H. W. ROBINSON.

BOOKKEEPING APPARATUS.

APPLICATION FILED DEC. 12, 1916.

1,285,394. Patented Nov. 19, 1918.

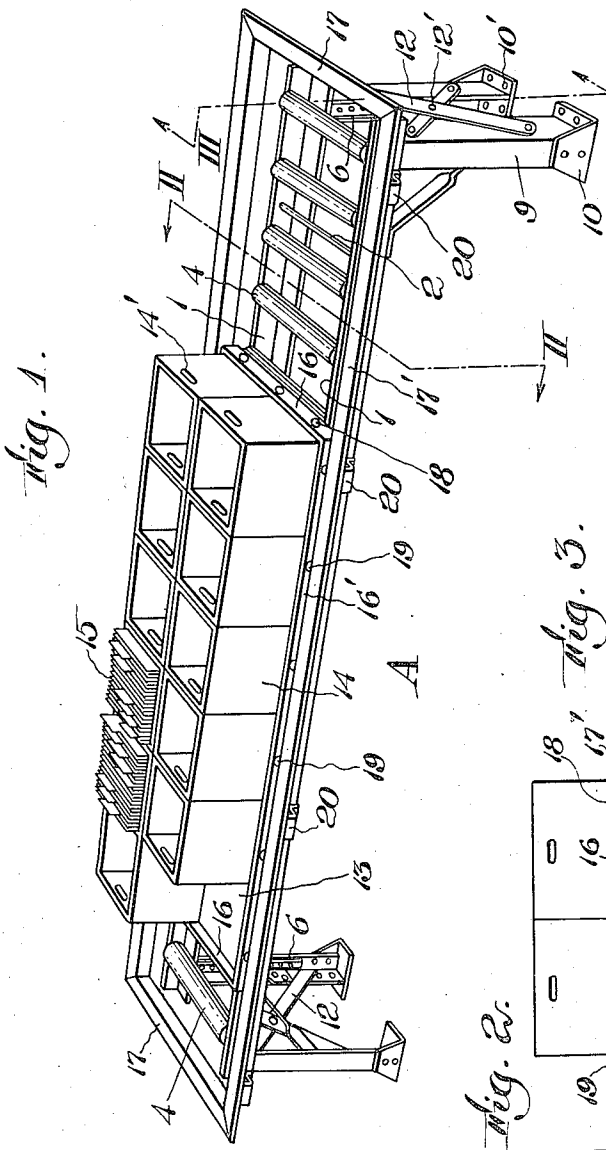


Fig. 1.

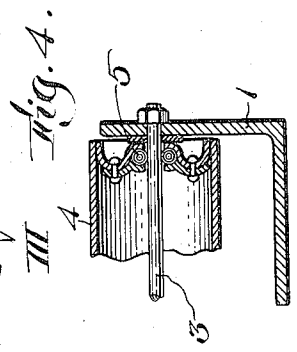


Fig. 4.

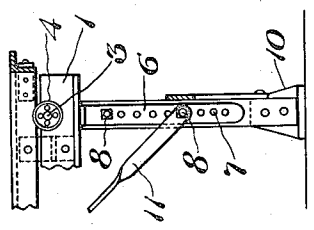


Fig. 3.

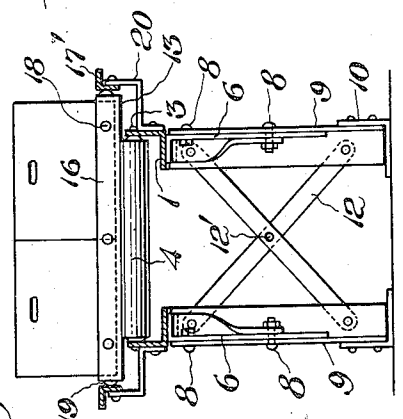


Fig. 2.

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UNITED STATES PATENT OFFICE.

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BOOKKEEPING APPARATUS.

1,285,394. Specification of Letters Patent. Patented Nov. 19, 1918.

Application filed December 12, 1916. Serial No. 136,418.

To all whom it may concern:

Be it known that I, HENRY W. ROBINSON, a citizen of the United States, residing at Newton Center, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Bookkeeping Apparatus, of which the following is a specification.

This invention relates to a device for facilitating the keeping of records and may hence be termed a book-keeping apparatus; although the "books" are preferably kept in the form of a card-index.

In the offices of life-insurance companies and other large establishments, the question of how to expedite the locating of cards upon which the records are kept,—where such cards run as they do in number up, at times, into the hundreds of thousands,—has become one which requires a more satisfactory solution than that of merely filing the card groups in separate drawers; since a great deal of valuable time is lost by the clerk in moving around the room and even by reaching, alone, where said clerk does not have to shift his or her position.

The present invention aims, for one of its objects, to eliminate this waste of time and effort, and to place at the convenience of book-keepers and others, a machine which will enable them to at once lay hand upon any desired card or record, and this without their having to leave their station before said machine.

These and other objects of said invention will be hereinafter referred to and the novel combinations of parts and elements whereby said objects may be attained will be more particularly pointed out in the appended claims.

Referring to the drawing which forms a part hereof and in which like reference characters designate like parts in the respective views:

Figure 1 is a perspective view of my improved record keeping machine.

Fig. 2 is a section taken on the plane II—II of Fig. 1.

Fig. 3 is a section taken on the plane III—III of Fig. 1; and

Fig. 4 is a fragmentary detail section of the end of the roller and its associated parts.

As best shown in Fig. 1, the apparatus comprises a table formed of a frame, which may conveniently consist of angles 1 disposed in parallel relationship and suitably held together by spacing rods 2 or the like, and, if desired, by tie-bolts 3 upon which latter may ride rollers 4.

These latter are substantially frictionlessly mounted, preferably having anti-friction bearings 5 of any suitable description, to the end that the rollers may turn in either direction with the utmost freedom.

The table, in the preferred embodiment of my invention, is a relatively long table, its ends being usually beyond the convenient reach of an operator positioned at the station designated A; and the series of rollers 4 extend, as shown, laterally of the table with their axes in parallelism.

The angles 1 may be conveniently supported by attaching to their extremities strips 6, the upper ends of which are bent at right angles to provide their points of attachment to said angles, and the vertical portions of which are preferably provided with a series of holes 7 into any of which may be inserted bolts 8, to adjustably connect said strips to uprights 9.

The bottoms of the uprights may be provided with feet 10, containing holes 10′ in which screws may be inserted for attaching the table permanently to the floor, if it be desired to have the same immovably positioned.

The lowermost bolt 8 of each of the uprights may also be used to secure the lower end of a corresponding brace bar 11, which may be twisted and the upper end of which may be riveted or otherwise secured to the under side of the corresponding angle 1.

The uprights 9 are also connected by brace bars 12, which in turn are connected by rivets 12′ at their crossing points.

There is thus provided by the angles 1 and their supports and bracing connections, a rigid frame for the rollers and upon these latter is mounted a carriage 13, which is preferably considerably shorter in length than the table to permit of extended movement of said carriage to and fro; this movement being a very free one on account of the anti-friction bearings of the rolls or rollers to the end that even when the record holding receptacles 14, which are preferably nested upon this carriage, are completely filled with record cards 15, but a very light thrust against said receptacle is sufficient to propel the carriage in the desired direction.

This responsiveness of the apparatus to such a light push or thrust is of the utmost importance, since the operators are frequently girls and it is important that they be not required to exert any material effort in the handling of the apparatus.

The receptacles 14 may be provided with openings 14′ in their ends, to facilitate their emplacement upon or removal from the carriage; it being evident that where the receptacle is comparatively small, even though it may be laden with cards, its weight is not excessive, whereas in the aggregate the total load imposed upon the carriage is considerable.

The carriage is provided with means, such as flanges 16, for preventing the receptacles from sliding off of their carriage by reason of their momentum, when said carriage reaches the end of its travel in either direction and is brought to rest.

It is important that some means be provided for thus limiting the endwise movement of the carriage, since otherwise the cards or other records might be dumped out onto the floor; and I therefore provide sections of angle iron 17 at the respective ends, which lie in the path of said carriage. Since the apparatus is primarily intended for use in offices, where quietness is apt to be a requisite, it is also highly desirable to provide means to cushion the carriage where it reaches the end of its travel; and such cushioning means may be inexpensively provided by mounting rubber buttons 18 upon the outer sides of the respective end flanges 16.

I also prefer to laterally flange the carriage as at 16′ to prevent any chance of displacement of the record holding receptacles sidewise; and to correspondingly limit sidewise movement of the carriage upon its table by means of angles or guides 17′, which may be connected to and support the end angles or stops 17.

If the carriage 13 be of wood, and indeed even if made of metal, it is preferable to provide smooth bosses or knobs 19 at intervals along its length, which may lightly engage the depending sides of the guides 17′.

Finally, the guiding and movement-limiting frame constituted by the angles 17—17′, may be conveniently supported from the main frame of the table, by connecting the angles 17′ to the angles 1 by bent clips 20.

In general, it may be noted that the particular advantage residing in the provision of a series of rollers for the carriage, is that the weight of the latter and its load is thereby distributed over a considerable number of bearings, which tends to reduce the wear and tear upon the apparatus and to obviate the necessity for frequent lubrication.

It also permits of the carriage 13 being made of relatively light construction, since it is supported along practically the entire length thereof. This lightness of the carriage, and also of the receptacle 14 is a desideratum in furtherance of the aim to favor the operation of the machine with a minimum exertion on the part of the operator.

The operation of the device is as follows:

The height of the table is adjusted to the convenience of the operator or operators by the insertion of the bolts 8 into the holes 7 of the strips 6; these bolts then having their nuts tightened up in the usual fashion. The carriage being laden with receptacles 14 and the latter in turn being filled with record cards or the like, may then be freely reciprocated upon its table with but a light touch of the operator, to enable the latter to bring any one of the receptacles within most convenient reach, whereby to either place a card in position or remove the same, as desired.

It may be added, that this apparatus has been found in practice to be a most valuable adjunct to the furniture of a large office, and that it very materially expedites the handling of records with a minimum of noise and confusion, such as is necessarily caused by the movement back and forth around the office of the clerks having to attend to such matters.

Further, the operator at such a table may be seated at all times and has no occasion to arise from her seat or even to reach inconveniently for a card in any one of the receptacles, since, as aforesaid, a light thrust suffices to bring the desired receptacle and its cards or records within easy reach.

Having thus described my invention, what I claim is:

1. In apparatus for keeping records, the combination of a table comprising a frame in which are mounted a series of rollers the axes of which are in parallelism, a plurality of record holding receptacles, a carriage for said receptacles mounted for very free movement in either direction longitudinally of said table, said carriage riding upon said rollers and the latter having anti-friction bearings, means to retain said carriage laterally in place upon said rollers, cushioning means to limit the travel of said carriage in both of said directions, and means carried by said carriage for preventing the momentum of said receptacles from displacing them off of said carriage when movement of the latter in a given one of said directions is checked by said cushioning means.

2. In apparatus for keeping records, the combination of an elongated table the ends of which are beyond the convenient reach of an operator positioned at a station intermediate the length of said table, a carriage substantially frictionlessly and horizontally mounted for very free movement in either direction longitudinally of said table, said carriage being materially shorter than the table to permit of extended movement to and

fro thereupon, a plurality of record holding receptacles supported on said carriage for travel therewith to permit of any one of said receptacles being brought within convenient reach of said station, means to limit the movement of said carriage in both of said directions, means to prevent endwise displacement of said receptacles off of said carriage by their momentum, when said carriage is brought to rest by its movement limiting means, and means to permit of vertical adjustment of said table and receptacles to accommodate the operator.

3. In apparatus for keeping records, the combination of an elongated table the ends of which are beyond the convenient reach of an operator positioned at a station intermediate the length of said table, a carriage substantially frictionlessly and horizontally mounted for very free movement in either direction longitudinally of said table, said carriage being materially shorter than the table to permit of extended movement to and fro thereupon, a plurality of record holding receptacles supported on said carriage for travel therewith to permit of any one of said receptacles being brought within convenient reach of said station, cushioning means to limit the movement of said carriage in both of said directions, and means to prevent endwise displacement of said receptacles off of said carriage by their momentum, when said carriage is brought to rest by its movement limiting means.

In testimony whereof I have affixed my signature, in the presence of two witnesses.

HENRY W. ROBINSON.

Witnesses:
W. H. PALMER,
N. L. DONAHUE.