No. 705,998. Patented July 29, 1902.

C. W. HOBBS.

ADJUSTABLE RECEIVING TABLE FOR SCORING MACHINES.

(Application filed Aug. 5, 1898.)

(No Model.) 2 Sheets—Sheet 1.

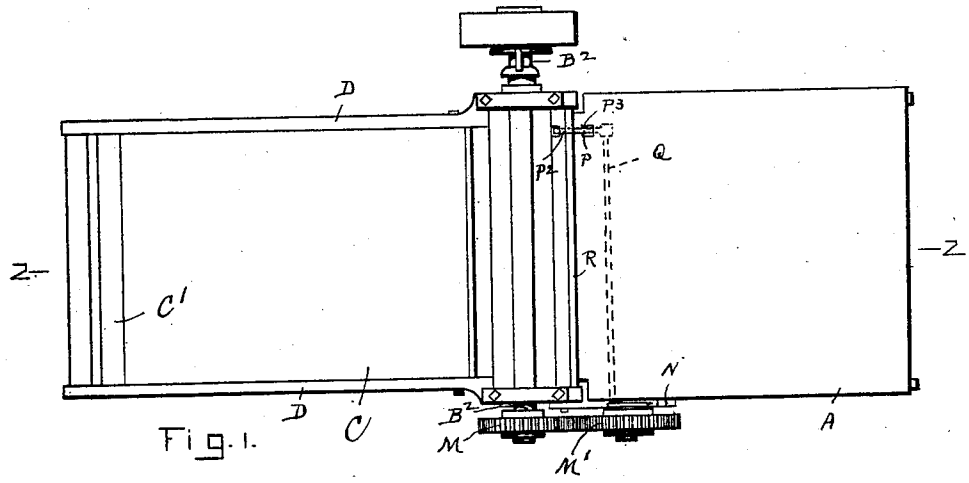


Fig. 1.

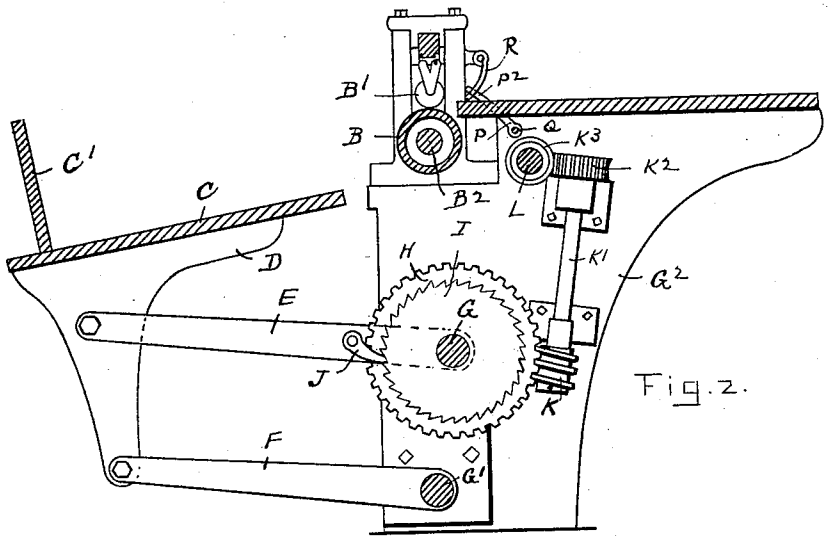


Fig. 2.

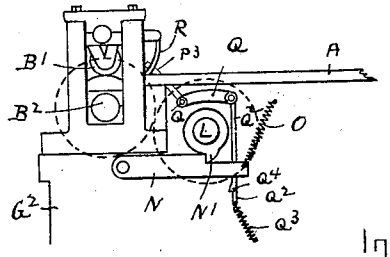


Fig. 3.

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Fig 4.

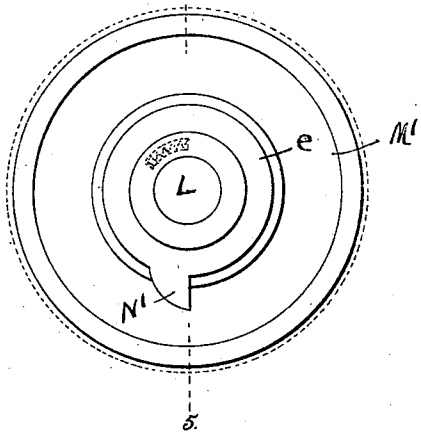


Fig 5.

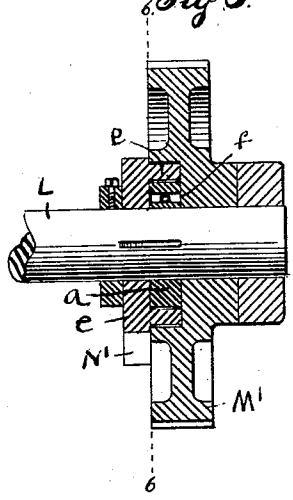


Fig 6.

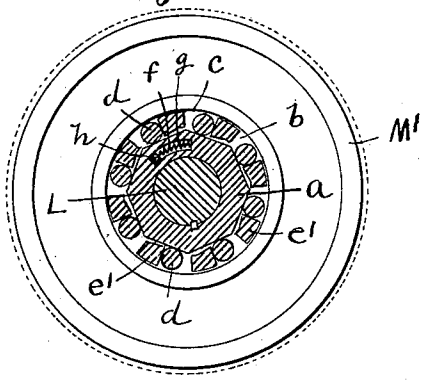
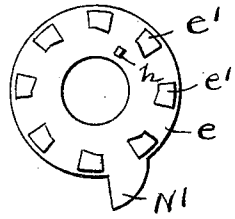


Fig 7.



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UNITED STATES PATENT OFFICE.

CLARENCE W. HOBBS, OF WORCESTER, MASSACHUSETTS.

ADJUSTABLE RECEIVING-TABLE FOR SCORING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 705,998, dated July 29, 1902.

Application filed August 5, 1898. Serial No. 687,783. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE W. HOBBS, a citizen of the United States, and a resident of Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Adjustable Receiving-Tables for Scoring-Machines, set forth in the annexed specification, accompanied by drawings, forming a part of the same, representing a scoring-machine provided with an adjustable table embodying my invention.

The object of my invention is to provide an adjustable receiving-table upon which the cardboard or paper as delivered from a machine such as a scoring-machine is received, with means for mechanically lowering the table as the cardboard or paper accumulates, said table being capable of being restored to its normal height by a single movement; and my invention consists in the combination, with a machine of the kind mentioned, of an adjustable receiving-table and in the construction and arrangement of parts, as hereinafter described, and set forth in the annexed claims.

Figure 1 of the drawings represents a plan view of an adjustable table as applied to a scoring-machine for scoring cardboard. Fig. 2 is a vertical sectional view on line 2 2, Fig. 1, representing the adjustable receiving-table and connected mechanism for lowering the same. Fig. 3 is a side elevation of a portion of the scoring-machine, representing the side containing the clutching mechanism. Fig. 4 is a side elevation, on a larger scale, of the clutching mechanism. Fig. 5 represents a central sectional view on line 5 5, Fig. 4. Fig. 6 represents a sectional view on line 6 6, Fig. 5; and Fig. 7 represents the rear side of the plate carrying the projection N'.

Similar letters refer to similar parts in the different figures.

Referring to the drawings, A denotes the table of a scoring-machine upon which a sheet of cardboard is fed to the scoring mechanism comprising the roller B and rotating scoring-knives B', such as are now in common use in machines for scoring cardboard.

C denotes the adjustable receiving-table, provided with an elevated side C' at right angles with the face of the table C. The table C is preferably inclined, so that the sheets of cardboard when delivered upon the table will rest with their edges against the side C'. To each end of the table C is bolted a bracket, and pivotally connected with each bracket are a pair of links. The bracket D and links E and F at one end of the machine only are shown in Fig. 2 of the drawings, those at the opposite end being duplicates. The ends of the upper links E are pivoted upon a rotating shaft G, journaled in the framework of the machine, and the ends of the lower links F are pivoted upon a rod G', held in the frame G^2 of the machine. Attached to the shaft G is a worm-gear H and a ratchet-wheel I. The teeth of the ratchet-wheel I are engaged by the pawl J, which is pivoted upon one of the links E and serves to hold the table C in position except as the ratchet-wheel I is rotated to lower the table.

The shaft G is rotated intermittently, in order to lower the table C whenever a sheet of cardboard is fed through the scoring-machine, by means of a worm-gear H, attached to the shaft G and engaged by a worm K, attached to a shaft K', journaled in suitable bearings on the frame of the machine and carrying a worm-gear K^2, which is engaged operatively connected with the shaft B^2 of by a worm K^3, attached to a shaft L, which is the roller B by the gear-wheels M and M'. The hub of the gear M' is provided with a suitable clutching mechanism of any known form of construction, but preferably like that shown in the United States patent to James A. Horton, July 4, 1882, No. 260,394, whereby the shaft L is rotated one complete revolution when the clutch is engaged and is then automatically disengaged.

The clutching mechanism is illustrated on a larger scale in Figs. 4 to 7 in the accompanying drawings. To the shaft L is attached a polygonal collar *a*. In the present instance it is shown as octagonal; but the number of its sides, which are of equal length, may be varied. The polygonal collar *a* is inclosed within a circular concentric recess of the gear-wheel M', with a space of varying width *b* between the sides of the collar *a* and the wall *c* of the concentric recess, within which are placed a series of friction-rolls *d*, corresponding in number to the sides of the collar

a, and inserted between the friction-rolls d are fingers e', which project from the rear side of a plate e, loosely journaled on the shaft L and provided with a projection N'. The collar a has a short curved recess f, containing a spiral spring g, one end of which bears against the end wall of the recess f, and its opposite end bears against a projecting lug h on the rear side of the plate e. The spring g, pressing against the lug h, serves to partially rotate the plate e relatively to the collar a, so that the projecting fingers e' will crowd the friction-rollers d into the narrower portions of the space b between the wall c and the sides of the collar a, causing the rollers d to become wedged between the collar a and the wall c, so that the rotation of the gear-wheel will be imparted to the collar a and shaft L until the shaft is released by means of the stop-lever N.

The clutch is thrown into and out of action by means of a stop-lever N, which is brought into the path of a projecting shoulder N' on the plate e. When the lever N is moved out of the path of the projection N', the clutch is released and automatically engages the shaft L during a single revolution, when it is disengaged by the contact of the shoulder N' with the lever, as fully described in the said patent to James A. Horton. The lever N is normally held in the path of the projection N' by means of the spring O, connecting the free end of the lever N with the framework of the machine, and it is carried out of the path of the projection N' by the movement of a sheet of cardboard over the table A through the instrumentality of a lever P, attached to a rocking shaft and having one end P^2 projecting through a slot P^3 in the table A into the path of the cardboard. The opposite end of the lever P is attached to a rocking shaft Q, journaled in the frame of the machine and carrying an arm Q', to which a bar Q^2 is pivoted. The bar Q^2 passes through a mortise in the free end of the lever N and is connected by a spring Q^3 with the frame of the machine. The bar Q^2 has a shoulder Q^4 arranged to engage the upper side of the lever N as the bar is raised.

Above the end P^2 of the lever P is a curved plate or apron R, which serves to hold the advancing edge of the cardboard against the end P^2 of the tripping-lever, so that the forward movement of the cardboard will depress the end P^2 of the lever and rock the shaft Q until the shoulder Q^4 on the bar Q^2 is brought into contact with the upper side of the lever N. As soon as the sheet of cardboard has passed the end P^2 of the lever the tension of the spring Q^3 will draw the bar Q down and by the engagement of the shoulder Q^4 depress the lever N, thereby withdrawing it out of the path of the shoulder N', allowing the clutch to engage the shaft L and rotate it a complete revolution.

The rotation of the clutch carries the projecting shoulder N' against the bar Q and knocks off the shoulder Q^4 from the lever N and allows the spring O to raise it into the path of the shoulder N', which checks the rotation of the clutch and releases the shaft L until the next sheet of cardboard has passed. I have not shown the clutching mechanism in detail, as it is like that described in the Horton patent above referred to.

As each sheet of cardboard passes over the table A the clutch is operatively connected with the rotating shaft L, which makes one complete revolution, thereby imparting, through the shaft K' and connected gear, a partial rotation to the shaft G and ratchet I in the direction of the arrow 1, and the rotation of the ratchet I lowers the frame J and table C approximately the thickness of a sheet of cardboard. This intermittent lowering of the table C takes place at the passage of each sheet of cardboard through the scoring mechanism, and when the receiving-table C has been filled the cardboard is removed therefrom and the table raised by hand to its normal height, causing the pawl K to slide over the teeth of the ratchet-wheel and maintain the table in its elevated position.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a receiving-table for receiving the scored cardboard, mechanism for lowering the table and mechanism for controlling the action of said table-lowering mechanism comprising a member arranged in the path of the cardboard, substantially as described.

2. The combination with a receiving-table, for receiving paper or cardboard from a scoring-machine, mechanism for lowering said receiving-table as the cardboard is delivered thereon, a clutching mechanism by which said table-lowering mechanism is operatively connected with the driving power and a clutch-controlling mechanism arranged in the path of the cardboard as it passes through the machine and arranged to be actuated thereby, whereby said table is lowered by the passage of a sheet of cardboard through the machine, substantially as described.

3. In a scoring-machine, the combination with mechanism for scoring cardboard, of a receiving-table, a framework supporting said table and pivotally connected with the frame of the scoring mechanism, means controlled by the cardboard for rocking said table, whereby said table is lowered, substantially as described.

4. The combination of a receiving-table, a framework on which said table is mounted, parallel links by which said table is pivotally connected with the fixed framework, and means for rocking one of said links to lower the table, substantially as described.

5. The combination with a receiving-table for scoring-machines, of mechanism for lowering said table during the delivery of cardboard thereon, a clutching mechanism by which said table-lowering mechanism is op-

eratively connected with the driving power, a clutch-controlling mechanism comprising a tripping member operatively connected with the clutching mechanism and placed in the path of a sheet of cardboard as it passes through the machine, substantially as described.

6. The combination of a rocking shaft, links pivoted on said shaft, a receiving-table supported on said links, a ratchet-wheel attached to said shaft, a pawl pivoted on one of said links and engaging said ratchet-wheel, and mechanism by which said shaft is rotated and said receiving-table lowered, substantially as described.

7. The combination of a rocking shaft, arms pivoted on said shaft, a receiving-table supported on said arms, a ratchet-wheel attached to said shaft, a pawl pivoted on one of said arms and engaging said ratchet-wheel, mechanism for rotating said shaft, a clutching mechanism by which said rotating mechanism is operatively connected with the driving power and a clutch-controlling mechanism arranged in the path of the cardboard as it passes through the machine, substantially as described.

Dated this 27th day of June, 1898.

CLARENCE W. HOBBS.

Witnesses:
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M. C. PRICE.