The invention relates to storing cases for a multitude of mutually different lengthened objects, such as drills, screw taps, broaches and the like of different dimensions.

Various constructions of such cases are known which are designed with a view to permitting rapid finding of the proper object to be removed. Thus it is known to use boxes or frames, in which the objects are accommodated side by side in a row and are accessible on opening a cover, and in which the position for each object is provided with a discriminating sign, for example an indication of a dimension. However, such cases have a rather limited capacity if they shall not be of too great dimensions, and in practice they cannot be used for objects of small dimensions which cannot be gripped individually by the fingers without unreasonably large spacing. For this reason also other types have been constructed in which the objects are accommodated in bores arranged parallel to the axis and in axial planes and concentric cylinders in a cylindrical block located in an enclosing box having a rotatable cover in which a slide provided with a discharge opening can be placed within a radial slot, so that the opening can be moved into alignment of the desired bore by turning the cover and displacing the slide. However, these cases are cumbersome in handling because they require exact adjustment along two coordinates, and besides the space is not particularly well utilized if for example the objects are of greatly differing length. Further the production is rather expensive as it requires a great number of exact boring operations.

Also in the case according to the present invention the objects are accommodated in corresponding compartments which can be opened selectively for individual discharge or insertion of the objects by the displacement of a closing member transversely to the longitudinal direction thereof. But contrary to cases of the last mentioned known type, the compartments are arranged in a small number of groups, the compartments of each group extending substantially parallel to each other with their openings at the same end in the usual manner, whereas the end openings of the compartments of two or more different groups are facing in different directions and closed by one slide for each group.

Hereby the advantage is obtained that for the removal or insertion of one selected object only one single adjustment of the appurtenant slide is necessary, and at the same time it becomes possible by suitably grouping the objects and arranging the individual groups dependent on the size and number of the objects, to attain a very economical utilization of the space.

Further features will appear from the following description of a preferred embodiment of the casing, reference being had to the drawings.

Fig. 1 is a plan view of a storing case according to the invention of flat rectangular shape with two slides partly withdrawn. Figs. 2 and 3 are side and end views respectively. Figs. 4 and 5 are cross sectional views along the lines IV—IV and V—V respectively in Fig. 1, and Fig. 6 indicates the grouping of the compartments within the lower storey of the case.

The case illustrated is designed for accommodating objects, for example drills of all possible diameters from 7.0 mm. down to 5.0 mm. with a difference of 0.5 mm. and of correspondingly decreasing lengths. The compartments for receiving the drills are formed by providing an intermediate bottom IV placed between the top portion II and bottom portion III of the enclosure with groups of parallel groove of which the radii and the distances from the top portion and the bottom portion respectively correspond to the radii of the individual drills. The top portion II and the bottom portion III are formed by plane plates for example of metal, whereas the intermediate bottom IV may conveniently be pressed or molded of a suitable material. Along the sides of the flat casing thus formed there are formed slides S₁, S₂, S₃, S₄ and S₅, which engage outwardly extending flanges of the plates II and III and thereby keep the latter together, and which thus form the side walls of the casing. The slides S₁ and S₅ overlap each other and can be displaced independently of each other, whereas the slides S₂, S₃ and S₄ are each provided at one edge. The plates II and III are centered on the intermediate bottom IV by lugs K₁, K₂ and K₃ respectively on the latter projecting through corresponding boles in the plates. The edge flanges of the plates each extend from one corner to a point at a certain distance from the other corner, thereby giving room for the slide at the adjacent edge so that each slide can be moved outwards from a position in which the rear end thereof engages an adjacent slide at one corner, to a position in which a pointer V₁, V₂, V₃, V₄ or V₅ thereon abuts against another slide at the rear end of the latter at the other corner, when this latter slide is in its innermost position. To facilitate the displacement each slide is provided in its forward end with a finger grip, which faces inwards on all the slides except on the slide S₅.
where it faces outwards to give room for the displacement of the.

By dash and dot lines in Figures 1 and 6 dividing walls are indicated, whereby the spaces and beneath the intermediate bottom are divided into sections A, B and F sections C, D and E respectively. The grooves Ra and Rf within the sections A and B of the upper storey are dimensioned for receiving the largest drill sizes, from 7.0 mm. down to 6.3 mm. and from 6.3 mm. to 5.4 mm. respectively. The pointers Va and Vb are located at the top of the casing substantially at the middle of the slides Sa and Sb at the shorter sides of the casing and are displaced over dials indicating the drill sizes. The dial lines are situated directly above the appurtenant groups Ra and Rf of which the former open to the right and the latter to the left in Fig. 1, which is indicated by the arrows Pa and Pd, which show the direction of insertion. Registering with the pointers Va and Vb at the level of the compartments constituted by the grooves Ra, an opening Aa sufficiently large for permitting removal of the largest drills is formed in the slide Sa. Thus by adjusting the slide Sa so that the pointer Va registers with the corresponding dial mark, the opening can be made to agree with the proper compartment for removal of the drill. In order that the slide Sa shall not form a bar for the drills in section A, it is formed with an oblong slot Ub, which in the innermost position of Sa extends over the whole of the section. Similarly as by the slide Sa removal of drills from section B is possible by displacing Ss, which is formed with the opening Os.

Up to this point the history of the casing has not been shown, but similarly to the top side it is provided with graduations from 4.0 to 5.9 in section C, from 2.0 to 3.9 in section D and from 1.9 to 0.5 in section E, and the grooves Rg, Rf and Rj (the latter ones not shown) within these sections open towards the slides Sc, Sb and Sd respectively, as indicated by the arrows Pg, Pf and Pd so that removal is possible by displacing these slides, which are provided with corresponding openings Og, Og and Oe and with the pointers Ve, Vn and Vz on the bottom side of the casing. To permit the removal from E the slide Sc has an oblong slot Us.

In order to make it possible to see immediately whether the drills are in position in their respective compartments, the plate 2 is formed with oblique slots La and Lb (or windows if desired) over the sections A and B respectively, and similar slots (not shown) are formed in the plate 3 for the sections C, D and E.

Further, immediately above the grooves Ra and Rf calibre orifices Ha and Hf are formed in the plate 2, which orifices correspond to the respective drill diameters so that a preliminary test can be made by putting the drill into these holes for finding where it belongs before it is inserted in position. Similar calibre orifices are provided also in the plate 3 for the sections C, D and E.

As it will be understood, section E results from the fact that the drills in section D are somewhat shorter than the largest drill extending in the transverse direction of the casing, i.e. the drill of diameter 5.5 mm. in section C, which determines the width of the casing. Similarly in the upper storey of the case section F results from the fact that the drills in section B are somewhat shorter than the drill of diameter 7.0 mm. in section A, which determines the length of the casing. The space F may conveniently be used for accommodating a small screw driver, punchers or other small tools which it is practical to have at hand in connection with the drills. Section F may for example be provided with a lid opened to the right and may be made accessible by displacing the slides Sa and Sd in common. Or it may open towards Sd which in that case may be combined with an additional slide similar to Sb.

With the case illustrated it is possible to store a large variety of tools, having a discharge hole and being adapted in a retracted position of the other to be moved along said edge for opening.
5. One of the compartments of its respective group at a time while covering the rest, and having a second, oblong hole which in a retracted position of the cover registers with the compartments of the respective other group.

3. A two-storey case for storing a multitude of mutually different objects of a lengthened shape, comprising a substantially rectangular structure having flat top and bottom surfaces and side edges and having interior surfaces confining in one storey two groups of aligning compartments, each group opening through one of two opposite side edges and in a second storey, two further groups substantially at right angles to the first-mentioned groups and each group opening through one of the remaining side edges of said structure, and a slidable cover for each of said groups, each of said covers having a discharge hole and being mounted on the corresponding side edge and adapted to be moved along the same so as to make said hole register with one of the compartments of the group at a time while covering the rest.

4. A case for storing a multitude of mutually different objects of a lengthened shape, comprising a substantially rectangular structure having flat top and bottom surfaces and side edges and having interior surfaces confining a first group of aligning compartments opening through a first side edge and further confining a second group of aligning compartments opening through a second side edge of said structure, said second side edge extending substantially at right angles to said first side edge, and a slidable cover for each of said groups, each of said covers having a discharge hole and being mounted on the corresponding side edge and adapted to be moved along the same so as to make said hole register with one of the compartments of the group at a time while covering the rest, said covers having cooperating stopping surfaces preventing movement of one of the covers past a retracted position.

5. A two-storey case for storing a multitude of mutually different objects of a lengthened shape, comprising a substantially rectangular structure having flat top and bottom surfaces and side edges and having interior surfaces confining in one storey two groups of aligning compartments, each group opening through one of two opposite side edges and in a second storey, two further groups substantially at right angles to the first-mentioned groups and each group opening through one of the remaining side edges of said structure, and a slidable cover for each of said groups, each of said covers having a discharge hole and being mounted on the corresponding side edge and adapted to be moved along the same so as to make said hole register with one of the compartments of the group at a time while covering the rest, of which covers each two adjacent covers have co-operating stopping surfaces preventing movement of one of the two past a retracted position.

6. A two-storey case for storing a multitude of mutually different objects of a lengthened shape, comprising superposed plate members constituting a substantially rectangular structure and having opposed surfaces confining groups of aligning compartments, each group opening through one of two opposite side edges and in a second storey, two further groups substantially at right angles to the first-mentioned groups and each group opening through one of the remaining side edges of said structure, a cover for each of said side edges, guiding ledges for said covers on the uppermost and lowermost of said plate members along the sides thereof, and flanges on said covers engaging said ledges thereby keeping said plate members together and holding said covers slidably thereon, each of said covers being adapted when moved along the respective side edge to open one of the compartments of the respective group at a time while covering the rest.

7. A case for storing a multitude of mutually different objects of a lengthened shape, comprising superposed plate members constituting a substantially rectangular structure and having opposed surfaces confining groups of aligning compartments, each group opening through one of two opposite side edges and in a second storey, two further groups substantially at right angles to the first-mentioned groups and each group opening through one of the remaining side edges of said structure, a cover for each of said side edges, guiding ledges for said covers on the uppermost and lowermost of said plate members along the sides thereof, flanges on said covers engaging said ledges thereby keeping said plate members together and holding said covers slidably thereon, each of said covers being adapted when moved along the respective side edge to open one of the compartments of the respective group at a time while covering the rest, of which covers each two adjacent covers have co-operating stopping surfaces preventing movement of one of the two past a retracted position.
10. A case for storing a multitude of mutually different objects of a lengthened shape, comprising superposed plate members constituting a substantially rectangular structure and having opposed surfaces confining groups of aligning compartments, the compartments of each of a plurality of said groups opening through a different side edge of said structure, a cover for each of said side edges, guiding ledges for said covers on the uppermost and lowermost of said plate members along the sides thereof, flanges on said covers engaging said ledges thereby keeping said plate members together and holding said covers slidably thereon, each of said covers being adapted when moved along the respective side edge to open one of the compartments of the respective group at a time while covering the rest, of which covers each two adjacent covers have co-operating stopping surfaces preventing movement of one of the two past a retracted position, dial means on said structure and a pointer registering therewith on each of said covers for indicating the compartments opened by the cover in different positions thereof, each of said covers having a retracted position and one of said covers being in that position situated with its rear end in the path of the pointer of the other so as to limit forward movement of the latter.

11. A two-storey case for storing a multitude of mutually different objects of a lengthened shape and of different cross section, comprising a substantially rectangular structure having flat top and bottom surfaces and side edges and having interior surfaces confining in one storey two groups of aligning compartments of different cross section, each group opening through one of two opposite side edges and in a second storey, two further groups substantially at right angles to the first-mentioned groups and each group opening through one of the remaining side edges of said structure, and a slidable cover for each of said groups, each of said covers having a discharge hole and being mounted on the corresponding side edge and adapted to be moved along the same so as to make said hole register with one of the compartments of the group at a time while covering the rest.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>357,006</td>
<td>Hoffmann</td>
<td>Feb. 1, 1887</td>
</tr>
<tr>
<td>673,083</td>
<td>Mate</td>
<td>Apr. 30, 1901</td>
</tr>
<tr>
<td>1,024,353</td>
<td>Bartlett</td>
<td>Apr. 23, 1912</td>
</tr>
<tr>
<td>1,296,810</td>
<td>Sheppard</td>
<td>Dec. 3, 1918</td>
</tr>
<tr>
<td>1,350,394</td>
<td>Brown et al.</td>
<td>Aug. 24, 1920</td>
</tr>
<tr>
<td>1,724,735</td>
<td>Selbach</td>
<td>Aug. 13, 1929</td>
</tr>
</tbody>
</table>

FOREIGN PATENTS

<table>
<thead>
<tr>
<th>Number</th>
<th>Country</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,716</td>
<td>Great Britain</td>
<td>1894</td>
</tr>
</tbody>
</table>