

July 15, 1924.

1,501,233

J. H. RAND

INDEX DEVICE

Filed April 14, 1922

2 Sheets-Sheet 1

Fig. 1

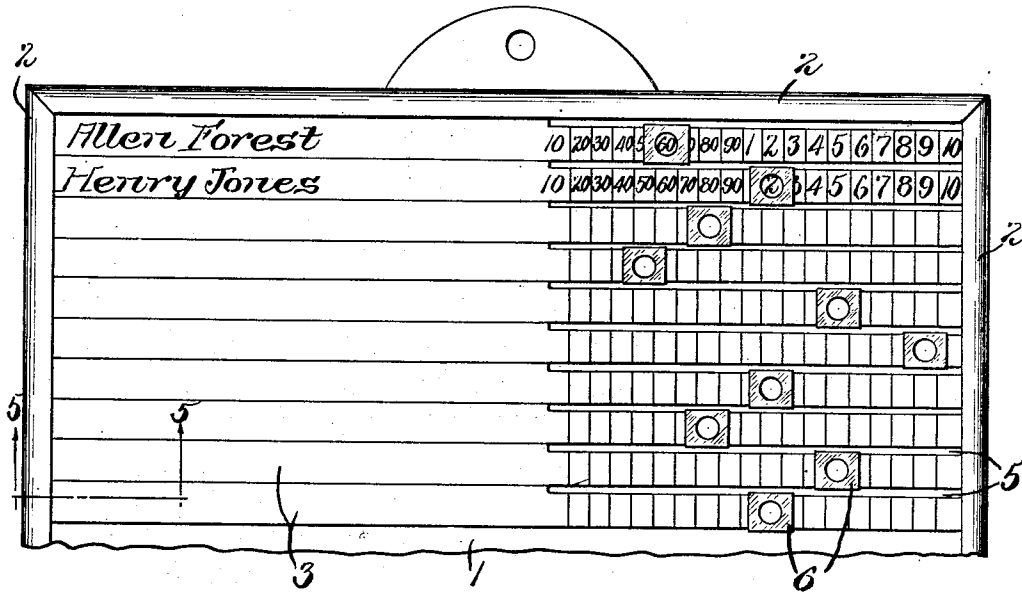


Fig. 2

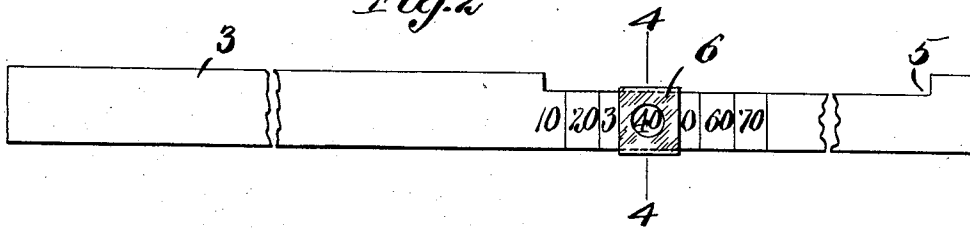


Fig. 5

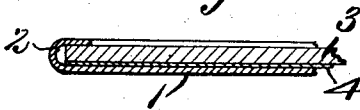


Fig. 4

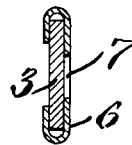
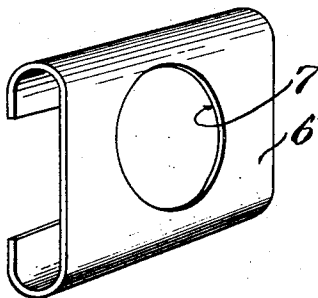


Fig. 3



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2 Sheets-Sheet 2

Fig. 6

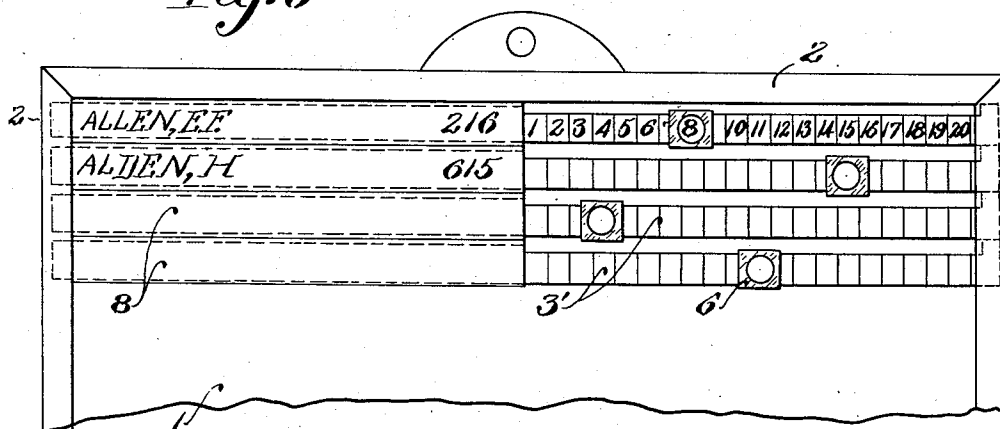


Fig. 7

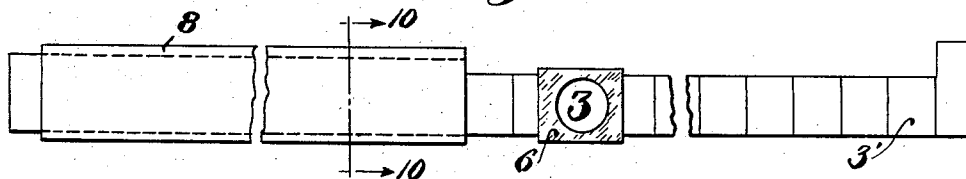


Fig. 8

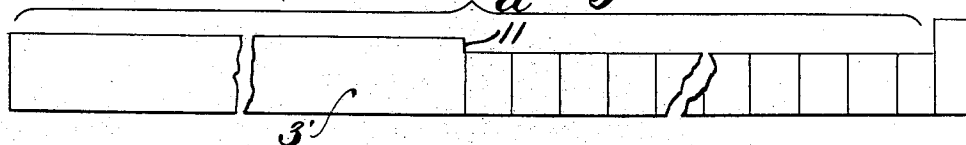


Fig. 9

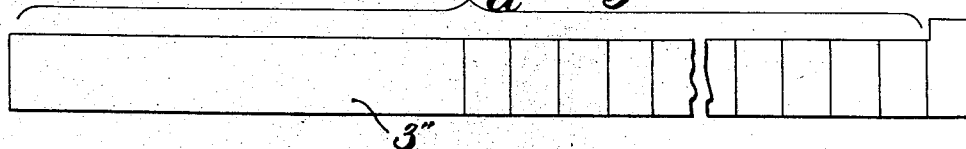
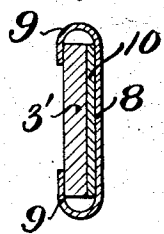


Fig. 10



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UNITED STATES PATENT OFFICE.

JAMES H. RAND, OF NORTH TONAWANDA, NEW YORK.

INDEX DEVICE.

Application filed April 14, 1922. Serial No. 552,795.

To all whom it may concern:

Be it known that I, JAMES H. RAND, a citizen of the United States of America, and resident of North Tonawanda, in the county of Niagara and State of New York, have invented new and useful Improvements in Index Devices, of which the following is a specification.

According to this invention the index comprises a series of adjacent index strips having rows of letters, numerals or other marks distributed therealong together with signals mounted on the strips respectively, the signals being independently slidable along the strips into juxtaposition with selected marks of said rows. The strips may be in the form of narrow bands of stiff paper, celluloid or the like and they are preferably mounted in parallel juxtaposition with their ends sliding in channels so that they may be moved apart for replacement, substitution or adjustment. The signals are supported by the strips and removable therewith respectively. While the signals may be slidably mounted on the strips in various ways the signals are preferably constructed to extend over the upper edges of the strips respectively. When the signals hook over the upper edges of the strips they may also hook over the lower edges of the strips, thereby more certainly to maintain them in position on the strips. With the signals extending over the edges of the strips, the strips are spaced apart sufficiently to afford clearance for the signals. Ordinarily the rows of marks aforesaid extend throughout only a part of the lengths of the strips and if the range of movement of the signals is to be confined to the length of the rows the strips need be spaced apart only throughout approximately the length of said rows. In such cases the strips may be made narrower throughout the length of the rows of marks, preferably by cutting away one of the margins of each strip, thereby to afford the necessary clearance and at the same time permit the strips to contact with each other along the remainder of their margins.

In one aspect the invention comprises an index signal of sheet material having a fold at its upper end adapted to extend over the edge of an index strip, and preferably having a similar fold at its lower end so as to extend over both edges of the strip. The

ends are preferably unattached and spaced apart so that the signal may be applied to the strip from the side. If the signal is to extend wholly or substantially across the front of the index strip it is preferably provided with a window to display a mark on the strip under the signal.

The invention further comprises the use of a sheath of transparent material such as celluloid enclosing a portion of the strip to retain an indicia slip thereon. By inserting new indicia slips the same strip may be used repeatedly. Furthermore the sheath may serve as a stop for the movable signal and as means for spacing the adjacent strips to provide sufficient clearance for the signals. The strip is preferably formed by cutting away a portion of one margin, the sheath and the signal being mounted on the reduced part of the strip, the unreduced part acting as a stop for the signal.

In order to illustrate the nature of the invention, typical species of the genus constituting the invention are shown in the accompanying drawings, in which:

Fig. 1 is a front view of an index device, the lower portion being broken away;

Fig. 2 is a front view of one of the index strips and its associated signal;

Fig. 3 is a perspective view of the preferred form of signal;

Fig. 4 is a section on line 4—4 of Fig. 2;

Fig. 5 is a detail section on line 5—5 of Fig. 1;

Fig. 6 is a view similar to Fig. 1 showing a modification;

Fig. 7 is a front view of one of the strips shown in Fig. 6;

Fig. 8 is a view similar to Fig. 7 with the sheath and signal removed;

Fig. 9 is a front view of still another form of strip; and

Fig. 10 is a section on the line 10—10 of Fig. 7.

The particular embodiment of the invention shown in Figs. 1 to 5 comprises a frame consisting of a metallic back 1 having its margins 2 folded inwardly to provide channels to receive the ends of the index strips 3. The front face of the back 1 is preferably covered with a sheet of smooth paper 4 so that the index strips 3 will slide more freely in the frame in adding or subtracting strips or in shifting the strips to different positions.

The strips 3 may be made of stiff flexible paper having sufficient elasticity to permit the ends to be sprung under the marginal flanges 2 and to lie flatwise against the back of the frame. As shown in Figs. 1 and 2 the strips are adapted to have names written on their left-hand ends and on their right-hand ends they are reduced in width by having their upper margins cut away as indicated at 5. Throughout their reduced portions the strips are provided with rows of marks or indicia, series of numerals being shown in the illustrated embodiment.

The preferred form of signal 6 comprises a band of celluloid or the like having its upper and lower ends bent to hook over the opposite edges of an index strip. When employing celluloid or other elastic sheet material the hooked ends are so formed as to grip the index strips, lightly thereby to hold the signals in adjusted position. The signals may be applied either to the front or to the back of the strips but they are preferably applied to the front; and when so applied they are preferably provided with windows 7 to display the indicia on the strips therethrough. The signals may be applied by hooking one end over the strip and then springing the other end over the opposite edge of the strip.

The modifications shown in Figs. 6 and 10 adapt the strips to be used over and over again instead of being thrown away after being once used as in the case of the modification first described. This result is attained by providing a portion of each of the strips 3' with a sheath 8 of transparent material, such as celluloid having a closed front face and its marginal portions 9 bent over to enclose the strips 3'. The sheath thus forms a pocket in which a slip 10 may be inserted having identifying characters thereon such as the name of the person, number of the job, etc. This slip may be removed and a new slip inserted when the strip is to be used again. As shown in Fig. 6 sheaths 8 extend above and below the strips 3' and separate or space the strips sufficiently to provide ample clearness for the movable signals 6. To further insure the proper alignment of the adjacent strips 3' in frame 1, the strips are preferably made by cutting away a portion of one margin of the strip as clearly shown in Figs. 8 and 9, the bracket α indicating the extent of the cut-away part. The strips will then appear in the frame as shown in Fig. 6 with their unreduced parts in contact at the right and the sheaths thereon in contact at the left. Upon this reduced portion of the strips the sheaths 8 and signals 6 are mounted. In Fig 8 one form of strip is shown in which the portion along which the signal 6 moves is still further reduced forming a shoulder 11 at the point where the sheath 8 normally stops.

However, since the sheath 8 extends above and below the portion of the strip enclosed thereby these projecting bent-over portions 9 of sheath 8 may serve as stops for the movable signal 6 so that a further cutting away of the strip is unnecessary as illustrated by the strip 3'' in Fig. 9.

Index devices of the character herein described are useful in a variety of situations, depending upon the indicia or marks provided upon the strips. A typical utility is exemplified in Figs. 1 to 5 of the drawings, the illustrated embodiment being adapted for use in the credit department of a mercantile establishment such as a department store. The numerals 10 to 90 represent dollars and the numerals 1 to 10 represent hundreds. Each customer is rated as to the maximum extent of credit and an index strip is provided for each customer from which is indicated, as for example by a red check mark in one of the numbered squares of the strip, his maximum credit. When a customer makes purchases the salesman consults the credit clerk and informs the credit clerk as to the amount of the purchase. The credit clerk then advances the signal on the customer's strip at an amount corresponding to the amount of the purchase. If the contemplated purchase exceeds the balance of the customer's credit as indicated by the position of the signal on the customer's strip, the salesman may be advised not to make the sale on credit.

The signals may be made of different colors depending upon the information to be conveyed thereby. For example, when using the device for authorizing credit as above described those customers whose credit does not exceed \$100 may be provided with red signals and those customers whose credit exceeds \$100 may be provided with white signals. Thus the credit clerk can tell at a glance, without looking along the rows of numbers for the red check mark, what the maximum credit of the customer is.

Other uses of the device are for indicating production schedules in factories, cost accounting, etc. In indicating production schedules (Fig. 6), the indicia at the right-hand end of the strips indicate the various departments of the factory and in the spaces at the left-hand ends of the cards the customer's orders are identified by name and number. As the products of manufacture proceeds through the factory from one department to the other the signals are advanced step by step so that at any time the degree of completion of the work on any particular order can be determined at a glance by reference to the index device.

I claim:

1. An index device comprising an index strip adapted to be mounted edge to edge with other strips and having a marginal cut-

out extending longitudinally thereof to receive a sliding signal.

2. An index device comprising an index strip adapted to be mounted edge to edge with other strips and having a marginal cut-out throughout a portion of its length to receive a signal.

3. An index device comprising a series of index strips mounted edge to edge and having marginal cut-outs to afford clearance therebetween throughout a part of their lengths to receive movable signals.

4. An index comprising a frame a series of adjacent index strips mounted in said frame, said strips having rows of marks distributed therealong and signals mounted on the strips respectively, the signals having portions engaging the upper and lower edges of the strips and being independently slidable along the strips into juxtaposition with selected marks of said rows without removing any of the strips from the frame.

5. An index comprising a frame a series of index strips removably mounted in juxtaposition in said frame, said strips having cut-outs extending longitudinally thereof and rows of marks distributed therealong, and signals extending transversely across the cut-out-portions of said strips respectively, the signals being independently slidable along the strips into juxtaposition with selected marks of said rows.

6. An index comprising a frame a series of index strips adapted to be mounted in juxtaposition in said frame, said strips being capable individually of insertion in and removal from said frame and having rows of marks distributed therealong, and signals hooking over the strips respectively and slidable therealong into juxtaposition with selected marks of said rows, the strips being spaced apart throughout a portion of their length conforming to the range of movement of the signals to afford clearance therefor.

7. An index comprising a frame a series of adjacent index strips in said frame, each strip being capable of removal from and insertion in said frame without disturbing the other strips, and signals slidable on the strips, the strips having cut-out portions and the signals being movable along said portions.

8. An index comprising a frame a series of adjacent index strips in said frame, each strip being capable of removal from and insertion in said frame without disturbing the other strips, and signals slidable on the strips, the strips having marginal portions cut out to afford clearance for the signals.

9. An index comprising a series of adjacent index strips having rows of marks distributed along sections thereof and signals hooking over the strips respectively and slidable therealong into juxtaposition with

selected marks of said rows, the strips being narrower throughout the length of said sections to afford clearance for the signals.

10. An index comprising a series of adjacent index strips mounted in parallel juxtaposition with their margins in contact, the strips having rows of marks distributed along sections thereof, and signals hooking over the strips respectively and slidable therealong into juxtaposition with selected marks of said rows, one margin of each strip being cut away throughout the lengths of said sections to afford clearance for the signals.

11. An index comprising a series of adjacent independent index strips having rows of marks distributed therealong and signals extending transversely across the strips respectively and thence over opposite edges thereof, the signals being independently slidable along the strips into juxtaposition with selected marks of said rows, and the strips being spaced apart throughout the range of movement of the signals to afford clearance therefor.

12. An index comprising a series of adjacent index strips having rows of marks distributed therealong and signals extending transversely across the strips respectively and thence hooking over opposite edges thereof, the signals being independently slidable along the strips into juxtaposition with selected marks of said rows, one margin of each strip being cut away throughout the range of movement of the signals to afford clearance therefor.

13. An index comprising a series of adjacent index strips, sheaths covering a portion of said strips, and signals movable over another portion of said strips, the sheaths serving to space the strips sufficiently to provide clearance for said signals.

14. An index comprising a series of adjacent index strips having rows of marks distributed over a portion thereof, signals hooked over the strips respectively and slidable therealong into juxtaposition with selected marks of said rows, and sheaths covering another portion of said strips to space the strips and retain identifying cards thereon.

15. An index comprising a series of adjacent index strips in contact with each other at one end, said strips being partly cut away along one margin, sheaths of transparent material mounted on a part of the reduced portion to hold indicia slips on said strips, and movable signals mounted upon another part of said reduced portion.

16. An index comprising a series of adjacent index strips in contact with each other at one end, said strips being partly cut away along one margin, sheaths of transparent material mounted on a part of the reduced portion to hold indicia slips on said

strips, said sheaths having a closed front face and margins bent over the edges of said strips, and signals movable in the space between said sheaths and the uncut portions of said strips.

17. An index device comprising a strip adapted to be mounted in a column with other similar strips, means for mounting an indicia slip along a portion of the strip, and a signal slidable along another portion of the strip.

18. An index device comprising a strip adapted to be mounted in a column with other similar strips, a transparent sheath extending across one side and over the opposite edges of the strip throughout a portion

of its length, and a signal slidable along another portion of the strip.

19. An index device comprising a strip adapted to be mounted in a column with 20 other similar strips, a transparent sheath extending across one side and over the opposite edges of the strip near one end thereof, the other end of the strip being increased in width to substantially the width of the 25 sheath, and a signal slidable along the strip between the sheath and the end of increased width.

Signed by me at Boston, Massachusetts, this 20th day of March, 1922.

JAMES H. RAND.