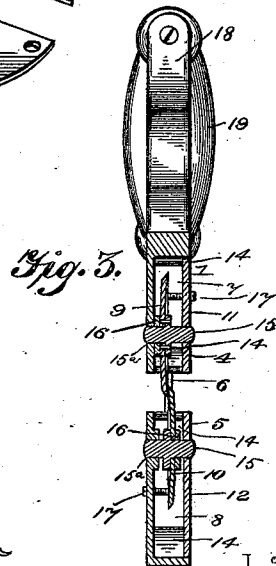
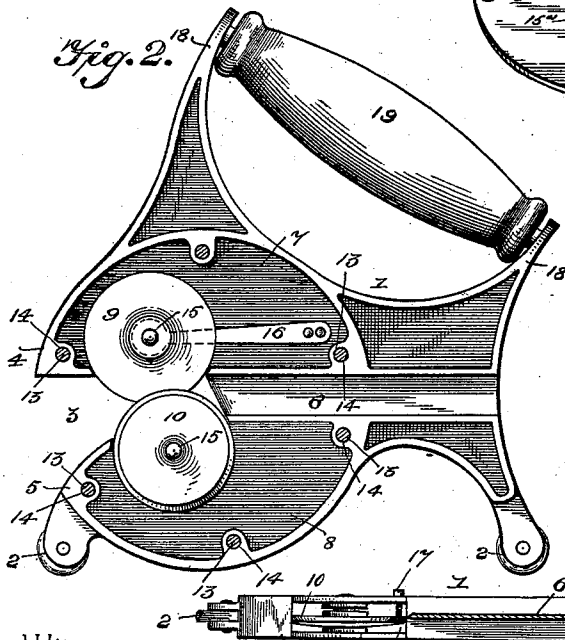
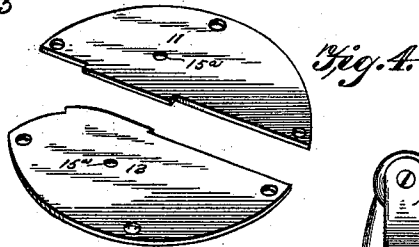
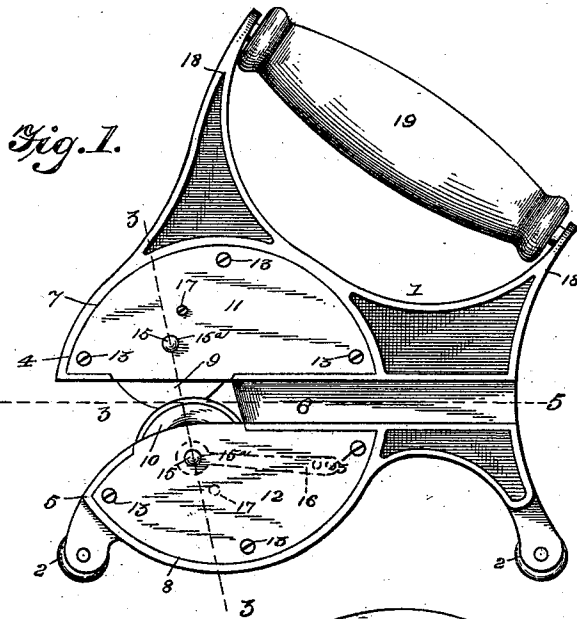


(No Model.)

L. C. THOMPSON.
ROLLING SHEARS.

No. 541,463.

Patented June 25, 1895.



Witnesses

E. H. Monroe

By his Attorneys.

Inventor

Lynn C. Thompson

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UNITED STATES PATENT OFFICE.

LYNN C. THOMPSON, OF DARLINGTON, INDIANA.

ROLLING SHEARS.

SPECIFICATION forming part of Letters Patent No. 541,463, dated June 25, 1895.

Application filed January 19, 1895. Serial No. 535,556. (No model.)

To all whom it may concern:

Be it known that I, LYNN C. THOMPSON, a citizen of the United States, residing at Darlington, in the county of Montgomery and State of Indiana, have invented new and useful Rolling Shears, of which the following is a specification.

My invention relates to rolling shears adapted for cutting oilcloth, linoleum and similar material, and the objects in view are to provide simple, efficient and durable apparatus for forming a continuous cut by a single motion; and furthermore, to provide simple means for adjusting the cutters whereby lost motion caused by wear is prevented.

Further objects and advantages of the invention will appear in the following description and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side view of a device constructed in accordance with my invention. Fig. 2 is a similar view with the side plate removed. Fig. 3 is a transverse section on the line 3 3 of Fig. 1. Fig. 4 is a detail view of the cap-plate detached. Fig. 5 is a horizontal section on the line 5 5 of Fig. 1.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a frame or casing provided at its lower edge with antifriction supporting rolls 2 adapted to traverse the surface of a table or floor during the operation of the device. The front portion of the frame is provided with an opening 3 to form upper and lower jaws 4 and 5 between which the material to be cut is passed, and in rear of this opening the upper and lower portions of the frame are connected by means of a thin vertical web 6, sharpened or reduced at its front end to avoid interference or unnecessary friction with the severed edges of the material cut.

Segmental cavities 7 and 8 are formed in the upper and lower jaws of the frame, in the former of which is arranged a cutting disk 9 and in the other a smaller cutting disk 10, said disks having their inner or facing sides concaved to insure proper contact of the cutting edges, and cause said edges to be self-sharpening by said contact. The open sides

of these cavities are closed by a cap-plate comprising an upper section 11 and a lower section 12, secured in place by means of screws 13 which engage threaded sockets 14.

The cutting disks are carried by spindles 15 mounted in bearings 15^a in the casing and cap-plate sections and capable of sliding therein, and arranged in the cavities are tension springs 16 to bear against the outer surfaces of the disks and hold them in yielding contact at their cutting edges. These springs are secured to the frame, and if their tension is equal the disks are held with their cutting edges opposite the front end of the web 6, but in order to prevent lateral displacement in case one spring is stronger than the other, I employ limiting set screws 17, which are threaded in the casing and bear, respectively, against the inner or concave surfaces of the disks. This limits the inward movement of the disk which is actuated by the stronger spring and allows the other spring to hold its disk in the proper position.

The upper portion of the frame is constructed with ears 18 between which is arranged a handle 19 whereby the shears may be operated.

In operation the rollers 2 are arranged upon a floor or table. The edge of the material to be cut is inserted between the jaws 4 and 5, and the apparatus is pushed forward to cause the co-acting disk-cutters to sever the same upon a line regulated by the direction of movement. The severed edges pass upon opposite sides of the thin web 6, which does not cause them to curl and does not offer any obstruction to their passage.

It will be seen that the cutting devices are disposed in a vertical plane with and between the front and rear supporting rolls whereby forward and rearward rocking movement of the shears is avoided during operation, and the operator is enabled to guide the shears in a straight line with facility. In case it is necessary to cut upon a curved line, the shears may be tipped forward upon the front roller thereby throwing said roller approximately under the cutting disks.

It will be seen, furthermore, that the handle 19 is arranged at an inclination, forward and upward, to the plane of operation of the shears, or a plane embracing the axis of the

supporting rollers, the rear arm 18 which supports one end of the handle being approximately vertically over the rear supporting roller, and hence in operation the pressure upon the handle is both downward and forward, and is approximately in a line connecting the center of the handle, the cutting disks and the front roller. This gives the operator a firm hold upon the shears and enables him to advance and guide the same with accuracy and power without unnecessary exertion.

The front edge of the web 6 is inclined rearwardly toward its lower end whereby as the severed edges of a sheet of material pass upon opposite sides of the web a slight downward pressure is exerted thereon, and hence if there is any tendency to curl at the edges the curling is downward rather than upward, and hence the sheet of material is caused to flatten out in rear of the shears instead of rolling laterally, as would be the case if the edges were turned upward. The upward deflection of the severed edges of a sheet of material is liable to render it difficult to guide the shears for the reason that it causes an unequal strain upon the sides or portions of the sheet at or near the intersecting point of the cutting edges of the disks.

It will be understood that in practice, various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, I claim—

1. The combination of a frame having separated upper and lower jaws provided with cavities, and upwardly extending front and rear arms between which is arranged a handle inclined upward toward its front end, cutting disks mounted in said cavities and intersecting between the jaws, and front and rear supporting rolls arranged, respectively,

in advance and in rear of the cutting disks and approximately in the vertical plane of their contiguous side surfaces, the rear supporting roll being approximately under the arm supporting the rear end of the handle whereby downward and forward pressure may be exerted approximately in a line connecting the center of the handle with the front supporting roll, substantially as specified.

2. The combination of a frame having upper and lower jaws, a dividing web arranged in the plane of the frame and having a reduced or sharpened front edge which is inclined rearwardly toward its lower end, and a handle by which the frame may be advanced, and cutting disks mounted in cavities in said jaws and intersecting between the same and in advance of the reduced edge of the dividing web with their contiguous surfaces in the plane of said web, whereby the severed edges of a sheet of material are separated by the dividing web and are turned or curled downwardly by contact with the rearwardly and downwardly inclined front edge thereof, substantially as specified.

3. The combination with a frame having upper and lower separated jaws, provided with cavities of upper and lower co-acting disks arranged respectively in the cavities, tension springs secured to the frame and bearing against the outer surfaces of the cutters, and set-screws mounted in the frame and impinging against the inner surfaces of the disks to limit the inward movement of the same due to the tension of said springs, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LYNN C. THOMPSON.

Witnesses:

SILAS L. BOWERS,

ROBERT T. M. GIFFIN.