

Jan. 5, 1932.

F. L. LEE

1,839,398

BRUSH BLOCK ASSEMBLY

Filed Aug. 4, 1928

2 Sheets-Sheet 1

FIG. 1.

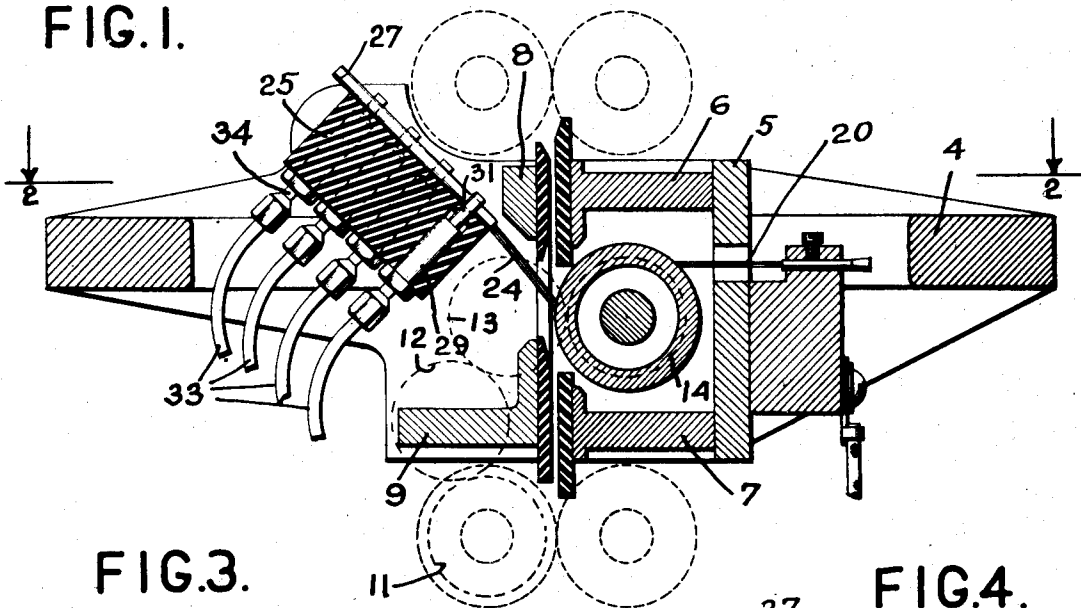


FIG. 3.

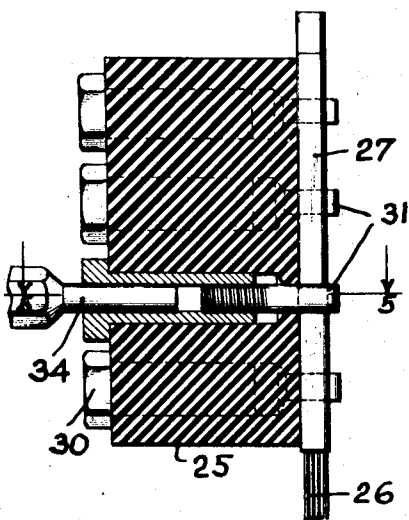


FIG. 4.

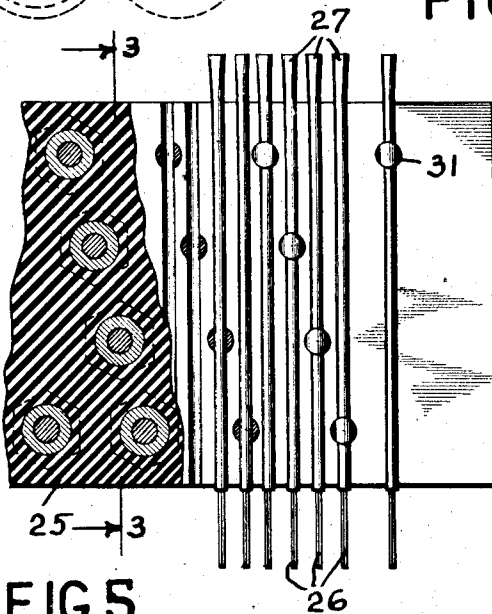
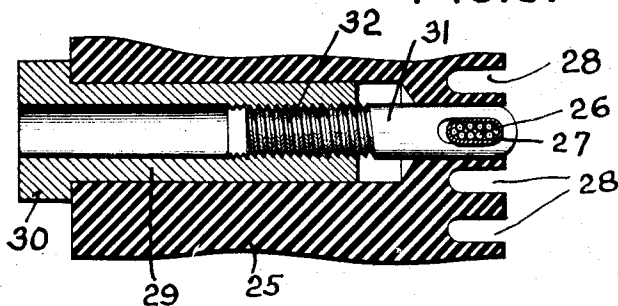


FIG. 5.



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FIG. 2.

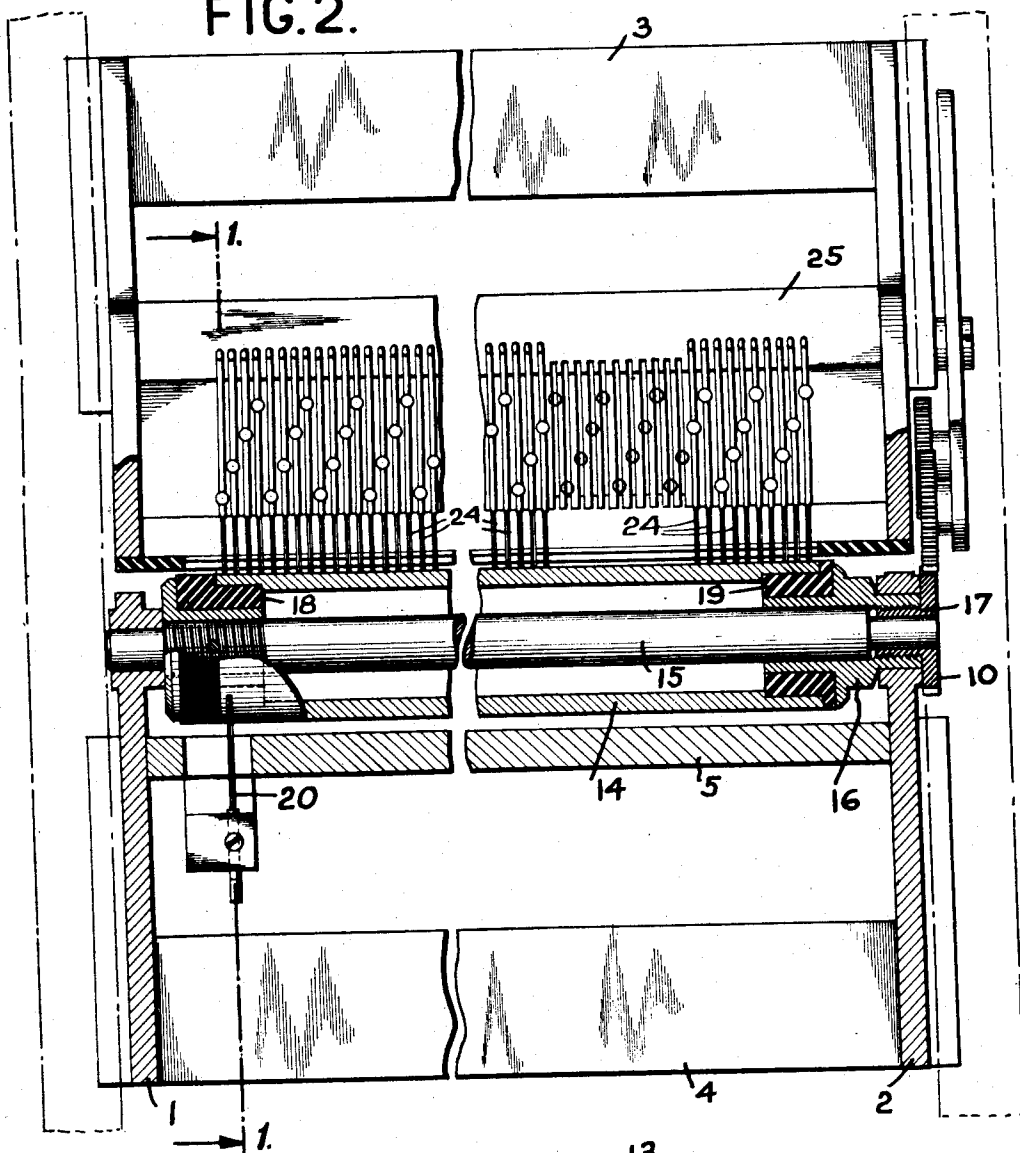


FIG. 6.

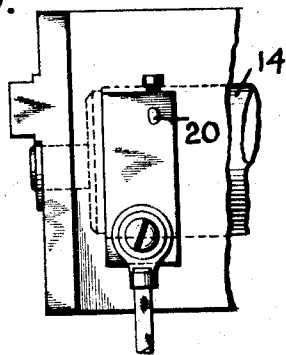
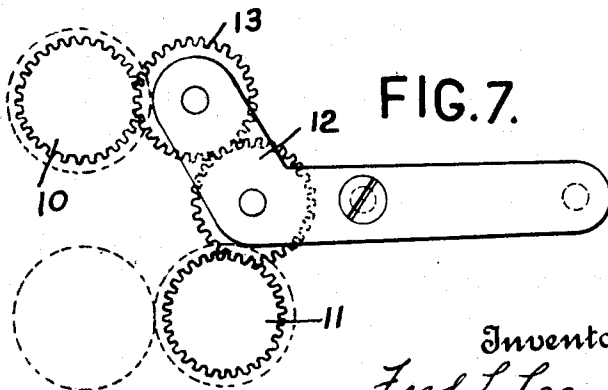


FIG. 7.



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UNITED STATES PATENT OFFICE

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BRUSH BLOCK ASSEMBLY

Application filed August 4, 1928. Serial No. 297,547.

The present invention relates to record card controlled machines and especially to a new analyzer assembly for electrically analyzing the data of perforated record cards.

6 The main object of the invention is to provide such an arrangement of the analyzers that a great number of individual analyzers may be located within a very limited space, in spite of the arrangement of all analyzers
10 in a single row.

Another object of the invention is to provide brushes and enclosing tubes therefore of elongated sections to analyze reliably card holes of elongated form.

15 A further object of the invention consists in the provision of holders with elongated holes for the above mentioned tubes.

Another important object of the invention is the provision of echelon arrangement of
20 fastening means for the brushes.

Another object of the invention consists in the provision of slots in the brush block said slots cooperating with the holders and the brush tubes.

25 Other objects and advantages will be hereinafter set forth in the accompanying specification and claims and shown in the drawings which show by way of illustration what I now consider to be one and a preferred embodiment of the invention.

In the drawings:

Fig. 1 is a cross sectional view of the analyzing assembly of a tabulator according to line 1—1 of Fig. 2;

35 Fig. 2 is a top view of the analyzing assembly according to line 2—2 of Fig. 1;

Fig. 3 is a sectional view of the brush block assembly in an enlarged scale. (View according to line 3—3 of Fig. 4);

40 Fig. 4 is a top view of the brush block assembly in an enlarged scale, wherein the left upper part is broken away;

Fig. 5 is a detail sectional view according to line 5—5 of Fig. 3;

45 Fig. 6 shows a detail of Fig. 2;

Fig. 7 illustrates schematically the drive for the card feeding mechanism and the contact roller of the analyzing assembly.

50 In Figs. 1 and 2 is shown an analyzing assembly as it may be used especially for an

electrical tabulating machine of the well known kind. As the invention refers merely to the analyzing device and more particularly to a new brush block assembly, it is considered to be unnecessary to illustrate the machine.

On the frame of the tabulator is mounted a housing, carrying the card feed mechanism as well as the analyzing device. The housing consists of a number of side plates and cross plates 1—9 fixed together as may be seen from the drawings. In the side plates 1 and 2 is journaled a shaft 15 carrying the contact roller 14. Shaft 15 is journaled on the left end (Fig. 2) directly in the side plate 1, while the other end carries a journal box 16 and fastened within this box by screw threads is a tube 17 provided with a gear wheel 10 for turning the contact roller. This gear 10 is driven through suitable gearing so that its revolutions do not coincide with the machine cycles whereupon the brushes contact with different points on the periphery to prevent pitting. The contact roller 14 is insulated from all other conducting parts of the machine by rings 18 and 19. Brush 20 is connected with the current supply and wipes on roller 14 supplying current to the roller and all analyzing brushes coordinated to the individual card columns.

The perforated record cards are fed by rollers through the machine in the usual way and pass during their movement all brushes 24 arranged in one row and the contact roller 14. If there is a hole in the card in any index position, a current impulse will be effected from brush 20, over contact roller 14, brush 24 coordinated to the punched card column and a registering device connected with the brush.

The brushes 24 are fastened on a block 25 as will now be described more in detail. As may be seen from Figs. 3 to 5 brush wires 26 are fastened (for example by solder) within a tube 27 of elongated section. Block 25 is provided with slots 28 adapted to locate the tubes 27 therein (Fig. 5). For each tube 27 the block 25 has a hole in which a bolt 29 with a head 30 is placed. Another bolt 31 has an elongated hole clasp ing the tube 27 and a

thread 32 on the rear end cooperating with a corresponding thread in the bolt 29. It is obvious that by turning the bolt 29, bolt 31 will be drawn into the block 25, and consequently tube 27 enclosing the analyzing brush will be pressed against the block thus securing a reliable fastening of the brush. Wires 33 connecting the brushes and the registering devices, are provided at their ends with plugs 34 placed within the bolts 29.

It is obvious that fastening of a single brush requires a certain space on the block and in the direction of the row of brushes. In order to obtain a more reliable and easier fastening on a predetermined space as it was possible up to now or, if necessary, to increase at the same time the number of analyzing columns within a given space, according to this invention the fastening means for the brushes are staggered on the block, as may be easily seen from the drawings. The brush holders 29, 31 are arranged in four rows whereby holders for adjacent card columns are displaced one from each other for one row.

While there has been shown and described and pointed out the fundamental novel features of the invention as applied to a single modification it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention. It is the intention, therefore, to be limited only as indicated by the scope of the following claims:

1. An analyzing device for perforated record card controlled machines comprising analyzing members arranged side by side, means for fastening said members on a support, said fastening means being staggered in at least three rows on said support, whereby adjacent fastening means and their electrical connections in the same row are spaced apart at least three times the normal distance between adjacent analyzing members.

2. An analyzing device for perforated record card controlled machines comprising analyzing brushes of flexible wires arranged side by side, a tube for enclosing each brush, a common support having a plurality of slots, means for receiving said tubes and means for drawing and holding the last said means into said slots.

3. An analyzing device for perforated record card controlled machines having circuit wires connected thereto, comprising analyzing brushes arranged side by side, a tube enclosing each of said brushes, a common support having slots for receiving said tubes, means for holding each of said tubes in said slots comprising a member having an aperture at one end for receiving said tubes and having a threaded portion at the opposite end, a tubular member adapted to enclose said

threaded portion of said first-mentioned member, said tubular member being adapted to receive terminal plugs associated with the circuit wires.

In testimony whereof I hereto affix my signature.

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