C. K. HOUGH.

EXTENSION TABLE.

APPLICATION FILED JULY 3, 1909.

954,516.

Patented Apr. 12, 1910.

3 SHEETS—SHEET 1.

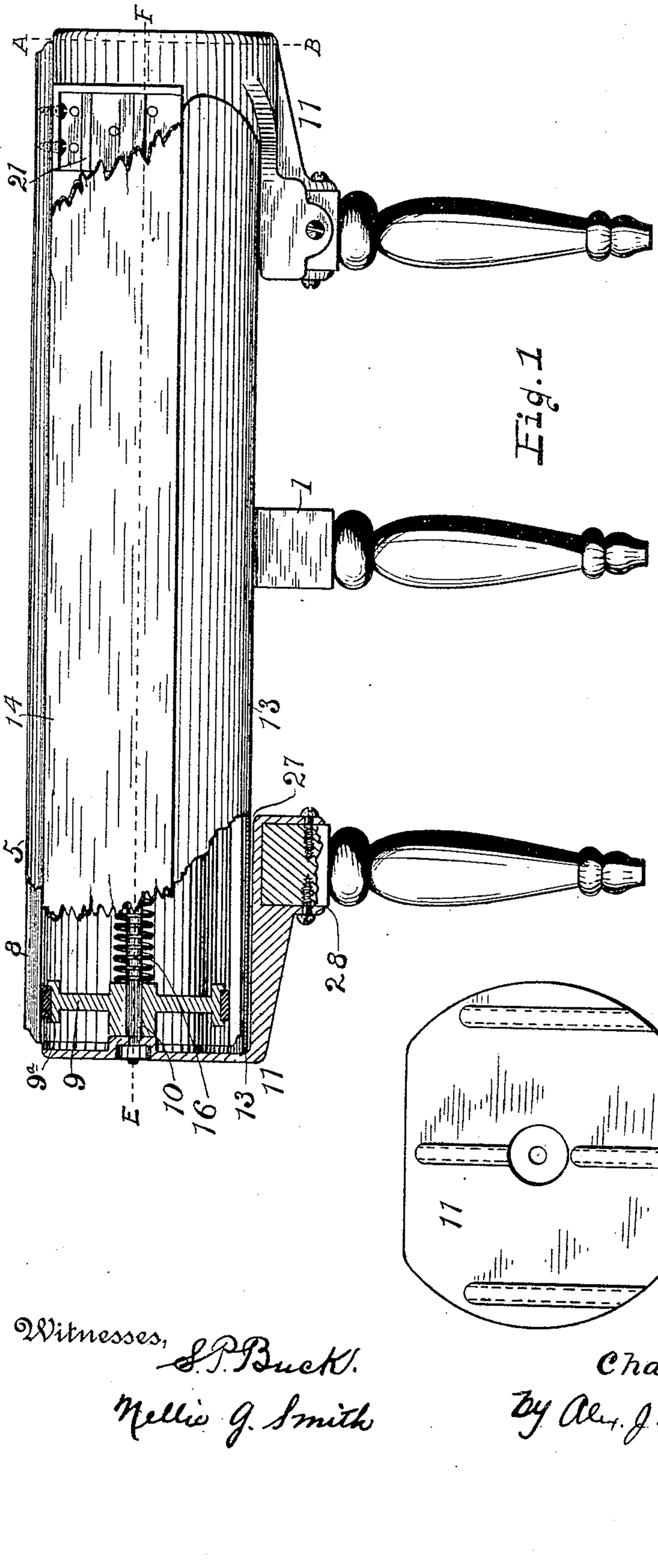


Fig. 1

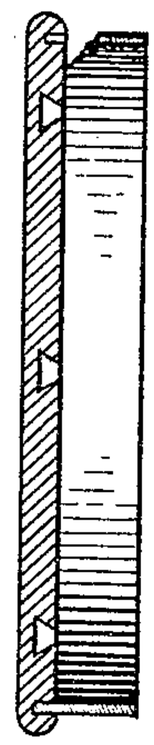

Fig. 9.

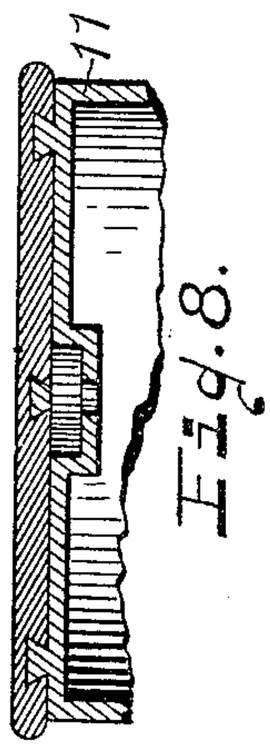


Fig. 8.




Fig. 7.

Witnesses,
S. P. Buck.
Nellie G. Smith

Inventor,
Charles K. Hough.
By Alex. J. Wedderburn, Jr.
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C. K. HOUGH.

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3 SHEETS—SHEET 2.

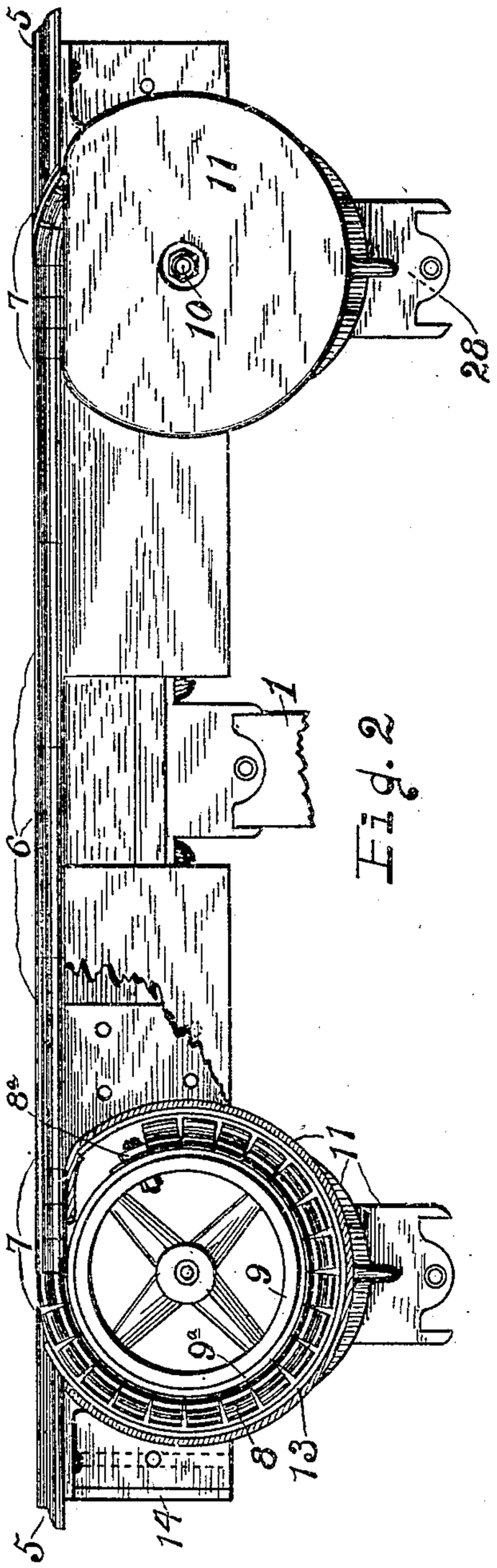


Fig. 2

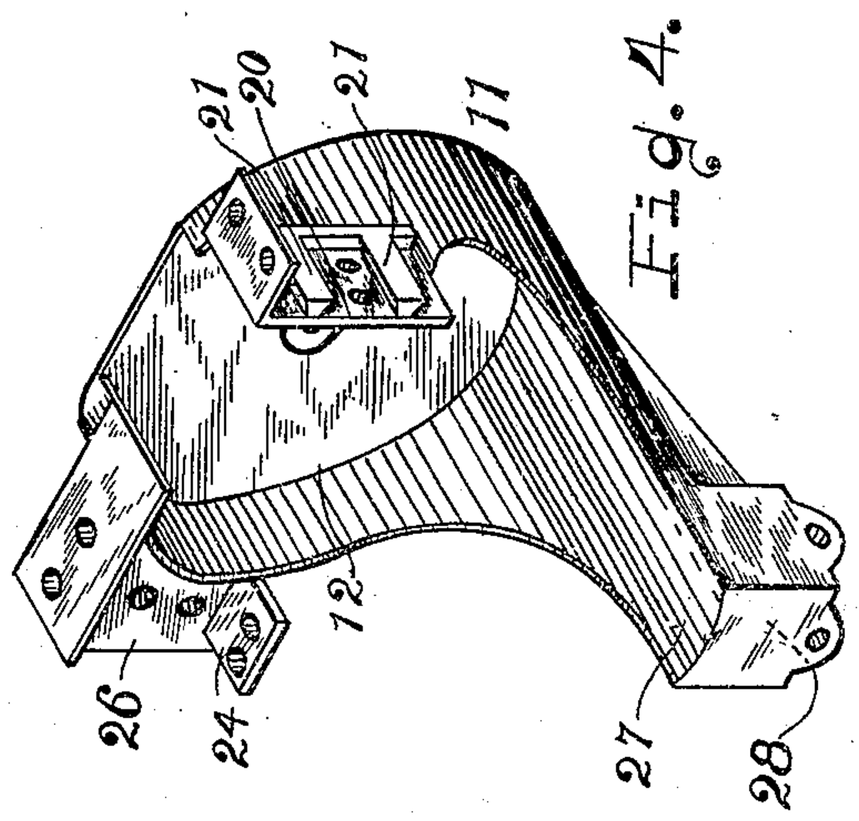


Fig. 4.

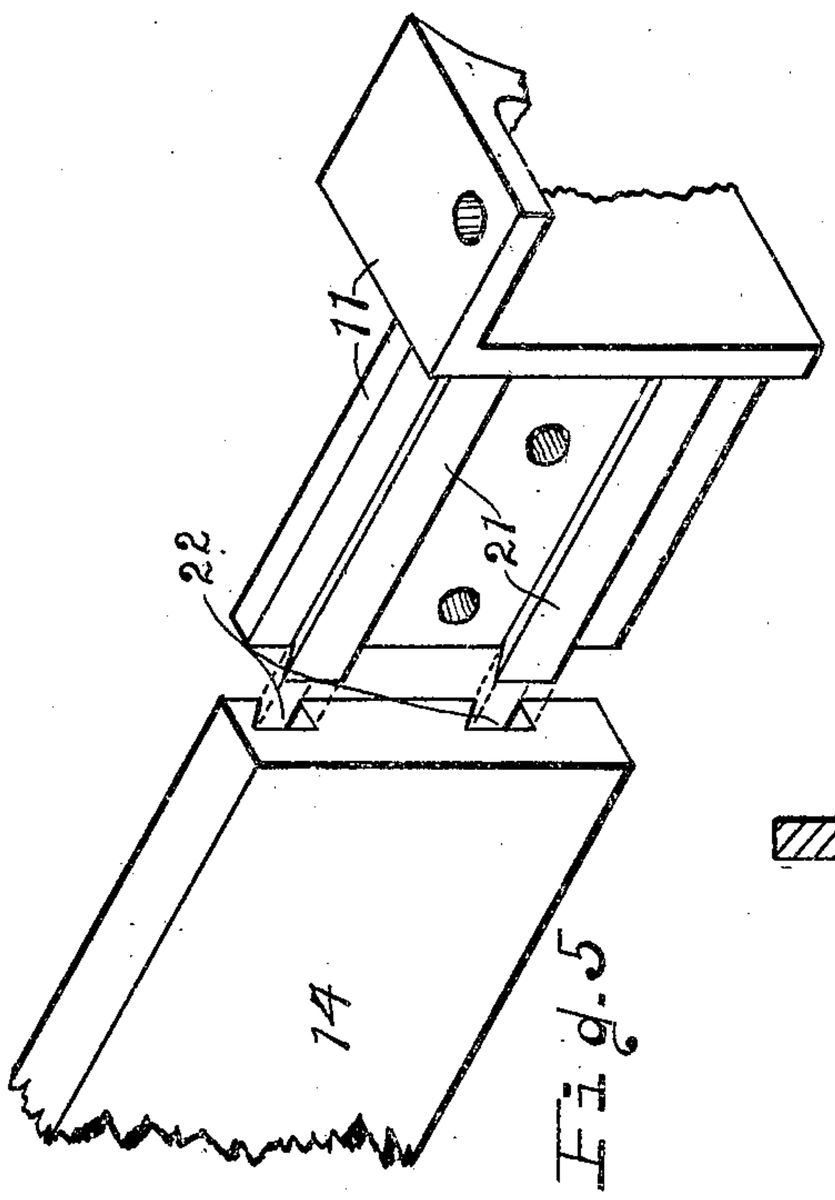


Fig. 5

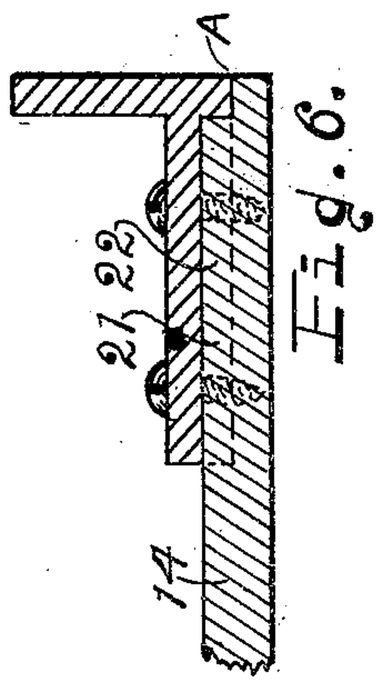


Fig. 6.

Witnesses

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C. K. HOUGH.

EXTENSION TABLE.

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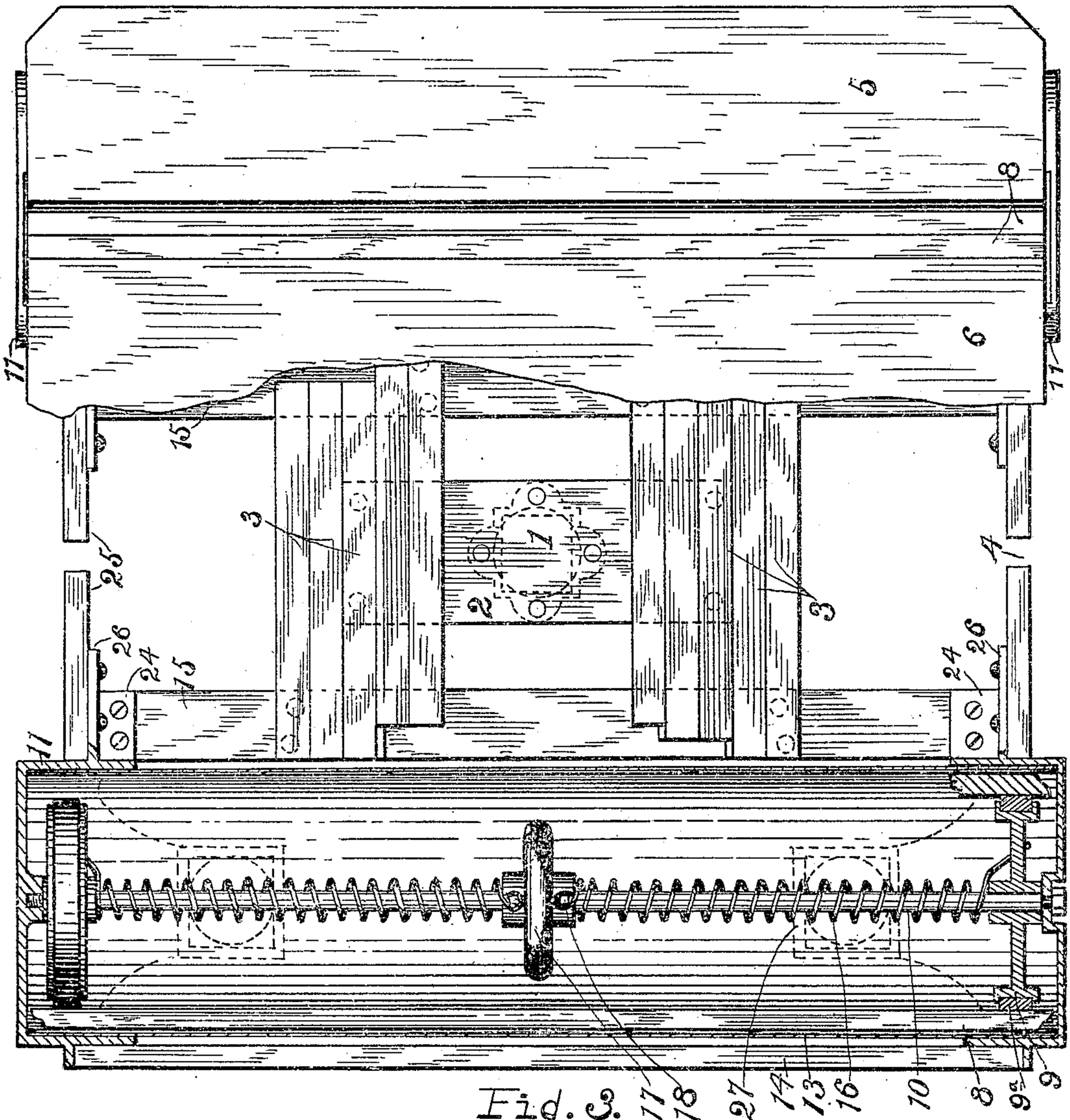


Fig. 3.

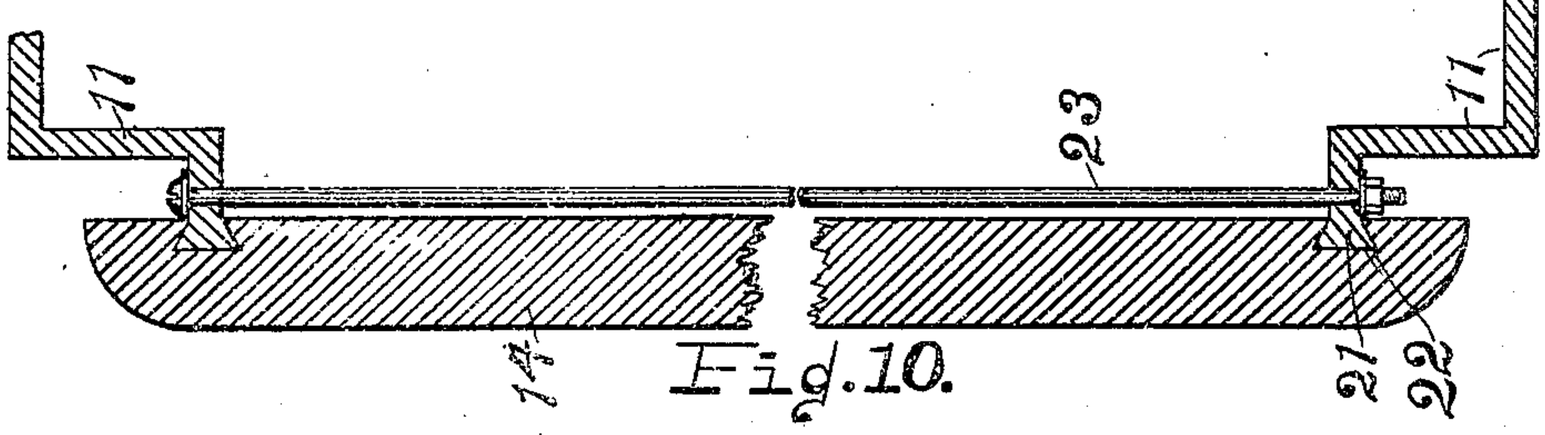


Fig. 10.

Witnesses
S. P. Buck.
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# UNITED STATES PATENT OFFICE.

CHARLES K. HOUGH, OF PHILADELPHIA, PENNSYLVANIA.

## EXTENSION-TABLE.

954,516. Specification of Letters Patent. Patented Apr. 12, 1910.

Application filed July 3, 1909. Serial No. 505,800.

*To all whom it may concern:*

Be it known that I, CHARLES K. HOUGH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Extension-Tables, of which the following is a specification.

My invention relates to that class of folding tables in which the members serving to extend the top surface thereof are permanently secured thereto and the objects of my invention are:—1, to provide a table that may be extended without the use of disconnected panels or boards; 2, to provide a table that will automatically apply a surface to the intermediate space between its end sections when pulled apart; 3, to provide for automatically disposing of the middle surface when desirable to do so; 4, to provide a means for reducing the noise when closing or opening the table; 5, to provide a combination of strength and durability with the features named; 6, to provide for symmetry and neatness, combined with compactness and convenience; 7, to provide a table of the qualifications stated at a moderate cost to manufacture. I attain these objects by the mechanism illustrated in the accompanying drawings in which,—

Figure 1 is an end elevation of the table with portions broken away, disclosing the interior and baring a portion of one of the castings where connection with the wooden rail is made. Fig. 2 is a side elevation, the legs omitted and portions of the wood broken away also disclosing a section of one of the castings, on the line A—B, Fig. 1. Fig. 3 is a plan view having parts of the top broken away and parts of the metal shown in one section on the line E—F, Fig. 1. Fig. 4 is a detail in perspective of one of the four corner castings. Fig. 5 is a detail in perspective of a portion of one of the corner castings showing the dovetail ribs in position for engagement with the grooves in the frame rail. Fig. 6 is a sectional view of a portion of a casting with the wooden frame rail connected. Fig. 7 is a detail in elevation of a modification of the cylindrical end of the corner castings, in which is shown a manner of attaching a covering of wood by means of the dovetail ribs fitting into grooves in the wood. Fig. 8 is a section taken through the center of Fig. 7 showing the wood applied to the grooves. Fig. 9 shows a wooden covering applied to the end and sides of the cylindrical casting by another modification. Fig. 10 is another modification of a method of attaching the end rails to the casting.

Referring to the drawings in which similar characters refer to similar parts throughout,—1 is the central leg of the table, supporting on its top a plate 2, secured at its ends to one of the extension beams 3, which unite the two similar end sections of the table, which separate at 4. To each end section is secured a board 5, comprising a portion of the top surface. Similar boards 6, complete the top surface when the table is closed, but when opened by drawing apart the two end sections and the boards 5, separate from the boards 6, at points 7, the interval is filled automatically by the strips 8, which are hinged to each other and to the boards 6, by any suitable means or material, thereby forming a flexible section at each side of the boards 6, and adapted for application to the space intervening between the boards 5 and 6 when separated.

In each section of the table, the strip $8^a$, is secured at its ends to the wheels 9, having rubber tires $9^a$ through which the strips $8^a$, are secured to the wheels 9, which are journaled upon an axle 10, which is rigidly secured at its ends to castings 11, having a cylindrical interior portion 12, into which is fitted a cylindrically curved sheet of metal 13, abutting the cylindrical ends of the casting, into which it is rigidly secured by means of the axle 10, which has a threaded engagement with the castings, which are also united by means of the rails 14 and 15.

Castings 11, and the curved sheet 13, combine to form a casing in which the wheels 9 rotate upon the axle 10, the wheels being spaced apart by the strip $8^a$ and by a spring 16, the main function of which is to actuate the wheels 9, for winding into the casing the flexible surface section when the table is closed. One end of each spring 16, engages the wheels 9 and the opposite ends engage the wheel 17, which is adjustably secured to the shaft 10, by means of set screws 18. By rotating the wheel 17, the tension of the springs is increased or decreased at will and the desired tension is maintained by securing the wheel to the axle by means of the set screws. When the end sections of the table are separated, the flexible portion, comprising the strips 8 is unwound from the

wheels by causing them to rotate and to increase the tension of the springs 16, and when the table is being closed the tension of the springs rotates the wheels and winds the flexible portion from the top surface of the table into the casing. The function of the rubber tires upon the wheels 9, is to decrease the noise in opening and closing the table.

The castings 11, are provided with extensions 20, to which are secured the end rails 14, preferably by means of ribs 21 having a dovetail cross section fitting into correspondingly shaped grooves, 22 in the rails. A slight modification embracing this principle which is detailed in Figs. 4 and 5, is also shown in sectional detail in Fig. 6, in which the rail 14, overlaps and hides the portion of the casting at A.

In the modification Fig. 10, the dovetail ribs are perpendicular to the length of the rail and a threaded rod 23, is employed to bind the rails into place, by drawing the ribs into clamping engagement with the portion of the rail intervening the slots. The rails 15, unite with the castings 11 by screwing or bolting their ends to extensions 24, of the casting. The divided side rails 25, are secured to the castings 11, by means of the extensions 26, which may be provided with dovetail ribs or may be fitted in any suitable manner. Integral with the castings 11 are extensions 27 having sockets 28, into which the legs of the table are inserted and secured by any suitable means. The extension bars 3, are fitted with dovetail ribs and grooves in the usual manner. For the sake of appearance certain portions of the castings are preferably covered with wood which may be finished alike with the rest of the woodwork of the table.

Figs. 7, 8 and 9 illustrate certain methods of applying wood coverings to the castings.

I do not limit my invention to the exact mechanism shown, a departure from which may be made in dispensing with the curved sheet 13 whereupon the axle 10, and the rails 14 and 15 shall constitute the connections between the opposite castings. Another departure may be made by changing the position of the wheels 9 to a point somewhat nearer to the center of the shaft 10.

I claim as my invention:—

1. The combination in a flexible extension table of castings having each a cylindrical interior portion, a cylindrically curved sheet having its ends fitted into the castings, a shaft uniting the castings in pairs and comprising an axle for wheels having rubber tires and having secured to the faces of the wheels strips comprising the stationary portion of the top surface, springs engaging the wheels, the springs having a means of tension adjustment, the castings having dove-tail ribs engaging the grooves in the rails, said castings also having socketed extensions and legs fitted into the sockets, substantially as described.

2. The combination in a flexible extension table, of a multiplicity of castings having sockets for the legs and having dovetail ribs for engagement with the frame rails and having a cylindrical interior portion, a cylindrically curved sheet fitted into the casting, a shaft uniting the castings in pairs, wheels having rubber tires journaled upon the shaft, springs engaging the wheels and adapted for tension adjustment by means of a hand wheel engaging the springs and having set screws for retaining the desired tension, a flexible portion comprising a multiplicity of strips hinged together and secured to the faces of the rubber tired wheels and to the stationary portion of the top surface of the table, all substantially as specified.

In testimony whereof I affix my signature, in presence of two witnesses.

CHARLES K. HOUGH.

Witnesses:
DAVID A. HAMMOND,
HAROLD H. DAVIS.