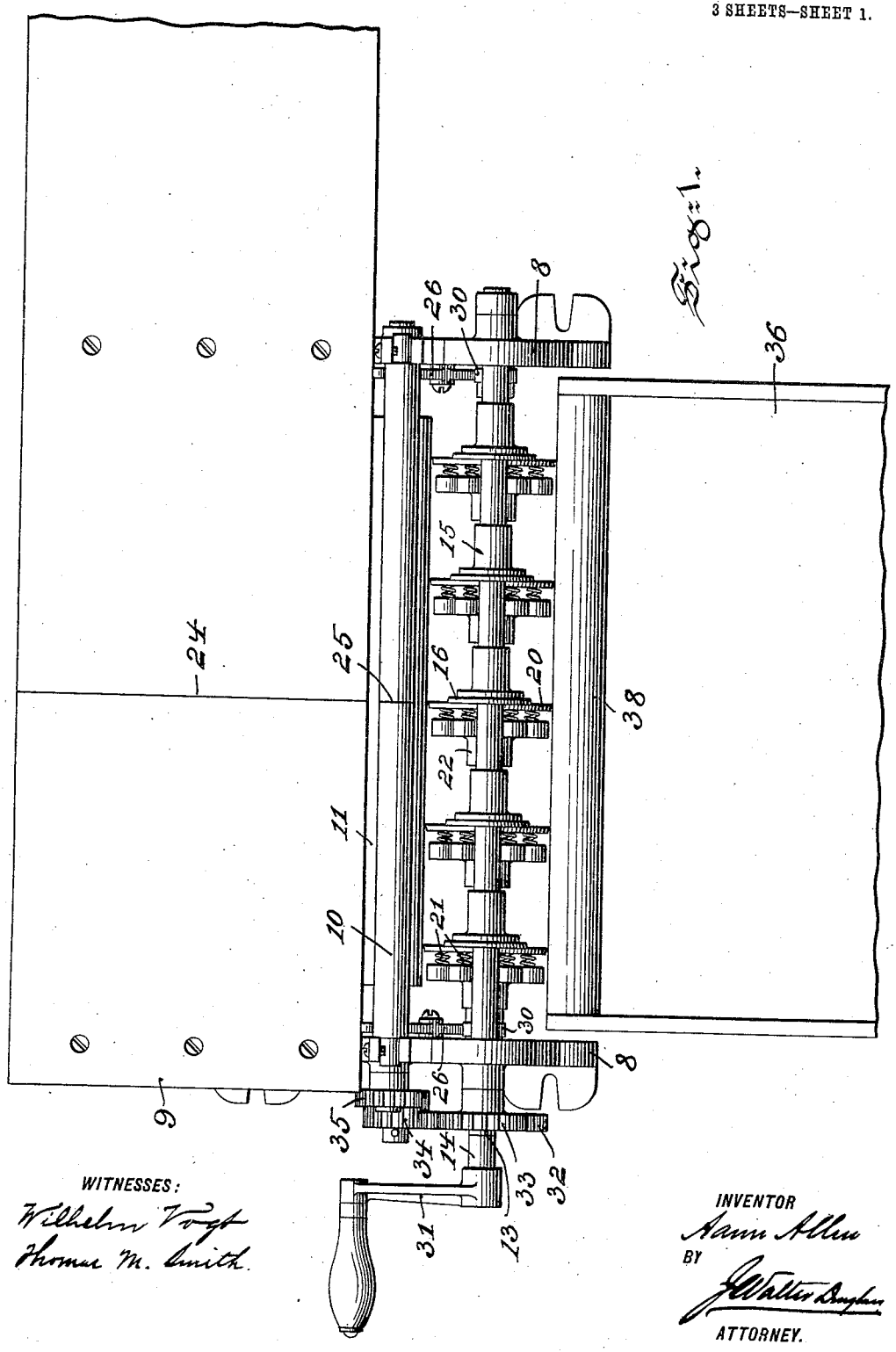
No. 855,742. PATENTED JUNE 4, 1907.

A. ALLEN.

SLITTING MACHINE.

APPLICATION FILED MAR. 1, 1907.

3 SHEETS—SHEET 1.



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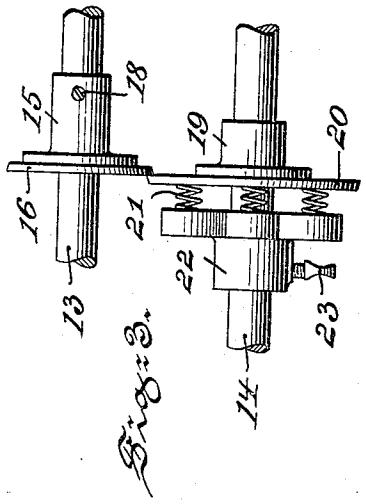


Fig. 3.

Fig. 2.

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3 SHEETS—SHEET 3.

Fig. 4.

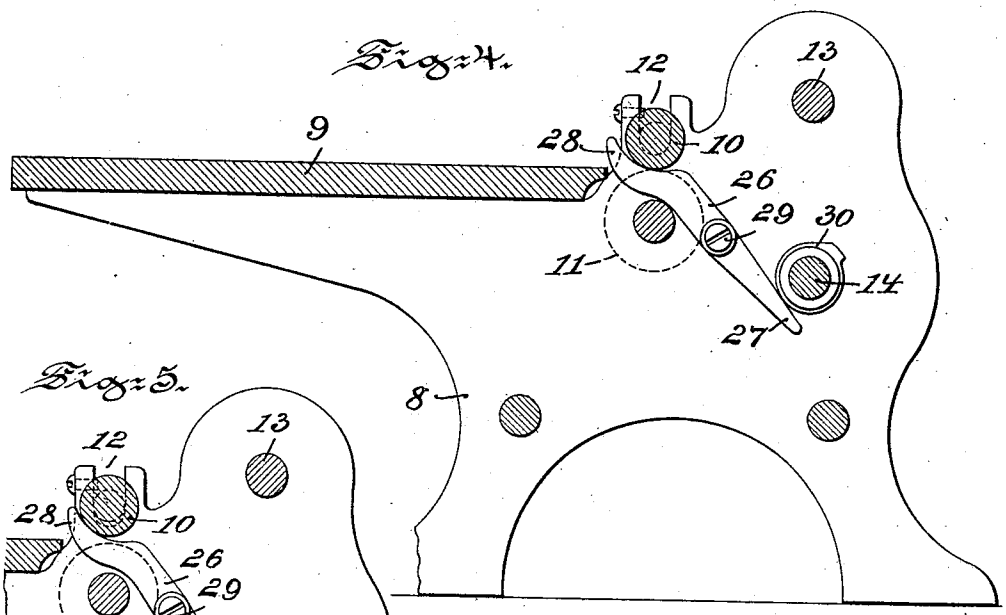


Fig. 5.

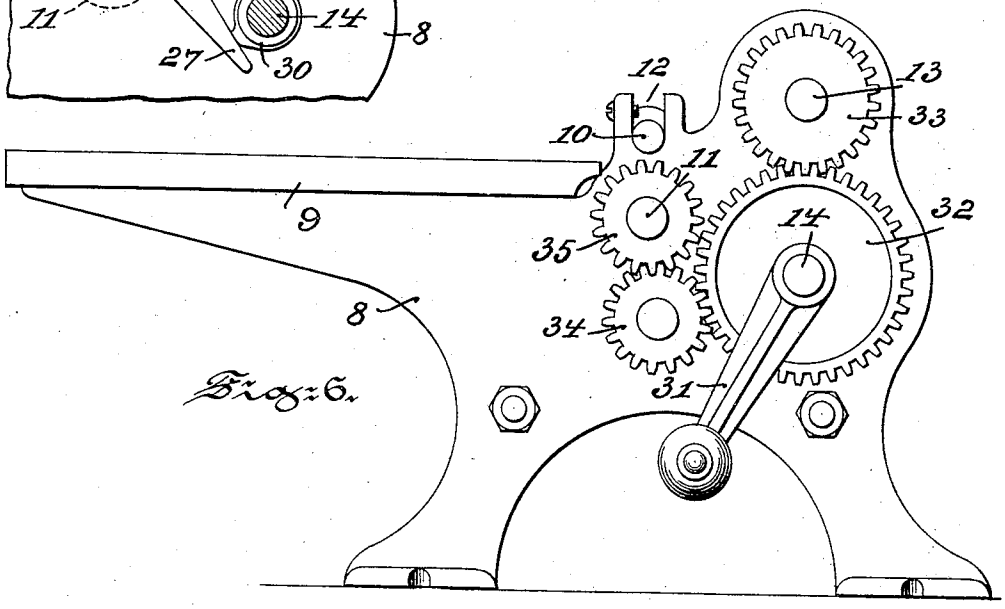


Fig. 6.

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SLITTING-MACHINE.

No. 855,742. Specification of Letters Patent. Patented June 4, 1907.

Application filed March 1, 1907. Serial No. 359,976.

To all whom it may concern:

Be it known that I, AARON ALLEN, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Slitting-Machines, of which the following is a specification.

My invention has relation to a slitting machine especially adapted for severing or cutting bank notes, coupons, bonds and other similar articles printed or engraved in sheet form; and in such connection it relates particularly to the construction and arrangement of such a machine.

The principal objects of my invention are, first, to provide a machine adapted to speedily and uniformly sever or cut bank notes, coupons, or the similar printed or engraved articles in sheet form; second, to provide a machine for such purpose with a feed table and a guide-roller, each having a line, as a guide, arranged in alinement with each other and to certain cutting knives thereof; third, to provide means for raising the guide roller having a guide line to permit of ready entrance and adjustment of the sheets to be slit with respect to guide lines of the table and roller and for bringing the sheet directly into engagement with the cutting knives; and fourth, to provide a machine with cutting knives adjustably arranged with respect to each other to permit of the ready slitting of notes or checks, in sheet form, and of different dimensions.

The nature and scope of my invention will be more fully understood from the following description taken in connection with the accompanying drawings, forming part hereof, in which

Figure 1 is a view, illustrating in top or plan view the slitting machine provided with a feed table having a guide line arranged therein, feed rollers, the upper one of which is provided with a guide line, a series of cutting knives and a receptacle or receiver for the cut notes, checks or similar articles, embodying main features of my present invention. Fig: 2 is a cross-sectional view of the machine of Fig. 1. Fig: 3 is a detail view, enlarged, illustrating in side elevation a pair of the series of cutting knives of the machine. Figs: 4 and 5 are detail views, illustrating partly in section and partly in elevation, the upper guide roller in respectively operative and inoperative positions, and means for raising the same; and, Fig: 6 is an end elevational view of the machine, illustrating gear-wheels for rotating the shafts carrying the knives and the lower one of the guide-rollers.

Referring to the drawings 8 represents standards, which support a board or table 9, extending at one side beyond the standards 8. In front of the table 9, and carried by the standards 8, are arranged rolls 10 and 11, of which the larger or lower roll, is held in a fixed but rotatable position by the standards, while the upper roll 10, of less diameter, rests loosely upon the lower roll 11, and freely rotates and moves up and down, in depressions or slots 12, arranged in the standards 8.

A certain distance from the rolls 10 and 11, in the standards 8, are located shafts 13 and 14, of which the upper shaft 13, is provided with sleeves 15, to which by means of screws 17, are removably secured circular blades or knives 16. Each of the sleeves 15, is slidably arranged on the shaft 13, and by means of a set-screw 18, is held in each given position thereon. The shaft 14, is similarly provided with sleeves 19, each carrying a circular knife 20, which is held at its upper or cutting edge in engagement with the cutting edge of the knife 16, by slightly overlapping the same. The knife 20, by means of springs 21, is preferably yieldingly held in engagement with the knife 16, which springs are supported by a sleeve 22, adjustably held in position on the shaft 14, by hand screws 23, as shown in Fig: 3.

Preferably central of the standards 8, the table 9 and the upper roller 10, are provided with guide lines 24 and 25, which lines are arranged in alinement with the cutting edges of one of the pairs of knives 16 and 20, likewise centrally arranged, of the standards 8. The other pairs of knives of the series of knives are arranged a certain distance apart from each other, which position, however, is determined by the size of the notes or coupons printed or engraved on a sheet and which are to be severed from each other, by the knives.

In order to bring a sheet directly into engagement with the knives 16 and 20, of each pair of knives, the upper roll 10, is lifted in the standards 8, preferably by levers 26, each of which by means of a bolt 29, is pivotally secured to the standard 8, as shown in Fig: 4. The lower end 27, of each of the levers 26,

extends in the path of the cams 30, secured to the knife-shaft 14, while the upper curved end 28, engages the roll 10. The knife-shaft 14, is positively driven by a hand-crank 31, and by a gear-wheel 32, secured to the shaft 14, and meshes with gear-wheels 33 and 34, respectively, and the knife-shaft 13, and by a gear-wheel 35, meshes with the gear-wheel 34, whereby the lower roll 11, is set in rotation, as illustrated in Fig: 6. By the arrangement of the train of gears 32, 33, 34 and 35, the knives 16 and 20, and the lower roll 11, and by the same, the upper roll 10, are driven in the direction of the arrows as illustrated in Fig: 2, and at each complete revolution of the knife-shaft 14, the upper roll 10, is lifted out of engagement with the lower roll 11, as shown in full and dotted lines in Fig: 5.

The bank-notes, coupons, bonds or other articles representing money values, printed in series on single sheets of paper, parchment or the like, are preferably placed in superposed layers upon the projecting portion of the feed table 9, so as to be in easy reach of the operator. The knife-shaft 14, is then turned so as to lift the upper roll 10, out of engagement with the lower roll 11. Each sheet of notes, etc., taken from the stack or pile of notes to be cut, is now placed preferably in a central position and centrally by a space separating the notes from each other over the guide line 24 of the table 9, and below the guide line 25 of the roll 10, and brought directly into engagement with the cutting-edges of the centrally arranged pairs of knives 16 and 20. The other pairs of knives having been previously adjusted so as to rest with their cutting edges opposite and centrally of the other spaces of the sheet separating the notes from each other. The sheet of notes being thus held in proper position to the series of pairs of knives 16 and 20, by the guide lines 24 and 25, will be cut in strips by the rotation of the knife shaft 14, which strips, if containing more than one note, coupon or check, may again be cut, by alining the same to the knives in the manner hereinbefore fully described.

The strips of the sheets of bank-notes or the like, may be directly fed by the knives into a receptacle 36, placed adjacent to the same, in which the strips of successive sheets of paper cut by passing over a projecting guide bar 38, are deposited into the receptacle 36, one above the other in piles, separated from each other, for being readily gathered up for subsequent use, as required.

Having thus described the nature and objects of my invention what I claim as new, and desire to secure by Letters Patent, is:—

In a machine of the character described, a table adapted to receive loose articles in sheet form to be cut and having a guide line, a pair of superposed guide rollers, whereof the upper roller is provided with a guide line arranged in alinement with the guide line of said table, a standard for supporting said table and guide rollers, a pair of superposed rotatable shafts arranged in said standards, cams carried by one of said shafts, a series of pairs of knives arranged on said shaft, one of said pairs of said series of knives arranged in alinement with the guide line of said table and one of said rolls, levers carried by said standards engaging the upper one of said rolls and cams of said shaft and when actuated by said cams adapted to lift the upper one of said guide rollers to permit of introduction of the paper to be cut into the pairs of knives held in alinement with the guide lines of said guide roll and table, and the upper guide roller adapted when lowered upon the lower roller and paper introduced between the same to aid in the proper guiding of the sheet to be cut, after leaving said table.

In witness whereof I have hereunto set my signature in the presence of two subscribing witnesses.

AARON ALLEN.

Witnesses:
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GEO. W. REED.