

No. 758,156.

PATENTED APR. 26, 1904.

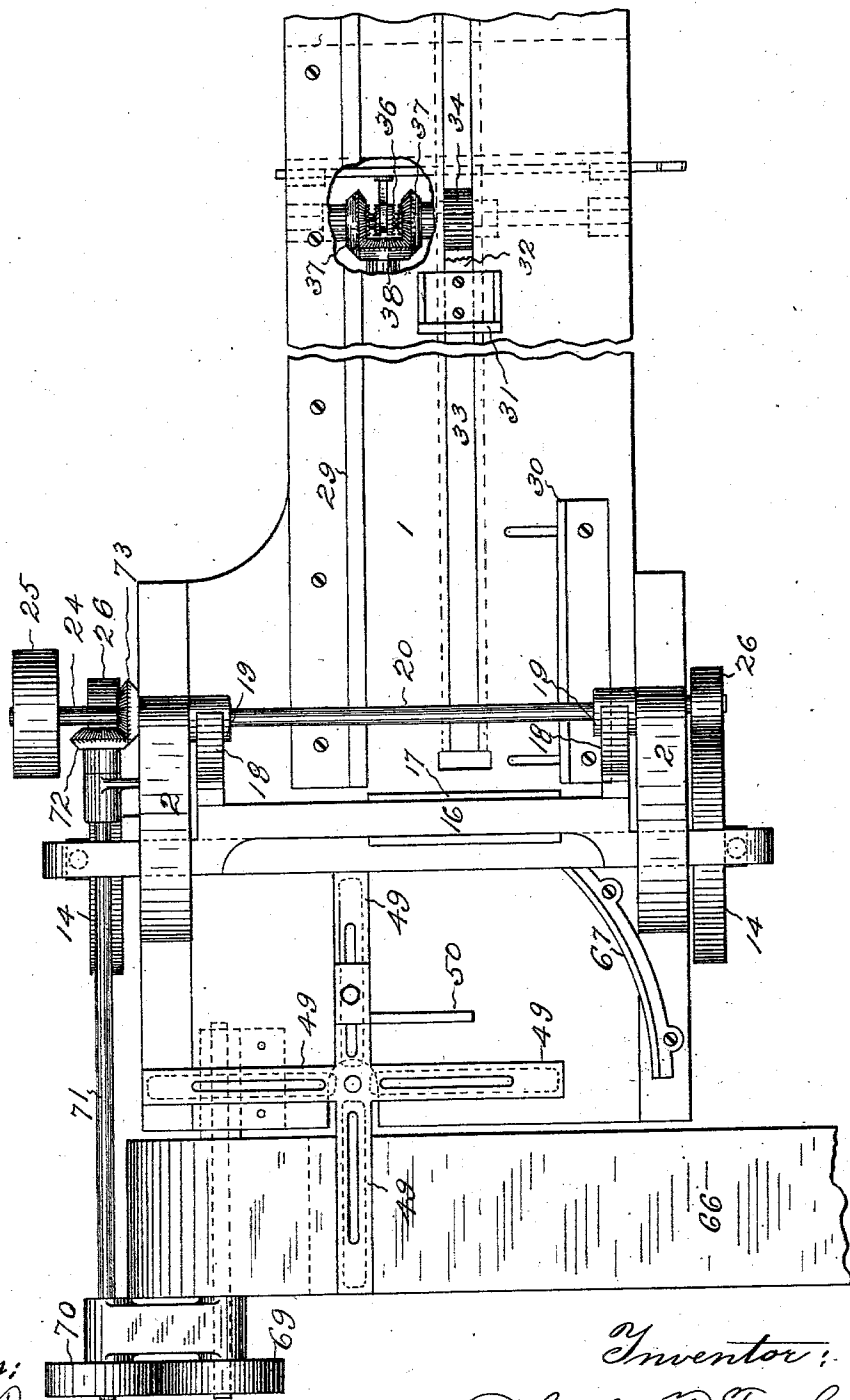
C. F. TAYLOR.
MACHINE FOR CUTTING PADS OR TABLETS.

APPLICATION FILED JULY 31, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

Fig. 1



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Harry R. Williams
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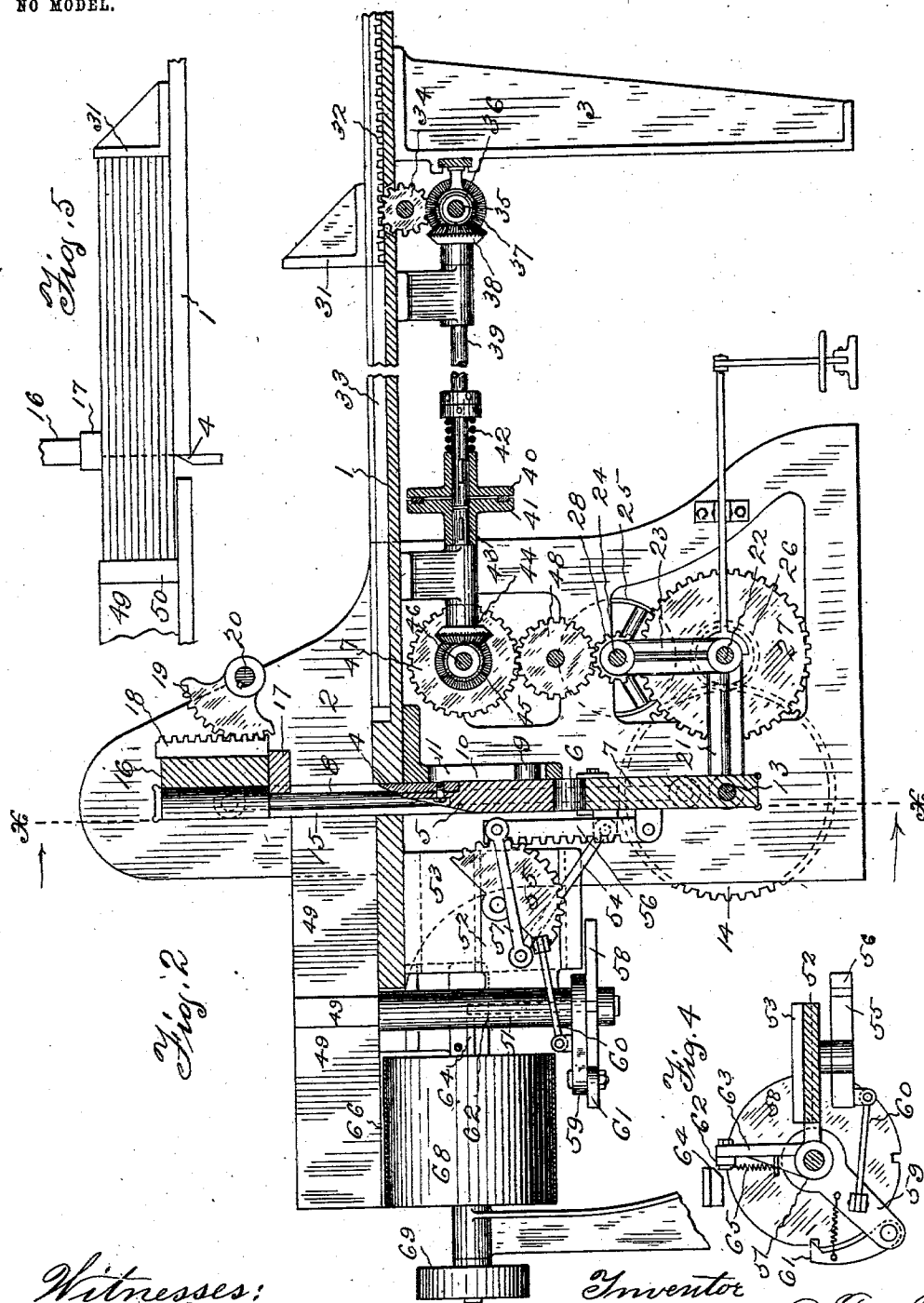
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NO MODEL.

3 SHEETS—SHEET 2.



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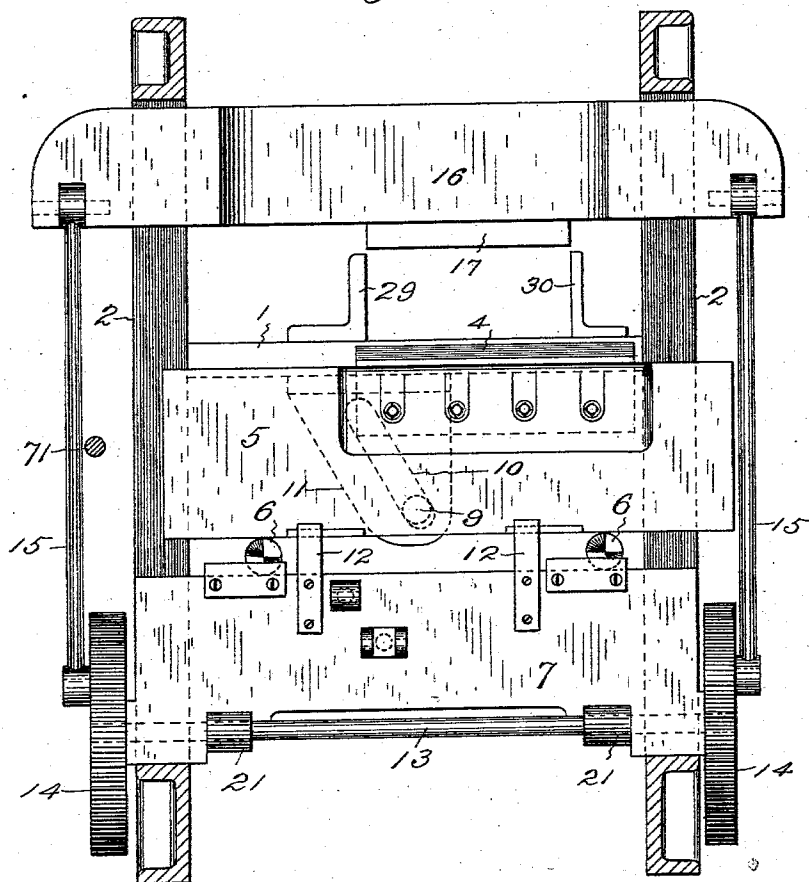
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MACHINE FOR CUTTING PADS OR TABLETS.

APPLICATION FILED JULY 31, 1903.

NO MODEL.

3 SHEETS—SHEET 3.

Fig. 3



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UNITED STATES PATENT OFFICE.

CHARLES F. TAYLOR, OF HARTFORD, CONNECTICUT.

MACHINE FOR CUTTING PADS OR TABLETS.

SPECIFICATION forming part of Letters Patent No. 758,156, dated April 26, 1904.

Application filed July 31, 1903. Serial No. 167,684. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. TAYLOR, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Machines for Cutting Pads or Tablets, of which the following is a specification.

In making pads or tablets for writing, drawing, or other purposes the desired number of long sheets of the paper that is to be used are piled up and bound along one edge, forming blanks of considerable length. These blanks are then by a trimming-knife divided into pads or tablets of the required size.

This invention relates to a machine for dividing the blanks into pads or tablets of the desired size.

The object of this invention is to provide a simple cutting-machine in which a number of blanks of any ordinary length each containing the desired number of sheets of paper bound along one edge may be placed and automatically fed to a stop which locates the blanks so that they will be accurately cut.

Figure 1 of the accompanying drawings shows a plan of a machine that embodies the invention. Fig. 2 shows a front elevation of this machine with parts cut away to expose the mechanisms. Fig. 3 shows a vertical section taken on the plane indicated by the dotted line *xx* on Fig. 2 looking in the direction indicated by the arrows. Fig. 4 shows a plan of the stop-moving mechanism. Fig. 5 shows a number of superimposed blanks clamped above the knife and between the feed-knee and the stop.

In the machine illustrated the table 1 is supported by side frames 2 and legs 3. The cutter-blade 4 is adjustably fastened to a plate 5, that extends transversely of the machine below the table and rests upon rollers 6, that are held on the upper edge of a plate 7. The edges of the cutter-plate 5 and the supporting-plate 7 extend into vertical openings 8 in the side frames, Figs. 2 and 3. A pin 9 projects from the cutter-plate into an inclined groove 10 in a bracket 11, attached to the under side of the table, so that the cutter will be given a shear when it is raised. Strips 12 connect

the lower edge of the cutter-plate with the supporting-plate, so that the cutter-plate will be drawn down when the supporting-plate is lowered, Fig. 3.

Extending through the lower part of the supporting-plate is a shaft 13, on each end of which is a gear 14. On each side a rod 15 connects a crank-pin projecting from a gear 14 with a cross-head 16, that extends through the openings in the side frames and carries a clamping-bar 17, Fig. 3. Attached to each end of the cross-head is a vertical rack 18, which meshes with a segmental rack 19, attached to a transverse shaft 20, Figs. 1 and 2, so that both ends of the cross-head will move together.

Links 21 connect the shaft 13, that extends through the lower part of the supporting-plate, with a shaft 22, that is supported by links 23, that hang from a shaft 24, fixed to which is a driving-pulley 25. The shaft 22 has a pinion 26 at each end which meshes with a gear 14, and this shaft also has a gear 27, that meshes with a pinion 28 on the driving-shaft 24, Fig. 2. By means of this mechanism when a number of pad or tablet blanks are upon the table above the cutter the rotation of the driving-pulley through the pinions, gears, and cranks first causes the clamping-bar to be drawn down so as to clamp the blanks to the table above the knife. Then after the clamping-bar has been moved as far as the blanks will allow the continued movement of the pinions, gears, and cranks causes the cutting-blade to be lifted so as to divide the blanks from below. When the cutting-blade is lifted, the pinions and gears are kept in mesh by means of the links. After a cut has been made the blade is lowered and the clamping-bar is lifted.

The blanks are pushed between a fixed guide 29 back of the middle of the table and an adjustable guide 30 in front of the middle of the table by a feed-knee 31, attached to the rack 32, that is movable in a way 33 in the top of the table, Fig. 1.

Meshing with the rack is a pinion 34 in mesh with a pinion on the shaft 35, that has a clutch 36 between two beveled gears 37, that mesh with a beveled gear 38 on a shaft 39, Figs. 1 and 2. When the clutch is thrown to one po-

sition, the knee is fed forwardly, and when it is thrown to the opposite position the knee is fed backwardly. The shaft 39 is provided with a friction-disk 40, that is forced against a friction-disk 41 by an adjustable spring 42. The friction-disk 41 is on a shaft 43, that has a beveled gear 44, meshing with the beveled gear 45 on a shaft 46, that has a gear 47, in mesh with which is a gear 48, that meshes with the pinion 28 on the driving-shaft, Fig. 2. By means of this mechanism the feed mechanism is rotated continuously, and if there is no resistance the knee feeds the blanks forwardly; but after the blanks have been brought to a stand by a stop the feed-knee remains stationary and the friction-disks slip.

In the machine illustrated a rotary stop is provided for limiting the forward feed of the blanks. Above the table beyond the cutter are four wings 49, each of which may be provided with an adjustable stop 50, Fig. 1. These wings are attached to a post that is supported by a sleeve 51, fastened to a slide 52, that is held by a bracket 53, secured to the under side of the table. The slide is connected by a link 54 with the supporting-plate 7, so that when the supporting-plate is raised the slide, with the wings and stops, is carried away from the knife, and when the plate is lowered the stops are drawn toward the knife.

On the slide is a segmental rack 55, meshing with which is a vertical rack 56, that has its lower end pivoted to the supporting-plate 7 and its upper end connected by a link 57 with the slide, Fig. 2. Attached to the lower end of the post to which the stop-wings are fastened is an index-disk 58. Movable on the post above the index-disk is a ratchet-arm 59, that is connected by a link 60 with the segmental rack. On the outer end of the ratchet-arm is a pawl 61, that is adapted to engage the notches in the index-disk, Figs. 2 and 4. When the cutter is lifted, the vertical and segmental racks draw the ratchet-arm back, and when the cutter is lowered these racks push the ratchet-arm forward and cause the ratchet to feed the index-disk, so as to rotate the stop-wings. Four stop-wings are shown, and consequently there are four notches in the index-disk, and that disk and the wings and stops are fed ninety degrees at each forward movement of the ratchet.

A lever 62 is pivoted to an arm 63, that projects from the supporting-sleeve in such position that its lower end is adapted to enter the notches and lock the index-disk against movement, and its upper end is adapted to engage a wedge 64, Fig. 4. When the slide carries the parts back, the lever 62 is oscillated so as to unlock the index-disk and allow it to be rotated. A spring 65 is arranged to draw the lower end of the lever into the notches and stop the disk in the correct position.

Each time that the stop-wings are rotated a bunch of pads or tablets that have been cut

from the blanks by the reciprocation of the cutter are swept around onto the endless belt 66 and another stop is brought into position for determining the feed of the remaining blanks. A curved flange 67 is attached to the top of the table to guide the pads or tablets as they are swept around by the rotation of the stop-wings onto the endless apron, Fig. 1.

The endless belt passes over a pulley 68, located at the rear of one end of the machine on a shaft which has a gear 69, that meshes with a gear 70 on a shaft 71, that extends along the back of the machine and has a beveled gear 72, meshing with a beveled gear 73 on the shaft 46.

The stops are first adjusted on the stop-wings so that the distance between them and the edge of the cutter-blade will be the exact size of the pads or tablets which are to be cut from the blanks.

The blanks are placed upon the table in front of the feed-knee. Then the feed-clutch is thrown so that the feed-knee will push the blanks forward until their ends engage a stop. When the blanks are stopped, the friction-disks slip and the knee holds them in position against the stop. At this time the cutter-clutch is engaged, so that the clamp-bar will be lowered until it clamps the blanks down to the table, and then the cutter is drawn up, as explained, and divides the blanks. As the cutter rises and cuts the blanks the stop is pushed back by the mechanism described, so that the pads or tablets which are cut from the length of the blanks can move away from the blade and allow it to pass up through all of the blanks. As the cutter is lowered and the clamp-bar is raised the stop-arms are rotated, and the pads or tablets which have been cut are swept onto the endless apron and carried off, while another arm is moved into position to locate the blanks which are fed forward by the feed-knee as soon as the cutter is below the table. The blanks are fed forward after the cut pads or tablets have been removed until the entire length of blanks has been divided into pads or tablets. The knee feeds the blanks each time close against a stop, so that the pads or tablets will always be cut the same size, and these will be cut squarely, for they are fed between the fixed guide on one side of the table and the adjustable guide on the other side of the table.

The invention claimed is—

1. A machine for cutting pads or tablets having a table for supporting the blanks, a feed having a rectilinear movement and adapted to engage each and advance all of a pile of blanks on the table, a stop for determining the movement of the blanks, a cutter for dividing the blanks, a positive clamp for holding the blanks while the cutter is dividing the blanks, mechanism for operating the feed, and mechanism for operating the cutter and the clamp, substantially as specified.

2. A machine for cutting pads or tablets
having a table for supporting the blanks, a
feed having a rectilinear movement and adapt-
ed to engage each and advance all of a pile of
5 blanks on the table, a movable stop for deter-
mining the movement of the blanks, a cutter
for dividing the blanks, a positive clamp for
holding the blanks while the cutter is divid-
ing the blanks, mechanism for operating the
10 feed, mechanism for operating the cutter and
the clamp, and mechanism for moving the
stop, substantially as specified.

3. A machine for cutting pads or tablets
having a table for supporting the blanks, a
15 feed having a rectilinear movement and adapt-

ed to engage each and advance all of a pile of
blanks on the table, a movable stop for deter-
mining the movement of the blanks, a cutter
for dividing the blanks, a clamp for holding
the blanks while the cutter is dividing the
blanks, a carrier for removing the blanks,
mechanism for operating the feed, mechanism
for operating the cutter and clamp, mechan-
ism for moving the stop and mechanism for
moving the carrier, substantially as specified. 25

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