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PATENTED OCT. 8, 1907.

A. H. NEUREUTHER.
DISK FEEDING MACHINE.
APPLICATION FILED DEC. 28, 1906.

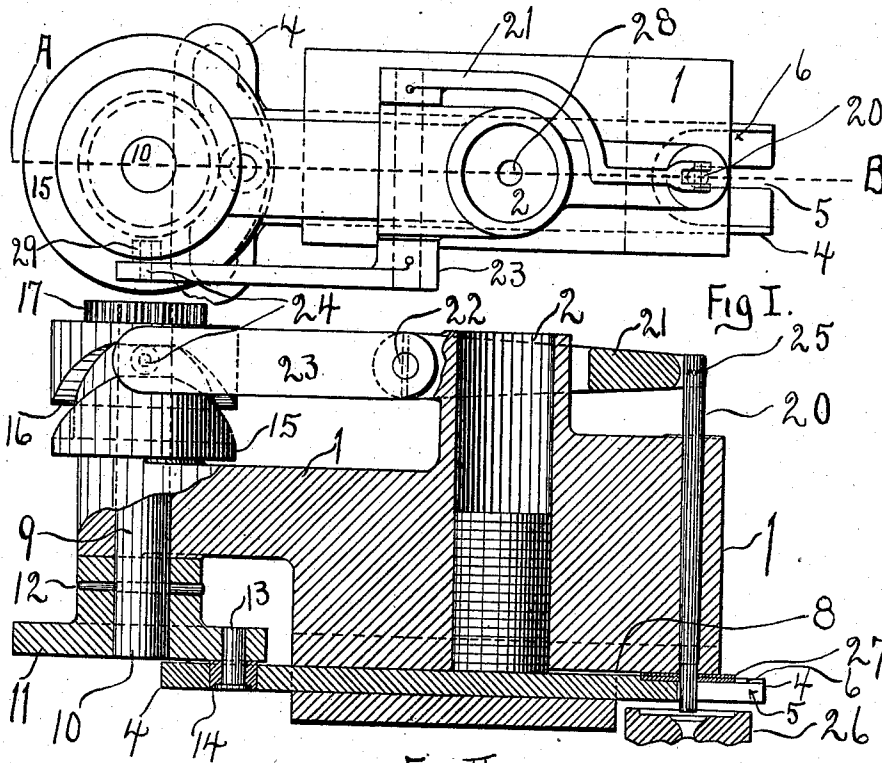


Fig. II.

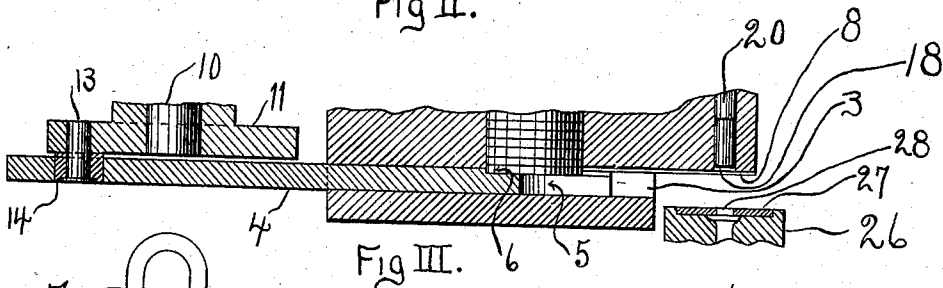


Fig. III.

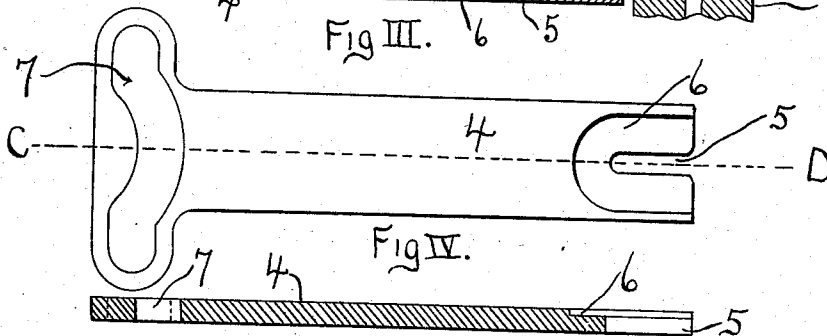


Fig. V.

Witnesses:

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ANDREW H. NEUREUTHER, OF PERU, ILLINOIS, ASSIGNOR TO THE WESTERN CLOCK MANUFACTURING COMPANY, OF LA SALLE, ILLINOIS, A CORPORATION OF ILLINOIS.

DISK-FEEDING MACHINE.

No. 867,834.

Specification of Letters Patent.

Patented Oct. 8, 1907.

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To all whom it may concern:

Be it known that I, ANDREW H. NEUREUTHER, a citizen of the United States, residing in the city of Peru, county of LaSalle, and State of Illinois, have invented a new and useful Improvement in Disk-Feeding Machines, of which the following is a specification.

My invention relates to that class of machines which are used for removing flat pieces or circular disks from a stack or column of disks and placing them one by one into a receptacle or operating head on another machine, and more particularly to a feeding machine that feeds disks which have an aperture through them and which are made of very thin material. I accomplish this object by means of the mechanism illustrated in the accompanying drawings, in which

Figure I is a top view of my invention, Fig. II is a part sectional view along a line A—B of Fig. I, showing the mechanism when the slide is in the forward position. Fig. III is a similar part sectional view showing the mechanism taking a disk from the stack or column of disks. Fig. IV is a top view of the reciprocating slide, Fig. V is a sectional view of Fig. IV along a line C—D.

Similar numbers show similar parts in all the drawings.

In the drawing, 1 is the main frame of my feed. 2 is an aperture in 1 which holds a column of disks and is shown partly filled with disks in Fig. II. Aperture 2 at its lower end connects with a rectangular slot 3, which carries a reciprocating member or slide 4. Slide 4 has a slot 5 and a recess 6 on its right-hand end and a slotted or cam path 7 at its left-hand end (see Fig. IV). The shape and depth of the recess 6 is governed by the shape and thickness of the blanks or disks to be fed. I have shown my feed using circular disks and accordingly the shape of 6 is as shown. In Fig. III the action of recess 6 is clearly shown; the slide 4 is moved back so that the lower disk will drop into it as shown, the recess 6 being shallower than the disk, and accordingly the forward part of rectangular slot 3 has a deeper portion 8 which permits the disk to pass when the slide 4 is moved forward. At the left-hand end, frame 1 has an aperture 9 in which is journaled a shaft 10. Shaft 10 carries a crank plate 11 which is fastened to it by means of a pin 12. Crank plate 11 carries a pin 13 on which is journaled a roll 14, said pin being rigidly fastened to the crank plate 11. Roll 14 engages with cam path 7 of the slide 4. The curved parts of slot 7 are of the same radii as the radii of the inner and outer edges of the roll on the crank plate 11, from which it will be seen that when the roll enters the curved part of the slot 7, the slide 4 remains stationary, which occurs at the right-hand end of its for-

ward excursion, and does so until the roll 14 leaves the curved part.

Fastened to the upper end of shaft 10 is a cam 15 which has a curved slot 16. Fastened to shaft 10 is a gear 17, by means of which the shaft 10 is rotated and the feed operated from any moving shaft of any machine to which my feed may be attached. In the right-hand end of frame 1 is an aperture 18 which carries a rod 20, which is given a vertical reciprocating motion by means of cam 15 through the lever 21, which is connected to the rod by means of pin 25 and which is fastened to pin 22, which is journaled in frame 1 and also rigidly connected to lever 23: the said lever 23 carries the pin 24, which carries a roll 29, which engages the slot 16 of cam 15, thereby imparting the motion as aforesaid.

26 represents a mold or holder on a machine to receive the disk 27 when it is dropped. 28 is an aperture in the disk for the rod 20 to pass through for holding and dropping the disk.

In operation my feed works as follows: A column of disks is placed in the receptacle 2 and the shaft 10 is rotated by any of the usual means. As the crank disk 11 rotates, the slide 4 is reciprocated from and to the extreme right and left points shown in Fig. II and III respectively. As above explained, by virtue of the curved part of cam path 7 of the slide 4, the slide 4 remains stationary while the shaft 10 and the parts fastened thereto rotate and bring the vertically reciprocating rod 20 down through the aperture 28 in the disk 27 and holding it there for a time while the slide 4 again moves to the extreme left as shown in Fig. III, when the disk is dropped along the rod 20 to the receptacle 26, when the rod 20 returns also to the position shown in Fig. III. In this same position another disk drops into the recess 6 and as the slide 4 moves forward is scraped, as it were, from the bottom of the stack in 2 and brought forward until it is again in the position in Fig. II and so continues feeding one disk for each rotation of the shaft 10, the cam 15 and the crank plate 11 being timed so they perform their function at the proper time.

It will be seen that I have here shown a machine for feeding a disk with an aperture through its center. It is evident that the disk may have the aperture at any point and may have one or more of said apertures. It is also evident that by making recess 6 in slide 4 deeper, I can make it feed any number of disks.

I claim:

1. In a machine for feeding disks, the combination of a frame having an aperture for laterally supporting a column of disks, a slide vertically supporting said column of disks, a recess in said slide, a slot extending into said recess, and

means for giving said slide a reciprocating motion, with a rod passing through an aperture in said frame and the slot of said slide, and means for giving said rod a reciprocating motion, said means comprising a lever and a cam.

- 5 2. In a machine for feeding disks, the combination of a frame having an aperture for laterally supporting a column of disks, a slide vertically supporting said column of disks, a recess in said slide, a slot extending into said recess, and means for giving said slide a reciprocating motion, in combination with a rod passing through an aperture in said frame and the slot of said slide, and means for giving said rod a reciprocating motion, said means comprising a lever and a cam.

- 10 3. In a machine for feeding disks, the combination of a frame having an aperture for laterally supporting a column of disks, a slide vertically supporting said column of disks, a recess in said slide, a slot extending into said recess, and means for giving said slide a reciprocating motion, said means comprising a cam path in said slide, a roll journaled on a pin fastened to a crank disk, said crank disk being fastened to a shaft having a rotary motion, with a

rod passing through an aperture in said frame and the slot of said slide, and means for giving said rod a reciprocating motion, said means comprising a lever journaled to said frame and a cam on said shaft having a rotary motion.

4. In a machine for feeding disks, the combination of a frame having an aperture for laterally supporting a column of disks, a slide vertically supporting said column of disks, a recess in said slide, a slot extending into said recess, and means for giving said slide a reciprocating motion, said means comprising a cam path in said slide, a roll journaled on a pin fastened to a crank disk, said crank disk being fastened to a shaft having a rotary motion, with a rod passing through an aperture in said frame and the slot of said slide, and means for giving said rod a reciprocating motion, said means comprising a lever journaled to said frame and a cam on said shaft having a rotary motion, substantially as shown and described.

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Witnesses:

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