July 24, 1928. 1,677,897

W. W. LASKER

ANALYZER UNIT FOR TABULATING MACHINES

Filed April 29, 1925 2 Sheets-Sheet

Fig. 1.

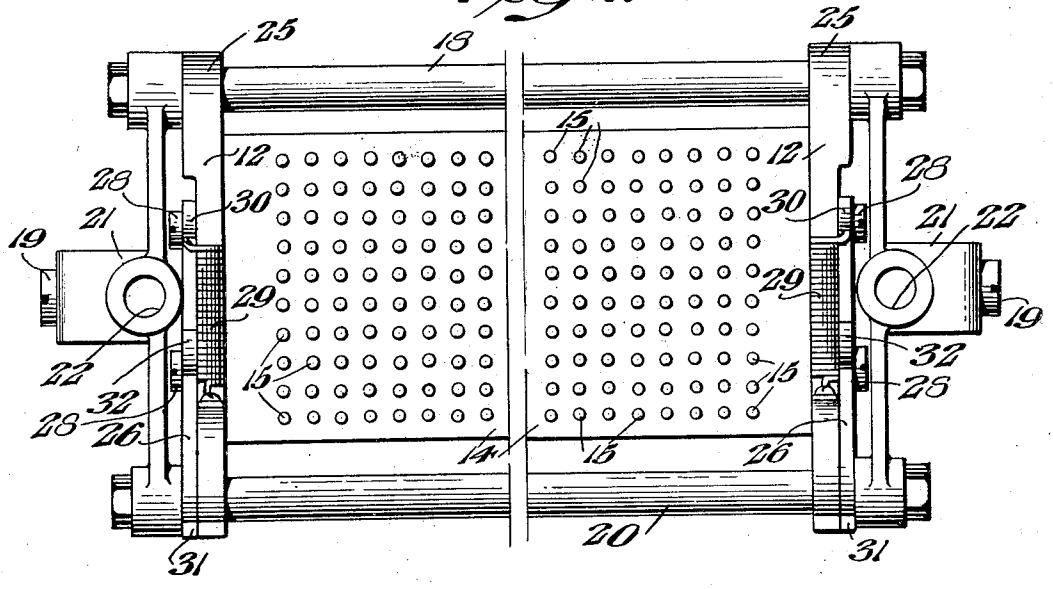
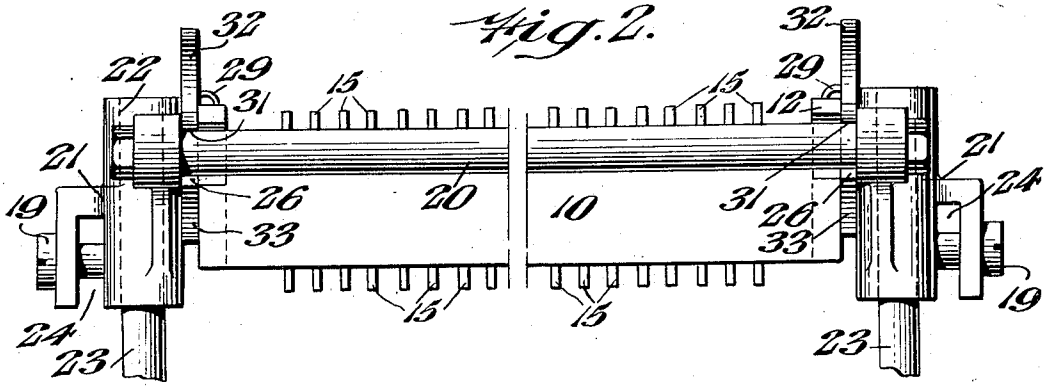


Fig. 2.



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Fig. 3.

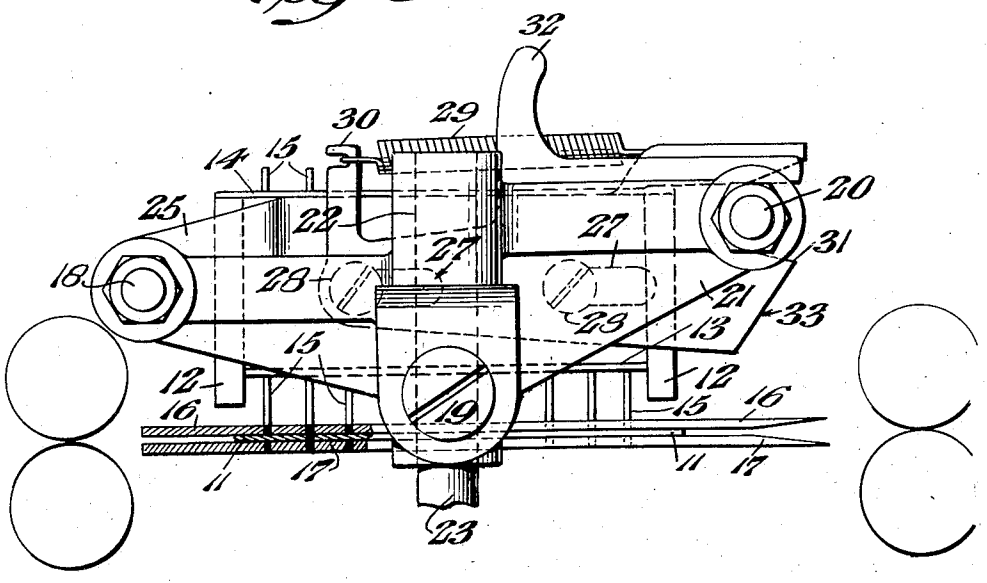
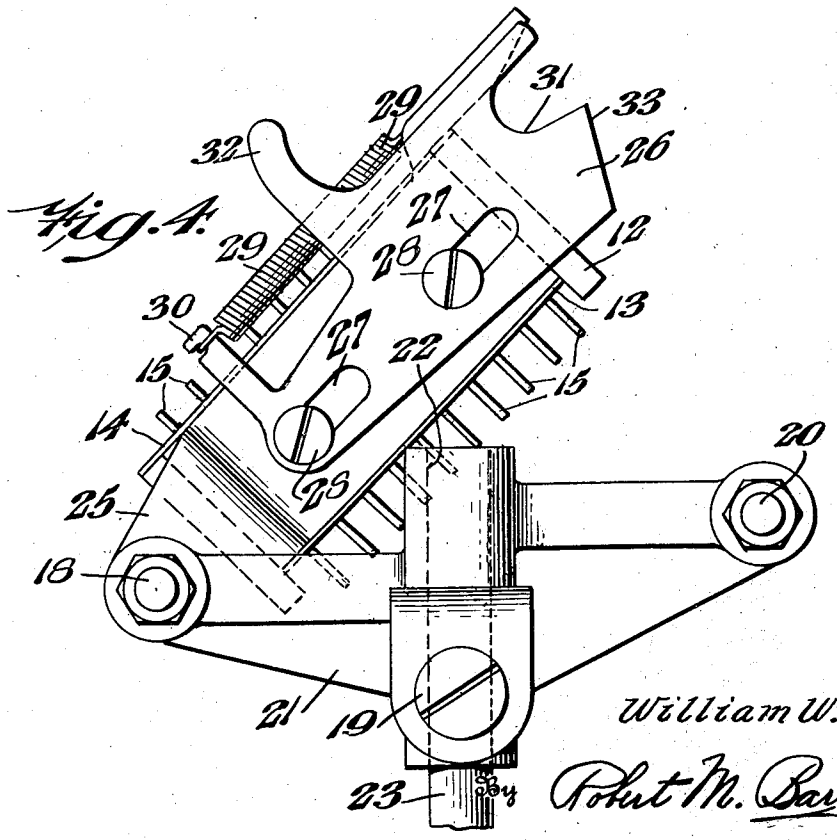


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM W. LASKER, OF BROOKLYN, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO REMINGTON RAND INC., OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

ANALYZER UNIT FOR TABULATING MACHINES.

Application filed April 29, 1925. Serial No. 26,686.

The present invention relates to tabulating machines or machines of like character employing an analyzing pin box, and relates more particularly to an analyzer unit or pin box which can be shifted at will to a position so that access can be had to a card located between the registration plates or one in analyzing position.

Some of the objects of the present invention are to provide an improved analyzer unit for machines operating in conjunction with perforated record cards; to provide a pin box or analyzer unit which can be shifted from its operating position, without disassembling it or any of its parts, to give access to the card registration mechanism; to provide means operable at will to give access to a card which has failed to feed properly into registering position; to provide means whereby loss of operating time caused by jammed cards is reduced to a minimum; to provide a pin box which is hinged or pivoted so that it may be moved into or out of operative relation to the card registration mechanism; and to provide other improvements as will hereinafter appear.

In the accompanying drawings Fig. 1 represents a plan of a pin box or analyzing unit embodying one form of the present invention; Fig. 2 represents a side elevation of the same; Fig. 3 represents an end elevation of the unit; and Fig. 4 represents an end elevation showing the unit swung away from the registration mechanism.

Referring to the drawings, one form of the present invention consists of a pin box or analyzing unit 10 of the type generally employed in connection with machines used for assembling, arranging and totalling statistical or other data by the use of perforations punched in control cards 11. The pin box 10 consists of a rectangular frame 12 having transverse perforated pin guide plates 13 and 14 for the analyzing pins 15 which correspond in number and position to the perforation positions of the control card. Upper and lower perforated registration plates 16 and 17 are arranged in the path of the pin box and properly alined with respect thereto so that movement of the pin box to analyzing position will bring the analyzing pins 15 through the plate 16 to either engage a card between the plates 16 and 17 or to pass through perforations in the card and through the plate 17 to coact with the selecting or other devices.

The pin box 10 is mounted at opposite sides upon parallel and longitudinally disposed rods 18 and 20, the ends of which are bolted or otherwise made fast to cross-heads 21, each of which has a guide bore 22 for mounting its cross-head for sliding movement. Two vertically disposed guide posts 23 respectively fit the bores 22 to support the crossheads 21 for reciprocating movement whereby the pin box 10 is brought into engagement with the card and then removed therefrom. The cross-heads 21 are respectively provided with studs 19 and link receiving openings 24 whereby reciprocating motion can be transmitted by any suitable mechanism arranged to function in the proper timed relation.

For the purpose of allowing the pin box 10 to be removed from its normally superposed relation with respect to the card registration plates 16 and 17, the same ends of the two end pieces of the frame 12 are formed respectively with apertured ears 25 which receive the guide rod 18 to support the pin box 10 on that side with a pivotal or hinged connection. The opposite side of the pin box 10 is arranged to be releasably interlocked with the rod 20 by the provision of plate keepers 26 which are formed with slots 27 to receive studs 28 by means of which the keepers are slidably supported upon the respective ends of the pin box frame 12. Normally the keepers 26 are held projected beyond the side of the pin box opposite to the pivotal support thereof by springs 29 respectively extending between lugs 30 of the keepers 26 and the ends of the pin box frame. The outer ends of the keepers 26 are preferably bifurcated to form recesses 31 of a shape and size to fit snugly about the rod 20 to thus form an interlocking connection which normally holds the pin box 10 in its operating position.

In order that the keepers 26 can be readily manipulated each is provided with an upwardly extending finger 32, both of which project above the top of the pin box 10 to a position where they can be easily taken hold of to release the keepers 26 so that the pin box 10 can be swung about its pivots.

The operation of the device should be

readily apparent and its advantages appreciated by those skilled in the art. In analyzing units as heretofore constructed it it impossible to gain direct access to the card registration mechanism without disassembling some part or parts and in general when a card becomes caught or jammed in the card passage the practice is to claw it out with anything that is handy or suitable for the purpose. As a result the card is torn or destroyed and the machine is idle while the card is being removed.

By the present invention such delays are avoided and the percentage of destroyed cards is materially reduced, because as soon as a card ceases to feed or is jammed in the card passage the machine is stopped and by pushing the fingers 32 in the proper direction the keepers 26 are removed from locking relation with the rod 20. This releases one side of the pin box 10 and it can then be swung back upon its pivoted ears 25, entirely away from the registration plates which are then accessible so that the card or cards can be reached and quickly taken out. This takes but an instant and then the pin box 10 is swung back to operating position and the keepers 26 are automatically pushed back by the engagement of the inclined faces 33 with the rod 20 and then snap into locking position by the action of the springs 29.

While only a single form is shown in which this invention may be embodied, it is to be understood that the invention is not limited to any specific construction but might be applied to various forms without departing from the spirit of the invention or the scope of the appended claim.

Having thus described my invention, I claim:

In a device of the character stated, an analyzing unit, a support frame for said unit including two spaced rods, apertured ears secured to one side of said unit and mounted on one of said rods for movement relative thereto, keepers respectively mounted on opposite ends of said unit, means on said keepers for respectively interlocking with the other of said rods to lock said unit in analyzing position, springs holding said keepers respectively in locked position, and means manually engageable at will for releasing said keepers to swing said unit out of operative position.

Signed at Philadelphia, county of Philadelphia, State of Pennsylvania, this 31st day of March, 1925.

WILLIAM W. LASKER.