

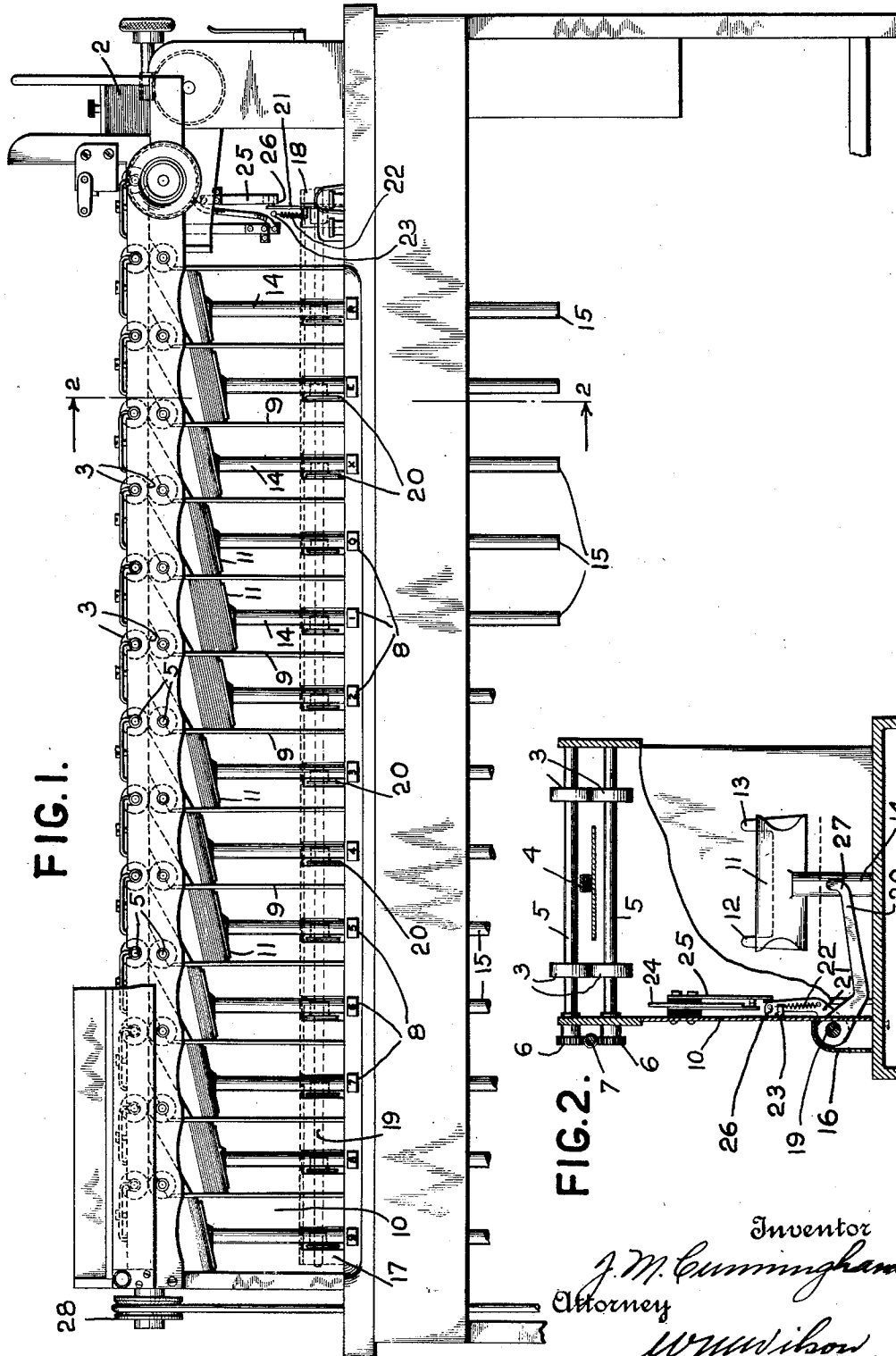
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J. M. CUNNINGHAM

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STOP MECHANISM FOR SORTERS

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Inventor
J. M. Cunningham
Attorney
W. M. Wilson

UNITED STATES PATENT OFFICE

JAMES MASON CUNNINGHAM, OF ENDICOTT, NEW YORK, ASSIGNOR TO THE TABULATING MACHINE COMPANY, OF ENDICOTT, NEW YORK, A CORPORATION OF NEW JERSEY

STOP MECHANISM FOR SORTERS

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The present invention relates to sorting machines for record cards and more particularly to a stopping device for the machine, said device being under the control of a sorting pocket and being adapted to stop the operation of the sorter when the pocket is filled with cards to capacity.

It is the main object of the present invention to provide a simple and inexpensive device of the kind described, which may be easily attached to any sorting machine.

Another object of the present invention is to provide a stopping device consisting substantially of a plurality of levers arranged upon a common shaft, said levers being within reach of card supports arranged in the sorting pockets while said shaft is arranged outside said pockets.

A further object is to provide a housing serving as support for said shaft and levers and at the same time protecting the mechanism against damage.

Other objects and advantages will be hereinafter set forth in the accompanying specification and claims and shown in the drawings which illustrate in:

Fig. 1 a general view of a sorting machine with the stop mechanism attached;

Fig. 2 a sectional view according to line 2—2 of Fig. 1.

Fig. 1 illustrates generally a well known sorting machine for perforated record cards. A stack 2 of record cards is put into the magazine of the machine and by means of a suitable feeding device the cards are fed to an analyzing mechanism and distributed between a plurality of sorting blades according to their respective perforations. By means of transport rolls 3 the cards are then fed to the proper sorting pockets. The sorting blades 4 between which the cards are distributed may be seen in section in Fig. 2. The transport rolls 3 are mounted upon shafts 5 which are driven in unison by means of gears 6 and a common worm 7 to which the motor driven pulley 28 is fast.

The pocket designations are indicated in Fig. 1 by small labels 8. The different card pockets are separated from each other by walls 9. The front side as viewed in Fig. 1

is open so that the cards may be removed from the pockets but on the rear is provided a common wall 10. Between two separating walls 9 is provided in each pocket a tray 11 which supports the cards delivered to said pocket. The tray 11 has two fingers 12, 13 adapted to prevent sliding of the first cards delivered to the pocket between the tray and the separating wall 9. To each tray is fast a tube 14 which passes into a corresponding lower tube 15 being fast to the frame of the machine. A coil spring is provided within said tubes and normally holds tube 15 and accordingly tray 11 in its uppermost position. When, however, cards are delivered to a pocket the spring will be depressed under the gravity of said cards and the tray 11 will sink lower and lower until the pocket is filled to capacity. If this happens at any one of the pockets, the stopping device according to this invention will become operative and will interrupt the operation of the machine in order to prevent overfilling of the pocket or jamming of the cards in the feeding track.

A housing 16 is attached to the rear wall 10 of the sorter and the end plates 17 and 18 of the housing support a shaft 19 running along the sorting pockets on the outer side of wall 10. For each pocket there is provided a lever 20 fast to the shaft 19 and reaching through a slot in the wall 10 within the path of travel of tray 11. The shaft 19 carries on its front end a lever 21 which is connected by a spring 22 with a pin 23 attached to wall 10. Spring 22 normally tends to turn lever 21 and consequently shaft 19 in counterclockwise direction (as viewed in Fig. 2) but since wall 10 forms a stop for lever 21 the parts are normally in the position shown in Fig. 2. It will be observed that coordinated to lever 21 is a pair of spring plate contacts 24, 25. These contacts are arranged in a well known manner within the motor control circuit of the machine; as long as these contacts are closed the operation of the machine will not be disturbed but as soon as they open the motor circuit will be interrupted and consequently the machine will be stopped.

In the normal position as shown in Fig. 2 the contacts are closed but a pin 26 is in close

proximity to the lower insulated terminal portion of spring plate 25 and as soon as shaft 19 and therefore also lever 21 rocks pin 26 will move spring plate 25 to the right and thus separate the contacts.

When any one of the sorting pockets is filled to capacity the tray 11 will be so low as to encounter the terminal 27 of lever 20 and in consequence of the weight pressing upon the respective lever, this lever and shaft 19 will be rocked against the tension of spring 22, it is obvious that also lever 21 will be rocked and pin 26 will open the contacts 24, 25. This will cause stopping of the machine and the same will be ready for operation again only when the cards have been removed from the full pocket so as to allow the respective tray to be lifted and to disengage from lever 20.

While there has been shown and described and pointed out the fundamental novel features of the invention it will be understood that it is neither limited to the form described nor to the particular kind of sorting machines on hand of which the invention is illustrated.

I claim:

In a sorting machine having card feeding devices and a plurality of card receiving pockets the combination of a rear wall common to all of said pockets, a unitary housing mounted on the opposite side of said wall to said pockets, a shaft common to all of said pockets and directly supported within and by said housing, a plurality of levers mounted upon said shaft and extending through slots in said common wall, a plurality of movable card supports for each of said pockets adapted to engage and rock said levers and said common shaft when the number of cards in any of said pockets exceeds a predetermined quantity, a circuit opening device and a lever mounted upon said common shaft adapted to directly open said circuit opening device and stop the feeding of cards when the number of cards in any of said pockets exceeds a predetermined quantity.

In testimony whereof I hereto affix my signature.

J. MASON CUNNINGHAM.

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