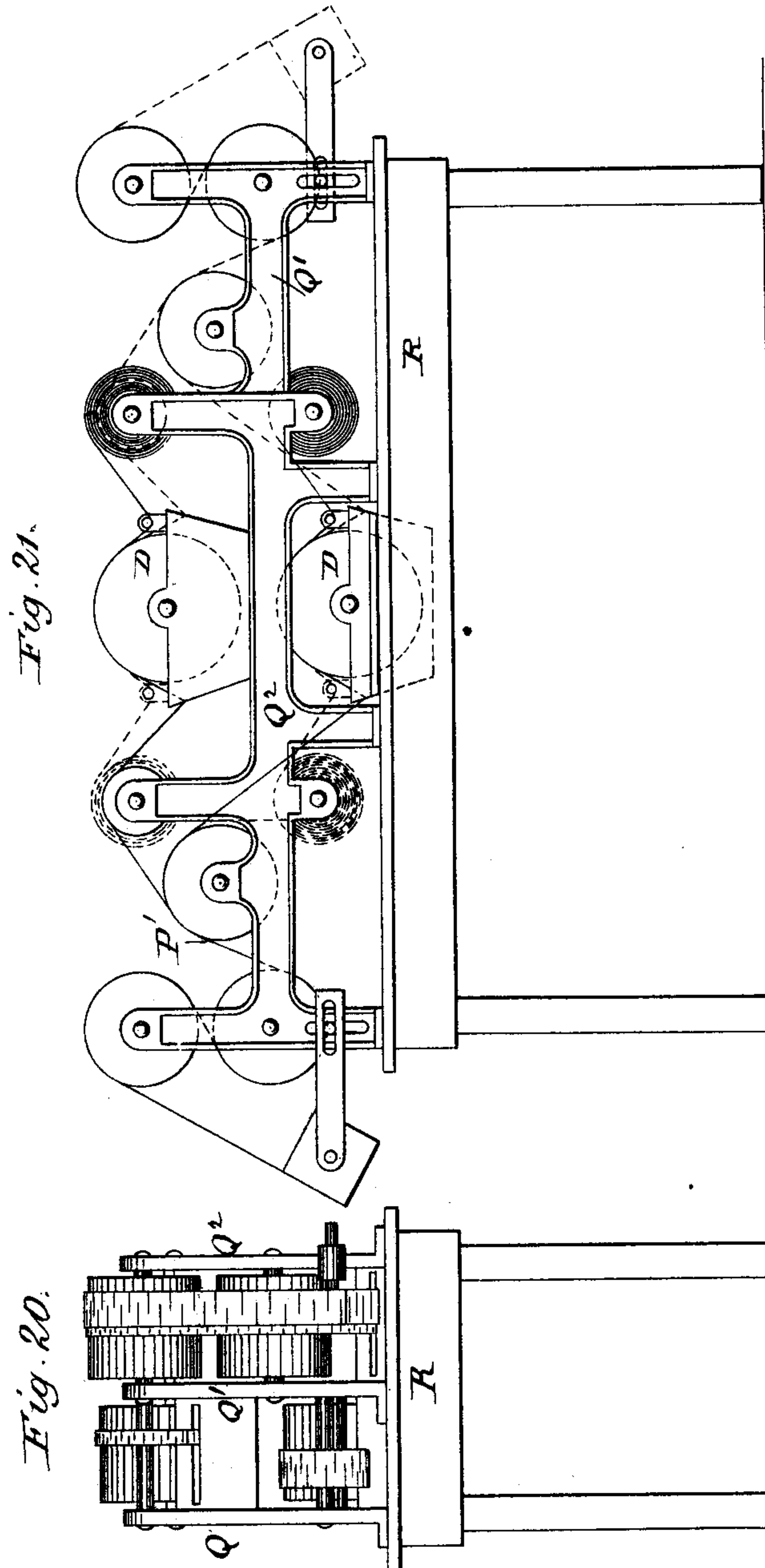
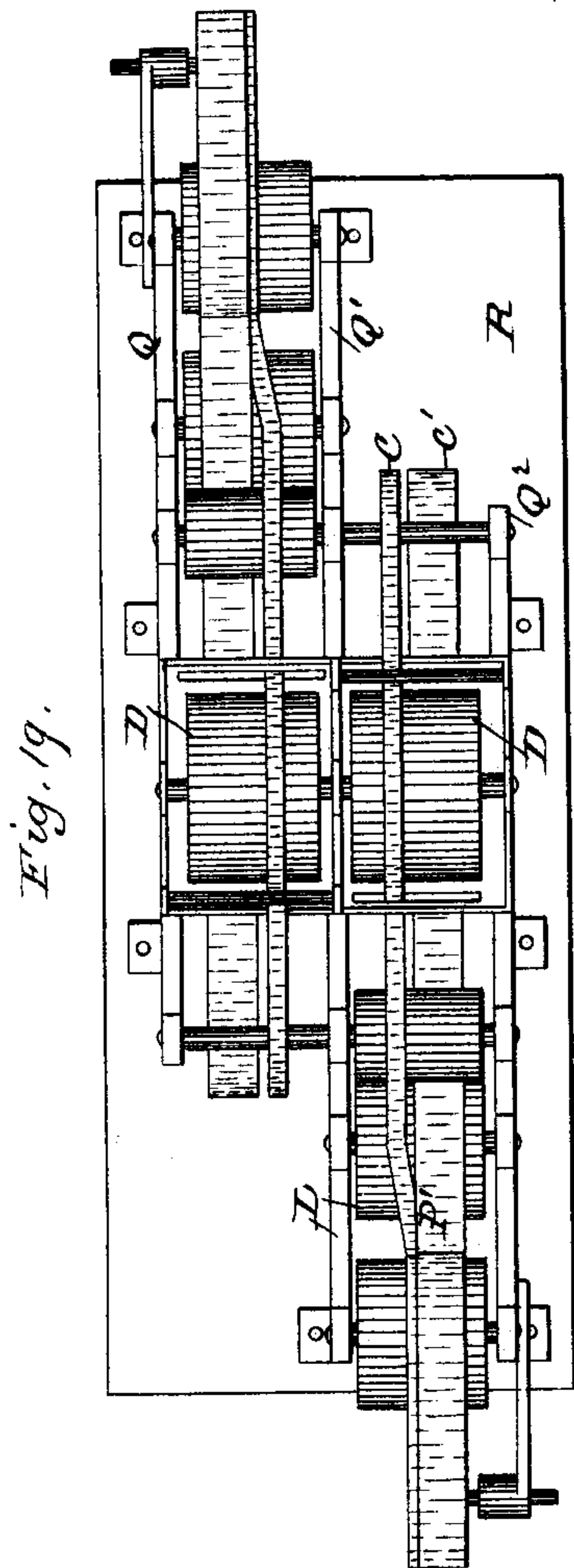
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UNITED STATES PATENT OFFICE.

CHARLES H. MANNECK, OF BROOKLYN, NEW YORK, AND WILLIAM WITTE,
OF NEW HAVEN, CONNECTICUT.

BOX-COVERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 278,442, dated May 29, 1883.

Application filed January 2, 1883. (No model.)

To all whom it may concern:

Be it known that we, CHARLES HENRY MANNECK, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, and WILLIAM WITTE, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Box-Covering Machine, of which the following is a specification.

Our invention relates to improvements in paper-box-covering machines in which a strip of paper from a roll is passed over a pasting-roller, guides, and conveying-rollers to a box-holding device and secured to the sides of a box placed thereon; and the objects of our improvements are to provide, in a machine of simple construction, an adjustable box-block of peculiar construction, yielding rollers to operate upon the angles of a box, and the carriage of the revolving paper-cutter, with a sponge to keep the edge of said cutter clean, with other features specifically set forth in the claims. We attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an end view of a machine adapted to be used by one operator in covering boxes. Fig. 2 is a side view of the same. Fig. 3 is an end view of the same, showing the box-clamp and its operating-levers. Fig. 4 is a side view of the end of the machine carrying the box-clamp. Figs. 5, 6, and 7 represent, respectively, an end view, side view, and top view of the paper-strip-cutting device and operating means. Fig. 8 is a top view of the box-clamp and supporting-arm. Figs. 9 to 13 are views of the box-clamp upon a larger scale. Figs. 14 and 15 are front and side views of the adjustable box-block. Figs. 16 and 17 represent the paste-box in plan and vertical section. Fig. 18 represents a detached view of the adjustable pressure-rollers and their connections. Figs. 19, 20, and 21 represent, respectively, in plan, end view, and side view, a double machine adapted to be worked from the two ends at the same time.

Similar letters refer to similar parts throughout the several views.

In the drawings, A represents the frame, B

the upper paste-box, and B' the lower paste-box, each surrounded by a casing, B². Two or more rolls of paper, C C', of suitable width, may be used on the machine, with the upper strip generally narrower than the under strip. The latter strip passes from the roll C' under a guide-roll or transverse rod, b, carried by the paste or glue box, that brings it in contact with a large surface of the paste-roll D', and over the acute edge b² of the paste-box, as shown in Fig. 17, by which means the superfluous paste is removed from the paper and returned into the paste-box. The paper being depressed by passing under the transverse guide-rod b' is conducted over the roll E' and around the rolls F' E. While passing around the latter it receives upon a portion of its unpasted surface the strip coming from the paper-roll C over the surface of the paste-roll D'. The two strips thus united are conducted toward the front of the machine and then around the roll F and back again toward the rear and around the roller G. By thus bending the pasted strips of paper, first in one direction and then in the opposite direction, they become "tempered" and adhere closely to the box intended to be covered without presenting any blisters. After passing over the roller G, the paper strips are conducted over the roll H to the box intended to be covered. The roller H has its surfaces corrugated, so that as little as possible of the paste upon the under side of the paper will adhere to said roller.

The box is carried upon a block, I, provided with a series of adjustable screws, i, having flat heads to support the inside of the said box. To unite the bottom to the sides of the box with continuous strips, and, in addition, cover the sides and edges at the same time, as ordinarily done while making round boxes, said bottom is retained against the side of the block I by means of a plunger, K, and the latter is carried in suitable bearings, k, in the end of an arm, k', adjustably secured to the side of the frame A. The block I is carried upon the end of the rod i⁵, retained in a bearing, i², in the end of an arm, i³, and the arm i³, as well as the arm k', is adjustably secured to the side of the frame by means of a hand-bolt, i⁴, passing through a longitudinal slot in said arm i³ and

a vertical slot, a , in the frame, so that its outer end can be swung in a circle of any desired radius to accommodate upon its box-carrying block boxes of any desired size and retain them in suitable position relatively to the cutter and the roller n^2 . The plunger K has coiled upon its stem, and immediately in the rear of the head of the latter, a spring, k^2 , within the inner bearing, k , to force the plunger against the bottom of the box to be operated upon. When it is desired to remove from the block I a completed box and insert thereon a box to be operated upon the operator can retract the plunger K within its bearings k by pressing the left foot upon the pedal of the lever L, pivoted about the middle of its length at l to the frame. This lever has at its upper end a pin, l' , that enters a slot, l^2 , in the lower portion of the lever L^2 , pivoted to the frame at l^3 . The upper end of lever L^2 is united by means of the connecting-rod L^4 to a thimble, L^5 , secured at the outer extremity of the plunger-rod K. A coiled spring, l^5 , retracts the lower extremity of the thimble L^5 and the outer end of the plunger toward the frame, and consequently keeps the pedal of the lever L somewhat elevated until depressed by the operator. While a box is removed from the block I and another box is placed thereon the plunger K is kept retracted by the point k^3 of a spring latching-hook, k^4 , entering an indentation in the side of the stem. After the paper strip has been made to nearly surround the sides of the box the proper length is separated by means of a revolving cutter, m , having its edge bearing against the under side of a ledger-blade, m' , secured across the front end of the machine upon two arms, A' , projecting therefrom. The cutter m is mounted upon a carriage, m^2 , (see Figs. 5 and 6,) constructed to slide upon the transverse guide-rod a^2 . The shaft of said cutter extends under the carriage and rod a^2 and carries a small pulley, m^3 , around which is wound a cord, m^4 , having each end secured to one of the arms A' of the frame. The carriage m^2 is united by means of a connecting-rod, m^5 , to a lever, M, that is pivoted at m^6 to the frame. This lever has a pedal, M' , upon which the operator can press his right foot to pass the cutter m across the strip of paper and revolve it at the same time. The pedal M' is otherwise kept partly elevated by means of the coil-spring m^7 , having one end secured thereto and the other to a pin, m^8 , projecting from the frame. To prevent paste from accumulating upon the cutter and clogging its edge a sponge, m^9 , is secured to the carriage m^2 , so as to rest upon said cutter and wipe it while it revolves in passing across the machine.

To press and rub the strip of paper and make it adhere firmly to the side of the box there are pendent from the arms A' two arms, A^2 , that are pivoted at a^3 to said arms A' , and may be set and retained at any suitable angle thereto by means of a thumb-screw, forming the pivot a^3 . The arm A^2 is slotted longitudi-

nally to receive the rod n , and the latter is retained at any suitable position in the slots by means of jam-nuts, or by means of the boss of the arms n' at each end forcibly bearing against the inner side of the arm A^2 . The arms n' are connected by springs n^7 with the frame to force upward the roller n^2 against the sides of the box and smooth the strip of paper applied thereon. The roller n^2 is formed of rubber or other suitably-yielding material mounted upon a spindle, n^3 , parallel with the rod n , and this spindle is secured to the end of an arm, n^4 , secured upon the rod n in suitable position to have the roller n^2 go over the whole width of the box-covering strip or strips of paper. When it is desired to secure the pasted paper over the edges of the box a small roller, n^5 , is used in connection with the roller n^2 , and for this purpose the inner end of the spindle of the roller n^5 is perforated to fit over the spindle n^3 and be clamped thereon, as shown in Fig. 18. The machine is also provided with paper guides or gages P, (see Fig. 5,) each one of which is composed of a light rod, p , pendent from a transverse bar, p' , secured to the frame and extending across the machine, the upper end of the rod p' being provided with a sleeve, p^2 , and set-screw p^3 to adjust said rod p in suitable position over the path of the paper. At a short distance from the extremity of the rod p it is provided with a transverse sleeve, p^4 , through which passes a rod, p^5 , having one end bent or hooked to bear against the side of the paper strip, the sleeve p^4 carrying also a set-screw, p^3 , to retain adjustably the hooked rod.

There is also represented in Figs. 19 to 21 a double machine embodied in the nature of our invention. Said machine can be worked from both ends and occupies very little more room than a single machine, and is designed to contain all the novelties hereinafter claimed. The paper strips C and C' are running parallel to each other until they reach the point P', where guides, substantially as shown in Fig. 5, are used to direct the narrowest or edge-binding strip C under the main or largest covering-strip C', so that they reach in proper relative position the box to be covered. In this machine four paste-boxes, D, are used, supported by a frame composed of three castings, Q Q' Q'', secured parallel to each other upon a table, R. The middle casting, Q', serving to support one end of the shafts of each roller, renders the construction more compact, lighter, and less expensive than if two distinct machines were built apart.

We claim—

1. The combination of the frame A, carrying two paper rolls and two paste-boxes, with a series of rollers, and the arm i^3 , carrying the box-retaining block, and capable of adjustment vertically and horizontally, substantially as and for the purpose described.
2. The combination of the ledger-blade, revolving cutter, its carriage m^2 , and guide-rod,

with a sponge, m^9 , secured to said carriage in the path of the cutter, substantially as and for the purpose set forth.

3. The combination of arms, supporting-cut-
5 ters, pendent slotted arms A^2 , and pivotally-adjustable yielding arms n^4 , carrying smoothing-rollers, with a box-block, substantially as and for the purpose described.

4. The combination of a box-block and pend-
10 ent slotted arm, with yielding roller-supports provided with smoothing-rollers n^2 and n^5 , arranged at right angles to each other, substantially as and for the purpose set forth.

5. In a box-covering machine, the combina-
15 tion, with a box-block-carrying arm secured to the frame, of a block, I, provided with externally-projecting set-screws, whereby the holder

or block is adapted to fit the interior of various boxes, substantially as described.

6. The combination of the foot-lever L, the 20 pivoted slotted lever L^2 , connecting-rod L^4 , and plunger K, whereby the latter is retracted, substantially as and for the purpose described.

7. The combination, with the frame and rolls of a box-covering machine, of a transverse rod, 25 p' , and guides P, comprising pendent rods p , having adjustable sleeve p^2 , sleeve p^4 , and adjustable transverse hooked rods p^5 , substantially as and for the purpose described.

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Witnesses:

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