

1,025,255.

Fig. 1. A perspective view of a multi-layered strip assembly. The assembly consists of several layers, with the top layer labeled 18. Below it is a layer with circular features labeled 71 and 24. A dashed circle is labeled 19. Below that is a layer with numbers 1, 2, 31, 15, 29, 7, 27, 13, and 25. Below that is a layer with circular features labeled 71 and 24, and a dashed circle labeled 19. Below that is a layer with numbers 3, 8, 23, 11, 21, 5, 19, 9, and 17. Below that is a layer with circular features labeled 24, 71, 71, and 24. Below that is a layer with numbers 1, 4, 15, 7, 13, 3, 11, 5, and 9. Below that is a layer with circular features labeled 24, 71, and 71. Below that is a layer with numbers 7, 8, 7, 3, 5, 1, 2, 1, and 1. The bottom layer is labeled 12. The entire assembly is labeled 10.

Fig. 1.

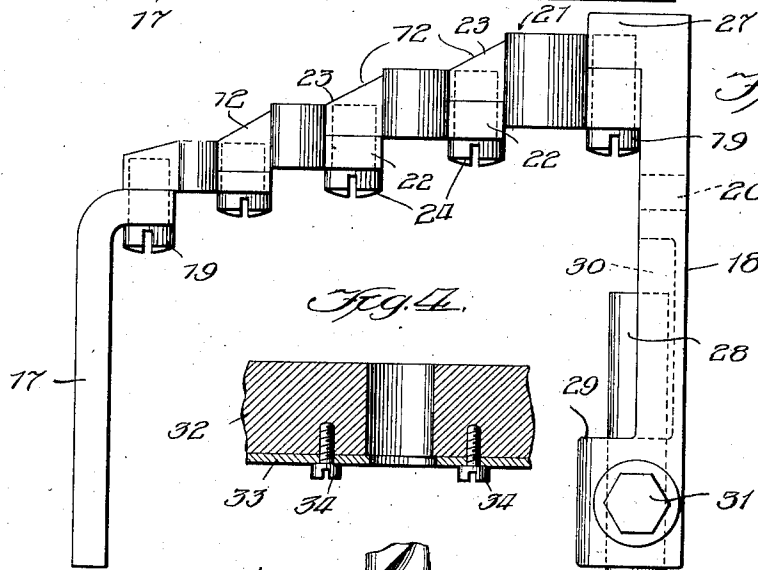


Fig. 2.

Fig. 4.

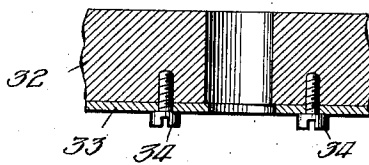
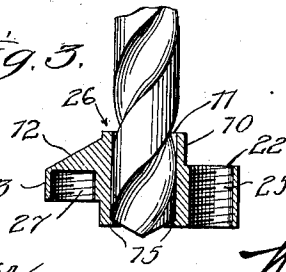


Fig. 3.



WITNESSES

WITNESSES
Harry S. Gauthier 23
William Goldberger 27

INVENTOR

INVENTOR,
Charles H. Driver

by William L. Hall.

UNITED STATES PATENT OFFICE.

CHARLES H. DRIVER, OF RACINE, WISCONSIN.

COMBINED TOOL RACK AND GAGE.

1,025,255.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed March 10, 1911. Serial No. 613,657.

To all whom it may concern:

Be it known that I, CHARLES H. DRIVER, a citizen of the United States, and a resident of Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Combined Tool Racks and Gages; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to a novel drill rack and gage designed to support drills, reamers, taps and sizers and like tools in convenient position for selection, and arranged also to gage the drills or other tools in such manner that a drill or other tool of a given size can be placed only in its proper gaging and supporting hole and will not be received by another gaging and supporting hole, whereby the proper position of the drill on its rack is insured.

The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

In the drawings,—Figure 1 is a plan view of a combined drill holder and gage embodying my improvements. Fig. 2 is a side elevation thereof. Fig. 3 is a sectional detail of one of the members of a built up drill holder and gage. Fig. 4 is a sectional detail of a modification.

The drill rack embraces a series of offset planes or stages 10, 10 having holes 11, 11 therein, each plane or stage being separated from an adjacent plane or stage by the inclined or beveled areas 12, 12 arranged parallel to and one in front of each stage. The said inclined or beveled areas 12 are adapted to receive proper indicating marks or figures 14, 14 to indicate the sizes of the drill rack openings, one such designating number being located beneath or in front of each drill receiving opening.

Each hole 11 is bored throughout the principal part of its length with the size of drill it is adapted to receive, hold and gage, but the extreme bottom of the hole is bored with the next smaller size of drill to provide an annular shoulder, as indicated at 15, (Fig. 3) so that the drill belonging to said hole will be received in and gaged thereby, but will be arrested by the shoulder 15 at the bottom of the hole. The difference in

diameter between the holes and the annular shoulders 15 will be equal to the difference in the graduated sizes of the drills to be racked and gaged by the device. For instance, if the graduation be based on differences in diameter of one-sixty fourth of an inch, the annular shoulders 15 are one-sixty-fourth of an inch less in diameter than the holes 11. When the graduations are based on a greater or less difference in sizes the differential diameters of the annular shoulders and holes will be correspondingly varied.

With the arrangement described it will be obvious that a drill of a given size can be racked only in the hole to which it belongs, because if it be placed in a larger hole it will slip therethrough and thus indicate that the hole is a wrong size, and if it be attempted to place the drill in a smaller hole it will not enter the same. Therefore the arrangement of the holes and of the supporting shoulders at the bottoms thereof serves to automatically gage the drills and rack the same.

Where a set of drills of graduated sizes are to be supported on the rack, the larger holes will preferably be placed at the top of the rack, beginning at the left hand side of each stage, and said holes will gradually be decreased in size in accordance with the graduations of the drills so that the smallest hole will be located at the right hand end of the lower stage. This arrangement gives a forwardly tapering effect to the gage, as indicated in Fig. 1. In some cases it may be desirable to have all of the holes of one or more stages bored for drills of the same diameter as where a large number of drills of the same size are required.

The gage device may be supported on front and rear supporting members 17 and 18 of any convenient construction which are attached by the screws 19 or otherwise to the front and rear margins of the gage plate. If desired the front support 17 may be omitted and the rear support 18 provided with horizontal openings 20 through which may extend fastening bolts to fasten the device to a vertical wall or other vertical support.

As a further and separate improvement the gage device may be built up of a number of parallel bars 21 suitably attached together to constitute a rigid structure, with

each bar having a row of the openings 11 and a corresponding oblique face 12, which latter bears the identifying numerals or characters by which to identify the gage holes. As herein shown, each bar 21 is provided at its rear side with an offset flange or lip 22 and at its front side with a similar flange 23, the front flange 23 of one bar being adapted to overlap the rear flange 22 of the next adjacent forward bar. When thus arranged the bars may be attached together by the fillister head screws 24 arranged to extend upwardly through openings 25 in the flanges 22 and into screw-threaded openings 26 of the associated flange 23. In this construction also the rearmost bar is attached by the fillister head screws 19 to the rear support 18, said screws extending upwardly into screw-threaded openings in an overhanging flange 27 of the rear support 18. This manner of building up and attaching the bars or members 21 permits the gage to be extended or expanded within practical limits so as to provide for a larger or smaller number of gaging holes. Inasmuch as the extension of the gage from front to rear by the addition of bars, has the effect to raise the rear end of the gage plate, means are provided for vertically extending the rear supporting member 18. This may be effected by providing the said rear supporting member with extension legs 28 which extend upwardly through hollow lugs 29 at the side margins of the rear support and into cored out recesses 30, indicated in dotted lines in Fig. 2. The said legs are adjustably fixed to the rear support by means of the set screws 31 one of which is shown in Fig. 2. Thus when the gage is widened by the addition of one or more bars 21 the extension legs 28 will be lowered the required distance to bring the same to the horizontal level of the lower end of the front supporting member 17.

45 In lieu of the annular shoulders 15 for the gaging holes which are bored by a drill of the next smaller diameter, I may provide the construction shown in Fig. 4, wherein the gage plate 32 has attached to the lower side thereof a thin plate 33, with both of said plates drilled with the same size holes. The lower or thinner plate is attached to the upper plate, as by screws 34, with the axis of the holes therein shifted slightly out of line with the holes of the gage plate, thereby providing an offset shoulder to arrest and support the drills, the extension of the shoulder thus formed beyond the wall

of the gage hole being equal to the difference in sizes of the graduated drills.

I claim as my invention:—

1. A combined tool rack and gage, comprising a member having a row of graduated holes into which tools may be inserted and supported, each of said holes being of proper diameter to gage a tool and having its lower end contracted to a diameter equal to the graduated difference in the sizes of the tools, said hole being thereby prevented from receiving and supporting a tool of a gage differing from the gage of the upper end of said hole.

2. A combined tool rack and gage comprising a plurality of parallel members detachably connected together along their marginal edges, each of said members being provided with a series of gage holes adapted to receive and support a series of tools.

3. A combined tool rack and gage comprising a plurality of parallel members each provided with a series of gage holes adapted to receive and support a series of tools, each of said members being provided at its front and rear margins with flanges which overlap the flanges of adjacent members and means for securing said flanges together.

4. A combined tool rack and gage comprising a series of parallel members provided with graduated gage holes and having means for connecting them at their margins, whereby the rack may be expanded or contracted at will, and front and rear supports detachably fastened to the front and rear margins of the rack, the rear support being provided with extension legs to adapt the rear support to gages of different widths.

5. A combined tool rack and gage comprising a series of parallel members provided with graduated gage holes and having means for connecting them at their margins, whereby the rack may be expanded or contracted at will, and front and rear supports detachably fastened to the front and rear margins of the rack, the rear support being provided with screw holes to permit the device to be fastened to a vertical support.

In testimony, that I claim the foregoing as my invention I affix my signature in the presence of two witnesses, this 6th day of March A D. 1911.

CHARLES H. DRIVER.

Witnesses:

W. F. JACKSON,
A. G. LANGLOIS.