

Nov. 3, 1925.

A. BROADMEYER

1,560,015

LAY BOY

Filed Jan. 12, 1923

2 Sheets-Sheet 1

Fig. 1.

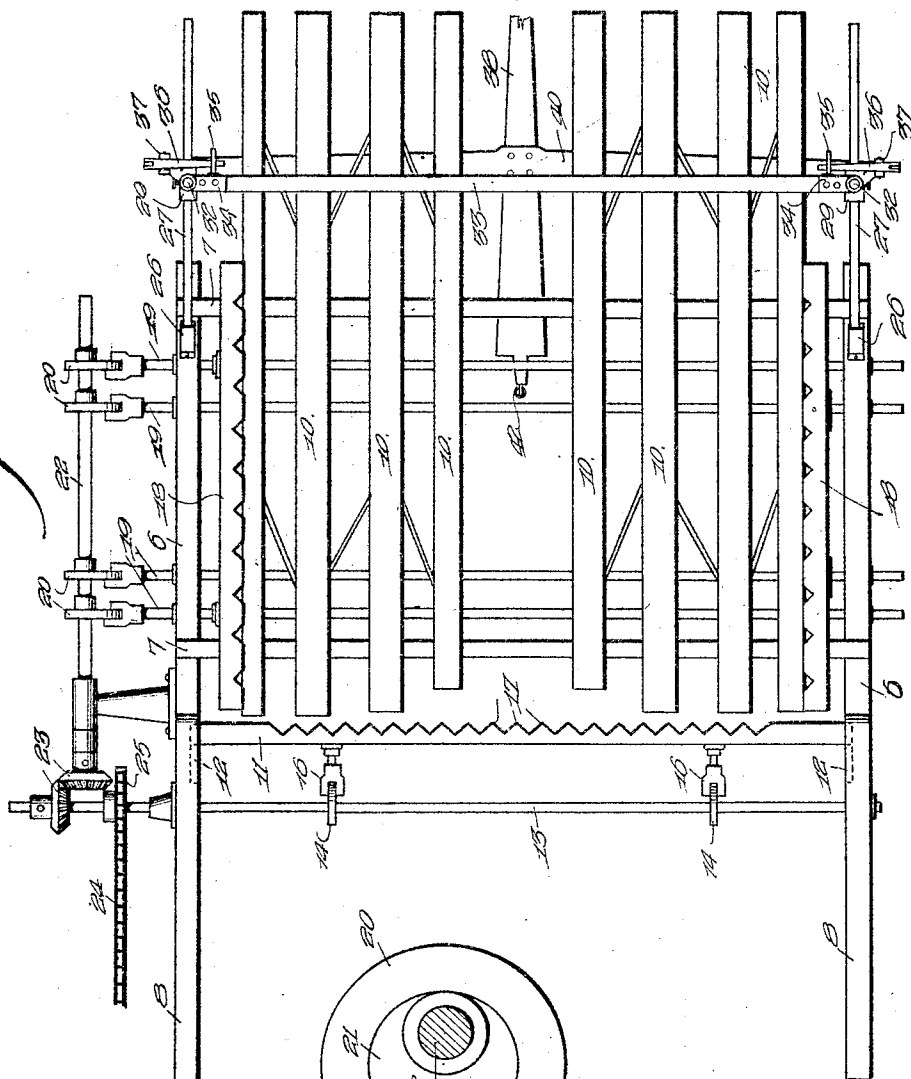
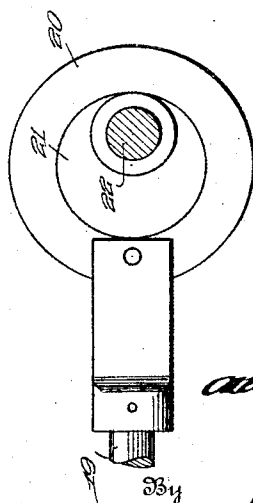


Fig. 5.



Inventor
Albert Broadmeyer

Attorney

Attorney

Nov. 3, 1925.

A. BROADMEYER

1,560,015

LAY BOY

Filed Jan. 12, 1923

2 Sheets-Sheet 2

Fig. 2.

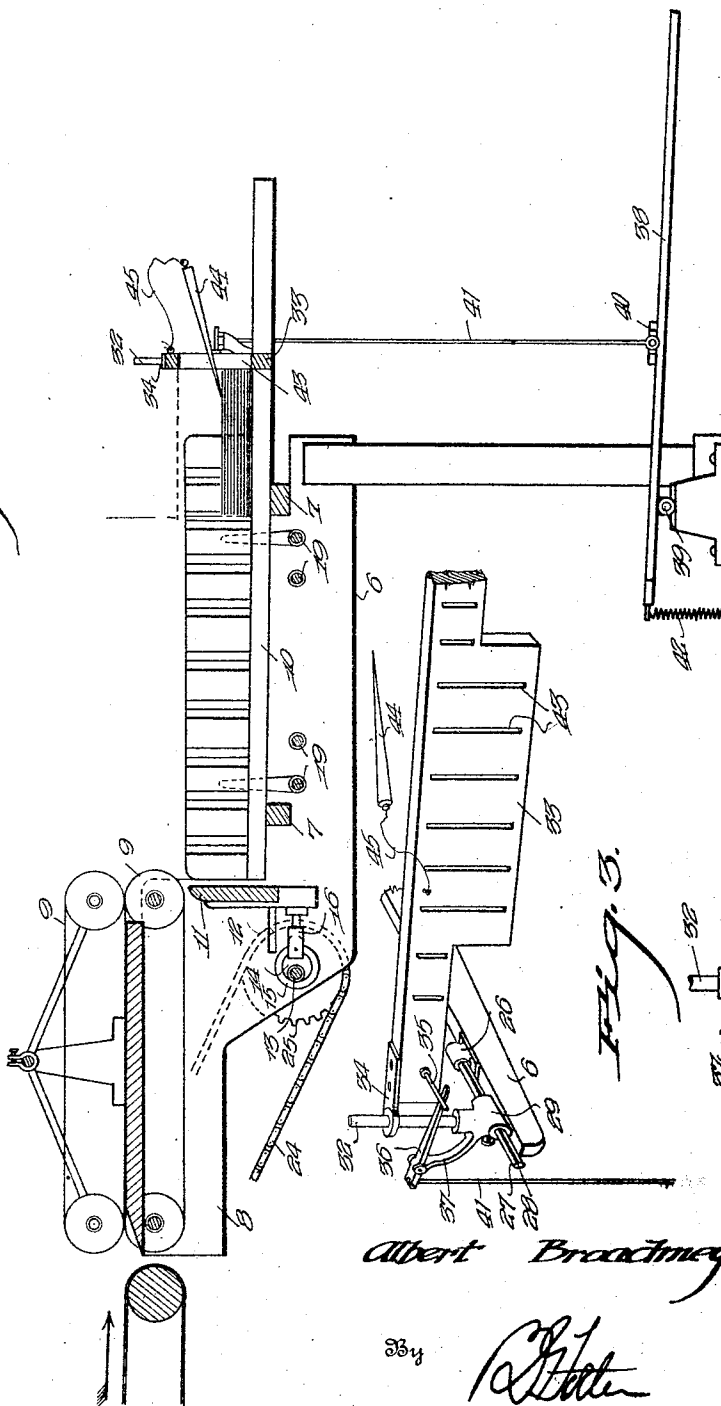
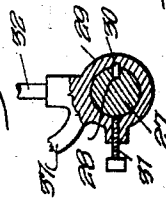


Fig. 3.

Fig. 4.



Inventor
Albert Broadmeyer

334

Attorney

Attorney

UNITED STATES PATENT OFFICE.

ALBERT BROADMEYER, OF HARRISBURG, PENNSYLVANIA, ASSIGNOR TO W. O. HICKOK MANUFACTURING COMPANY, OF HARRISBURG, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

LAY BOY.

Application filed January 12, 1923. Serial No. 612,322.

To all whom it may concern:

Be it known that I, ALBERT BROADMEYER, a citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Lay Boys, of which the following is a specification.

The present invention relates to means for stacking or piling sheets after they have been ruled or otherwise operated upon.

The particular object in view is to provide means of this kind by which when a predetermined number of sheets has been formed into a pile, they may be segregated from those afterwards delivered and removed without interfering with the continuous operation of the apparatus.

In the accompanying drawings:—

Figure 1 is a plan view of the preferred form of construction,

Figure 2 is a vertical longitudinal section view therethrough,

Figure 3 is a perspective view of the tail gate when elevated,

Figure 4 is a detail sectional view of one of the mountings for the tail gate,

Figure 5 is a view in elevation of one of the eccentrics for operating the aligning walls.

In the embodiment disclosed the lay-boy comprises a suitable frame having side members 6 connected by cross bars 7, said bars having extensions 8 in which are mounted the endless belts 9 that deliver the sheets to the lay-boy. These sheets are received on a support, comprising a plurality of slats 10 interposed between the side frame member 6 and resting on the cross bars 7. So far as thus described, the apparatus is well known.

For positioning or aligning the sheets a rear upright wall 11 is provided that is mounted to reciprocate in guideways 12 formed in the frame member 6. Reciprocation is imparted to this wall from a shaft 13 having eccentrics 14 thereon, which are surrounded by straps 15. The straps have pivotal connections with arms 16 connected to the wall 11. The inner face of the wall is preferably serrated, as shown at 17. Oppositely reciprocating side walls 18 are also provided, each wall being connected to two reciprocating rods 19 that are pivoted to straps 20, surrounding eccentrics 21, carried by a shaft 22 extending along one side

of the lay-boy. The shafts 13 and 22 are geared together, as illustrated at 23, and the shaft 13 is driven by a sprocket chain 24 operating around a sprocket wheel 25 on said shaft 13 and actuated from any desired part of the machine.

Suitably secured to the rear portions of the side frame members 6 are mountings 26 carrying guide rods 27 having key-ways 28, and slidably mounted on said guide rods are boxes 29 having keys 30 operating in the key-ways 28. The boxes 29 can be held at any desired position by set screws 31. These boxes are provided with upright guide rods 32. A tail gate 33 for the lay-boy is provided with terminal ears 34 slidable on the guide rods 32, and said tail gate is provided with rearwardly extending pins 35 that rest upon levers 36 fulcrumed on brackets 37 carried by the boxes 29. A foot treadle 38, projecting from the rear of the machine and suitably fulcrumed on a base, as shown at 39, has a cross bar 40 connected by links 41 with the outer ends of the levers 36. A spring 42, connected to the rear end of the foot treadle, serves to assist in overbalancing the same, so as to permit the tail gate to assume its lowermost position as shown in Figure 2. It will be noted by reference to Figure 3 that the tail gate 33 is provided with vertical slots 43 that serve to permit the free passage of air from between the sheets and also permit the insertion between the sheets of a separator pin, shown at 44, which for convenience, may be secured by a cord or cable 45 to the tail gate.

In operation as the sheets are successively delivered to the lay-boy by the endless bands 9, they will pile upon the slats 10 and the reciprocation of the side walls 17 and 18 will align the sheets in the pile in a manner well understood. When a predetermined number of sheets has been delivered, as indicated by a counter, alarm, or other device, the operator places the separator pin 44 thereover, as indicated in Figure 2. The following sheets will drop upon the pin, but will be separated from the underlying pile by said pin. The operator now presses upon the foot treadle 38, whereupon the levers 36 are operated to raise the tail gate sufficiently to permit the sheets underlying the pin 44 to be withdrawn from

the lay-boy without in any manner affecting the delivery of the sheets thereto and without materially disturbing the pile accumulating above the separator pin.

5 From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

15 Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. In a lay-boy, the combination with a support for a pile of sheets and means for delivering sheets thereto, of a vertically movable rear tail gate for the support and pile of sheets thereon, a foot treadle, and means actuated by the foot treadle and engaged with the tail gate at separated points for elevating the gate to permit the manual removal of the lower sheets of the pile.

2. In a lay-boy, the combination with a support for a pile of sheets and means for delivering sheets thereto, of a rear tail gate for the support, guides on which the gate is movable in an up and down direction, a foot treadle, and means actuated by the foot treadle and engaged with both end portions of the tail gate for elevating the gate to permit the manual removal of the lower sheets of the pile.

3. In a lay-boy, the combination with a support for a pile of sheets and means for delivering sheets thereto, of a rear-tail-gate for the support, guides on which the gate is movable in an up and down direction, said guides being adjustable toward and from the sheet delivering means, and means for elevating the gate to permit the removal of the lower sheets of the pile.

4. In a lay-boy, the combination with a support for a pile of sheets, of means for delivering sheets to the support, spaced slideways extending rearwardly from the support, heads slidable on the slideways and having upstanding guides, a tail-gate slidably mounted on the upstanding guides, means for elevating the tail-gate to permit the removal of the lower sheets of the pile,

and means for aligning the sheets against the tail-gate.

5. In a lay-boy, the combination with a support for a pile of sheets and means for delivering sheets thereto, of a rear tail-gate for the support and pile of sheets thereon, levers at the ends of the tail gate engaged therewith, a foot treadle and connections between the foot treadle and levers.

6. In a lay-boy, the combination with a support for a pile of sheets, of means for delivering sheets to the support, spaced guideways extending rearwardly from the support, heads slidable on the guideways and having upstanding guides, a tail-gate slidably mounted on the upstanding guides, levers at the ends of the tail gate engaged therewith, a foot treadle, and connections between the foot treadle and levers, and means for alining the sheets against the tail-gate.

7. In a lay-boy, the combination with a support for a pile of sheets and means for delivering sheets to said support, of a tail-gate for the support and sheets thereon, a separator insertible through the tail-gate between the sheets, and means for elevating the tail-gate when the separator extends therethrough.

8. In a lay-boy, the combination with a support for a pile of sheets and means for delivering sheets to said support, of a tail-gate for the support and sheets thereon and having a slot therein, a separator pin insertible through the slot, and means for elevating the tail-gate when the separator pin is in the slot, to permit the removal of the sheets below said pin.

9. In a lay-boy, the combination with a support for a pile of sheets, of means for delivering sheets to the support, spaced slideways extending rearwardly from the support, heads slidable on the slideways and having upstanding guides, a tail-gate slidably mounted on the upstanding guides, means for elevating the tail gate to permit the removal of the lower sheets of the pile, means for alining the sheets against the tail gate, said tail gate having a vertical slot, and a separator pin insertible through the slot and over the papers on the support.

In testimony whereof, I affix my signature.

ALBERT BROADMEYER.