

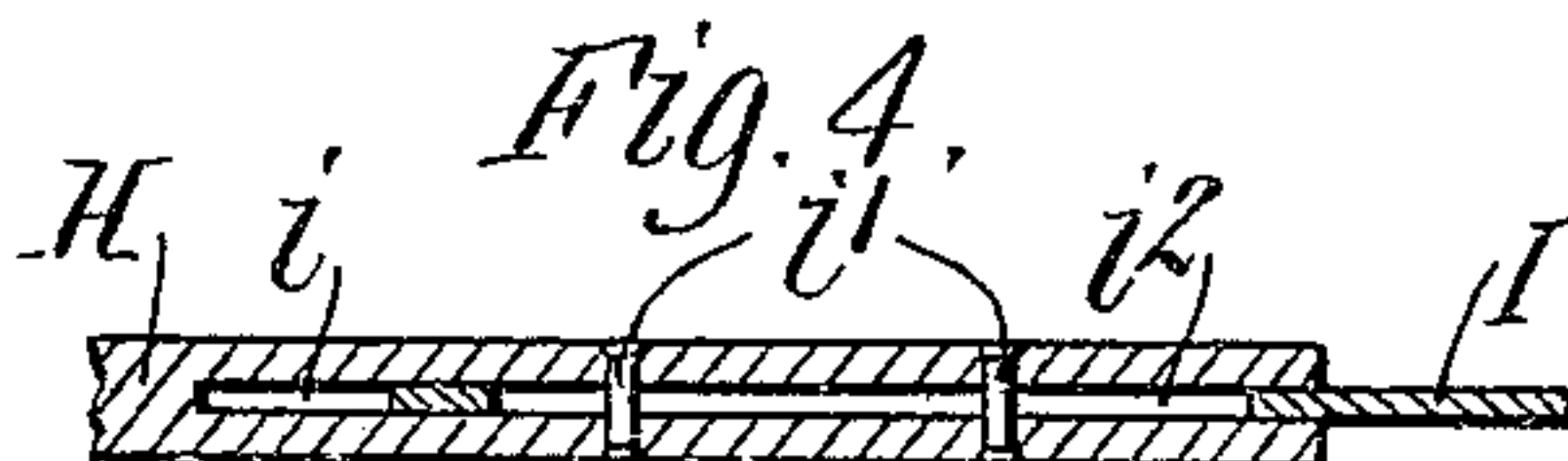
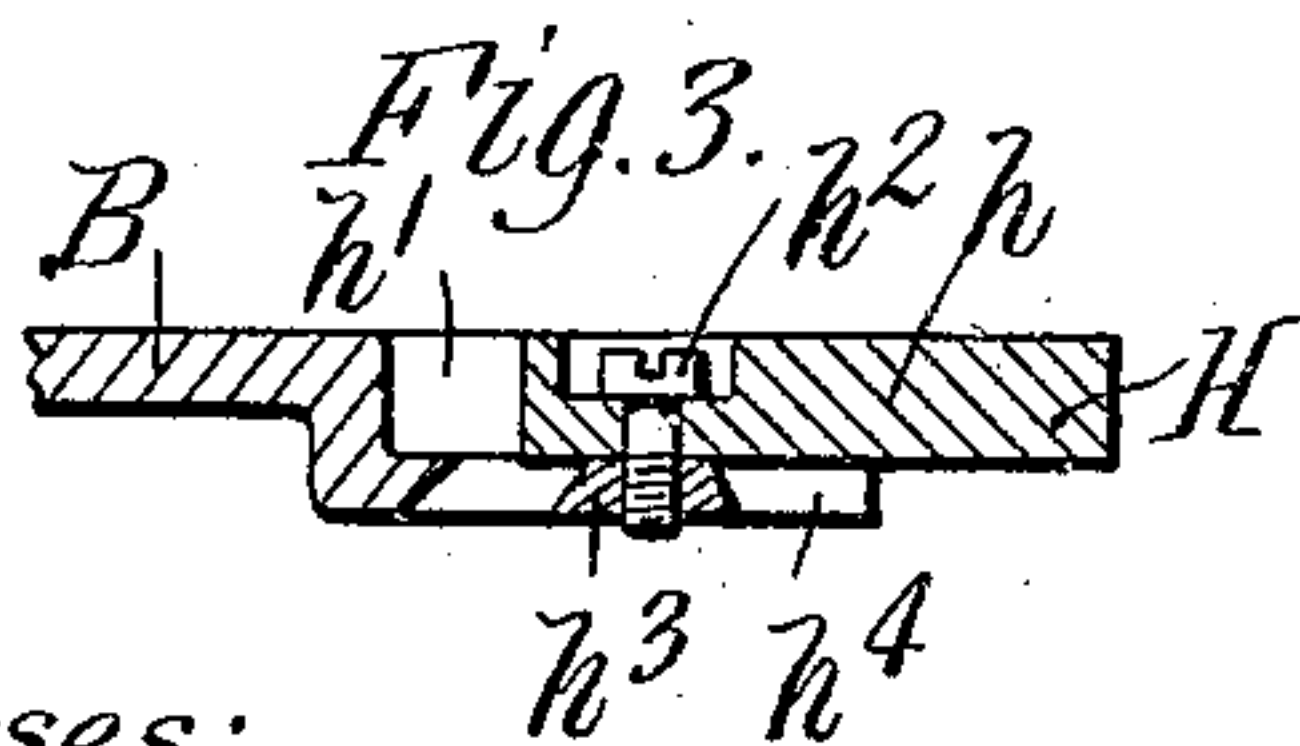
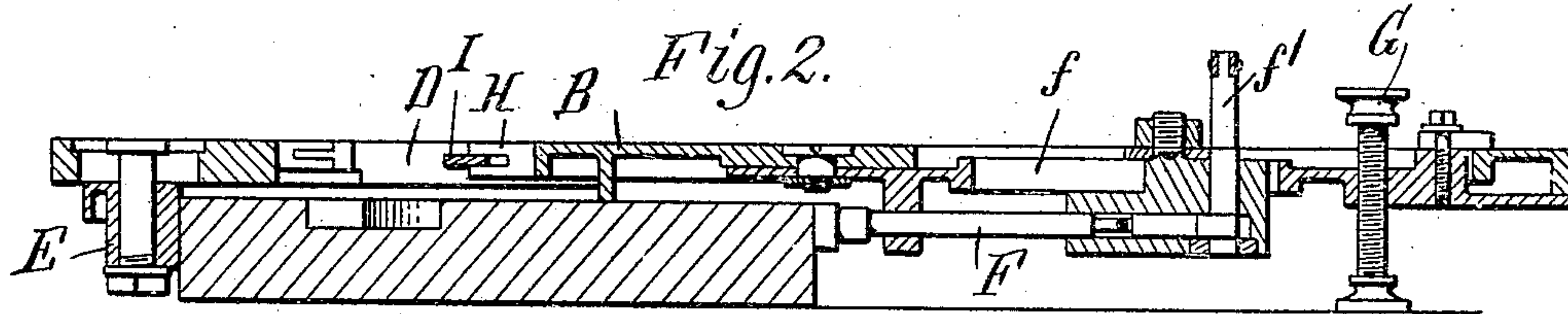
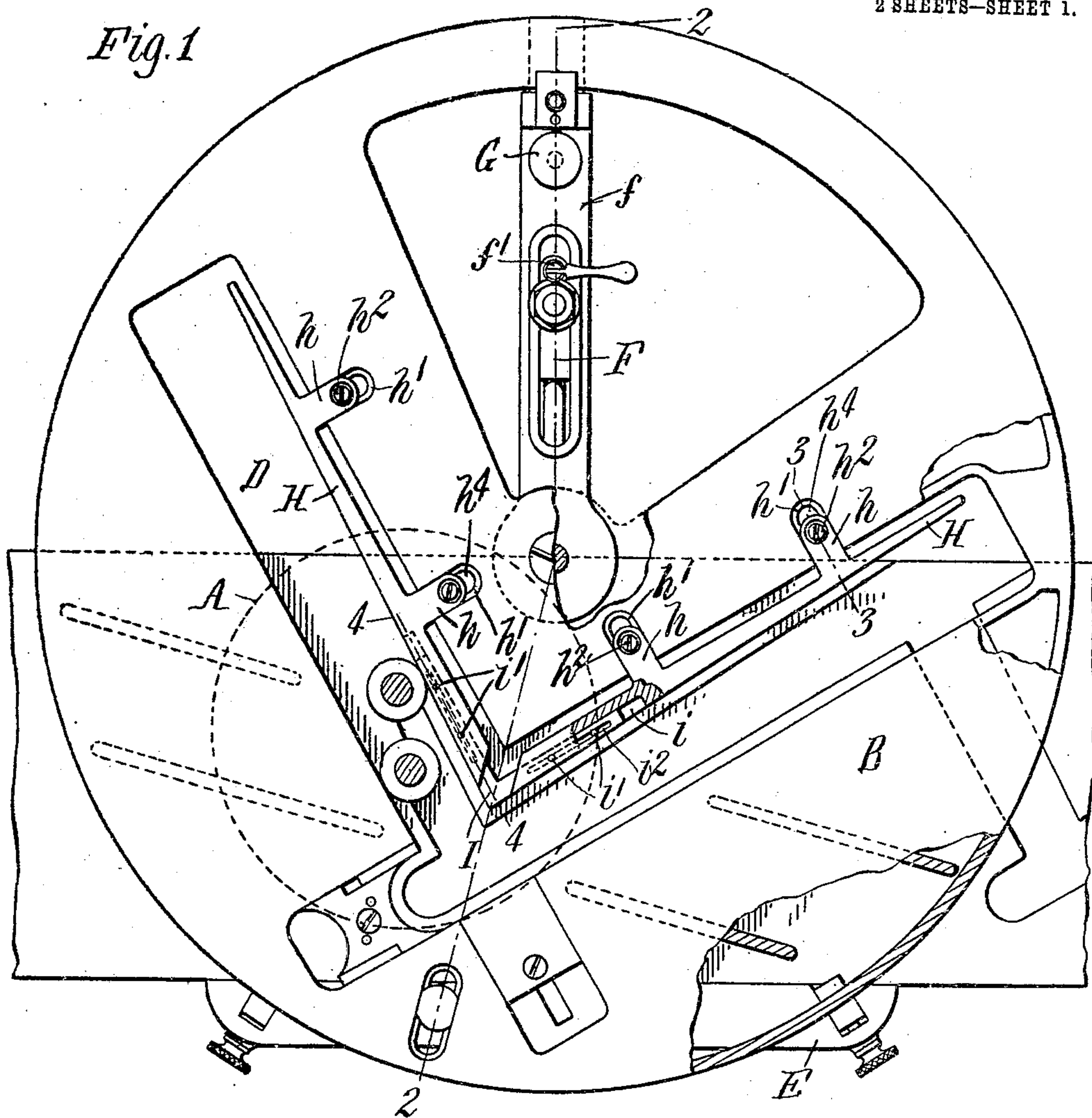
W. H. AHLERS.
GUIDE DEVICE FOR ROUTING MACHINES.
APPLICATION FILED NOV. 23, 1908.

931,552.

Patented Aug. 17, 1909.

2 SHEETS—SHEET 1.

Fig. 1



Witnesses:
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A. G. Dimond.

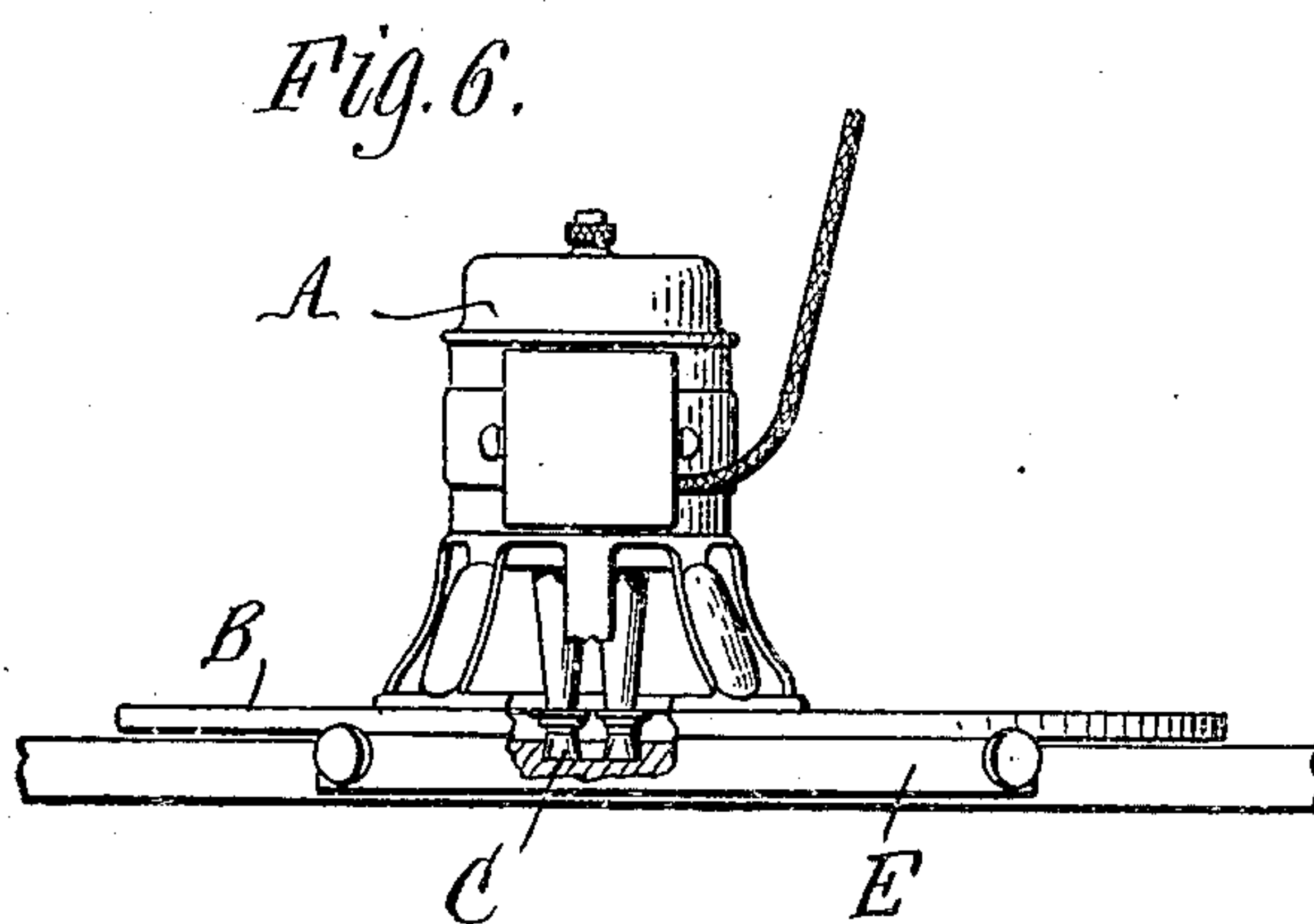
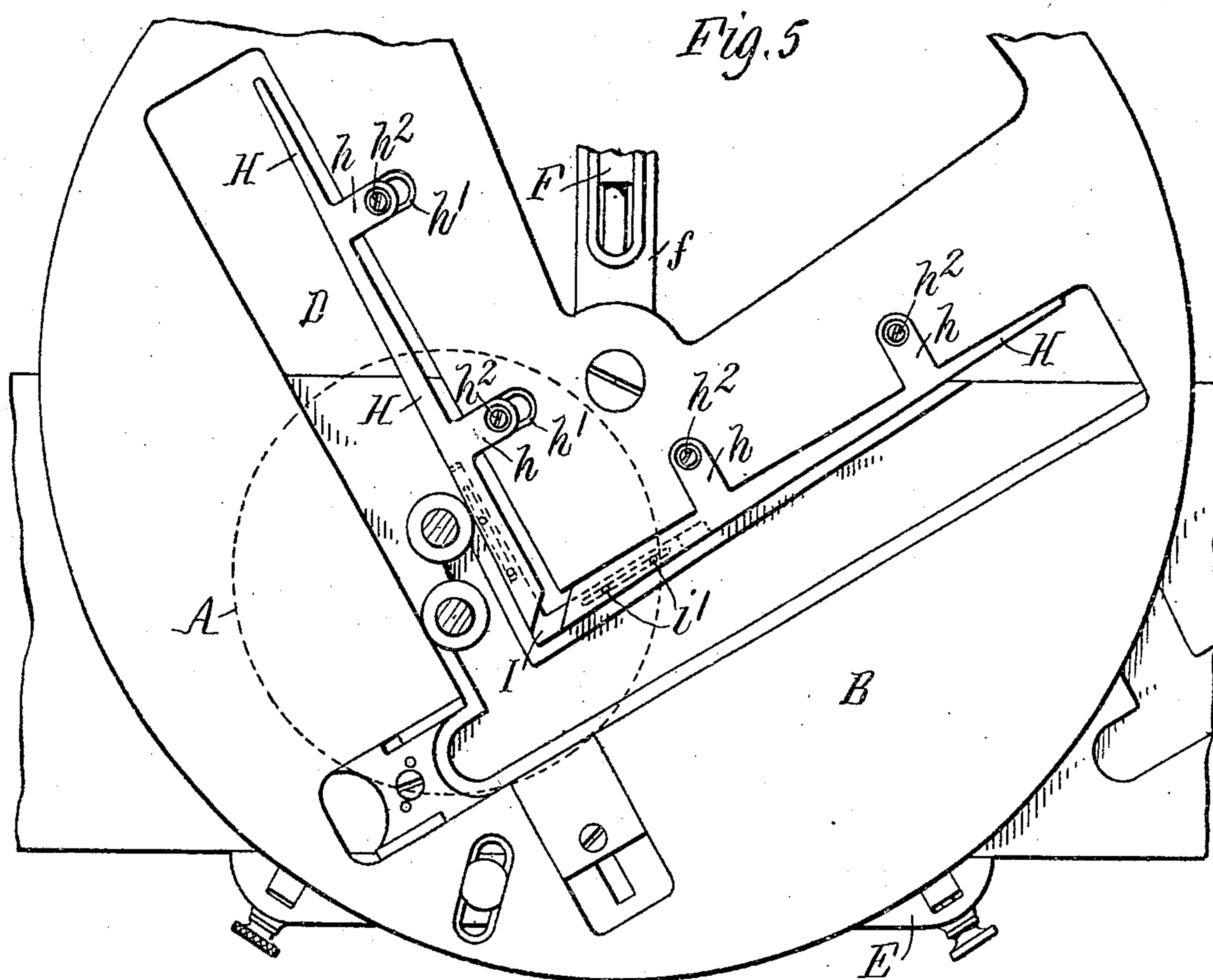
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WILLIAM H. AHLERS, OF BUFFALO, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
KELLEY ELECTRIC MACHINE COMPANY, OF BUFFALO, NEW YORK, A CORPORATION.

GUIDE DEVICE FOR ROUTING-MACHINES.

No. 931,552.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed November 23, 1908. Serial No. 464,181.

To all whom it may concern:

Be it known that I, WILLIAM H. AHLERS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Guide Devices for Routing-Machines and the Like, of which the following is a specification.

This invention relates to guide devices for routing and analogous machines, and more particularly to improvements in the guide devices for routing machines of the type disclosed in U. S. Letters Patent No. 877,894, granted January 28, 1908, to G. L. Kelley, assignor to Stevenson Machine Company. These machines are portable, and a guide or pattern device is employed on which the machine is supported over the work and which has an opening through which the driven cutters of the machine extend to enter the work and which directs the cutters as the machine, in the operation thereof, is moved about on the guide device.

The primary object of the invention is to provide a desirable and practical guide device which is especially adapted for use with such portable routing machines for gaining or grooving stair stringers to receive the stair risers and treads, and which can be readily adjusted for cutting gains of different widths and for cutting one limb or portion of the gains of one width and the other limb thereof of a different width to accommodate risers and treads of different thicknesses.

In the accompanying drawings, consisting of two sheets: Figure 1 is a plan view of a guide device or pattern plate embodying the invention, showing the same secured in position on a stair stringer. Fig. 2 is a sectional elevation thereof in line 2—2, Fig. 1. Figs. 3 and 4 are detail sections, on an enlarged scale, in lines 3—3 and 4—4, respectively, Fig. 1. Fig. 5 is a fragmentary plan view thereof, showing a different adjustment of the guide strips. Fig. 6 is an elevation, on a reduced scale, of the guide device with a routing machine in position thereon.

Like letters of reference refer to like parts in the several figures.

A, Fig. 6, represents the routing machine and B the guide device or pattern plate therefor. The pattern plate is secured over the work and the machine rests upon and

is adapted to be moved about on the pattern plate with its cutter or cutters, shown at C, Fig. 6, extending down through an opening D in the pattern plate to enter the work. The pattern plate shown being for use in gaining stair stringers, the guide opening D is of right-angle shape suitable for this purpose. The guide device is preferably secured directly on the stringer or work by a suitable clamp, which, in the device shown, consists of a cooperating adjustable clamping bar E and movable clamping head F on the underside of the device between which the stringer or work is grasped to hold the pattern plate stationary thereon. The clamping head F is adjustably mounted on a pivoted bar *f*, which is angularly adjustable on the pattern plate, and it is moved to clamp and release the work by an eccentric shaft *f'*. The adjustable clamp described enables the pattern plate to be secured on stringers or other work of different widths and in different positions for locating the guide opening D at different required angles.

G represents an adjustable leg having a screw connection with the pivoted bar *f* and adapted to rest on the work-bench or table to support the overhanging part of the pattern plate.

The guide device, as thus far described, is not a part of my invention and it may be of the described construction or any other suitable construction.

H H represent guide strips which are arranged in the two limbs or portions of the angular opening D along the inner edges thereof. The guide strips are provided with laterally projecting arms *h* which slidably fit in grooves *h'* in the pattern plate and are adjustably secured by screws *h*², Fig. 3, passing through holes in the arms and furnished with nuts *h*³ which are slidable in undercut slots *h*⁴ in the pattern plate. When the screws are loosened, the guide strips can be adjusted toward or from the inner edge of the opening D, as may be required, and they are secured in the adjusted positions by tightening the screws *h*². The top faces of the guide strips and their arms *h* are flush with the top face of the pattern plate, and the screw holes in the arms *h* are countersunk to receive the heads of the screws so that there are no projections above the top face of the pattern plate to interfere with

the free movement of the routing machine on the pattern plate. The adjacent ends of the guide strips are beveled, as shown, so that they will meet and not leave a space 5 between them when the strips are adjusted against the inner edge of the opening D. When the guide strips are set out from said edge of the opening D a space is left between their beveled ends, and to bridge this 10 space and provide an uninterrupted guide edge at the corner, an angular corner piece I is provided, the legs of which slidably engage in slots i , Fig. 4, in the guide strips H with their edges flush with the guide edges 15 of the strips H. The corner piece I is slidably secured to both guide strips H by rivets i' passing through longitudinal slots i'' in the legs of the corner piece. This manner of mounting and connecting the guide strips 20 enables both strips H H to be adjusted to correspondingly change the width of both limbs of the guide opening D, or either guide strip to be adjusted independently of the other to make one limb of the opening D 25 narrower or wider than the other, so that the riser and tread portions of the gains in stair stringers can be cut of the same or different widths, and in either adjustment of the strips the corner piece I will prevent an 30 interruption of the guide edge at the angle of the guide opening D.

The described manner of adjustably securing the guide strips to the pattern plate and connecting them to the corner piece I is simple and desirable, but the strips could be 35 mounted and the corner piece attached thereto in other ways which do not leave parts projecting above the top or machine-supporting surface of the pattern plate, without departing from the invention. 40

By using tapering guide strips H H as shown, each limb of the guide opening D in the pattern plate can be made of uniform width throughout or with parallel edges, 45 which is desirable, as thereby the cost of the machine work in making the pattern plate is materially reduced, while nevertheless a

suitable guide for cutting tapering gains or grooves in the stair stringers is provided.

While the improvements are primarily intended for use in gaining stair stringers, a 50 guide device provided with the described adjustable guide strips would also be desirable for other work where it is necessary to make intersecting or angular cuts. 55

I claim as my invention:

1. In a guide device of the character described, the combination of a pattern plate, guide strips which are arranged at an angle to each other and are adjustable transversely 60 of their length, and a corner piece connecting the adjacent ends of said strips and having a slip connection with each strip, substantially as set forth.

2. In a guide device of the character described, the combination of a pattern plate, guide strips which are arranged at an angle to each other with their top faces flush with the top face of said pattern plate and are adjustable transversely of their length, securing means for said guide strips located 70 at or below the top face of said pattern plate, and a corner piece connecting the adjacent ends of said strips and having a slip connection with each strip, substantially as set forth. 75

3. In a guide device of the character described, the combination of a pattern plate having an angular guide opening, the opposite edges of the limbs of which are parallel, 80 and tapering guide strips which are arranged in the limbs of said guide opening adjacent to one edge thereof and are adjustable toward and from said edge, the top faces of said strips being flush with the top 85 face of said pattern plate, substantially as set forth.

Witness my hand, this 7th day of November, 1908.

WILLIAM H. AHLERS.

Witnesses:

C. W. PARKER,
C. B. HORNBECK.