

(No Model.)

2 Sheets—Sheet 1.

P. E. WILSON & P. M. HESCH, Jr.
CUTTING MACHINE.

No. 518,978.

Patented May 1, 1894.

Fig: 1.

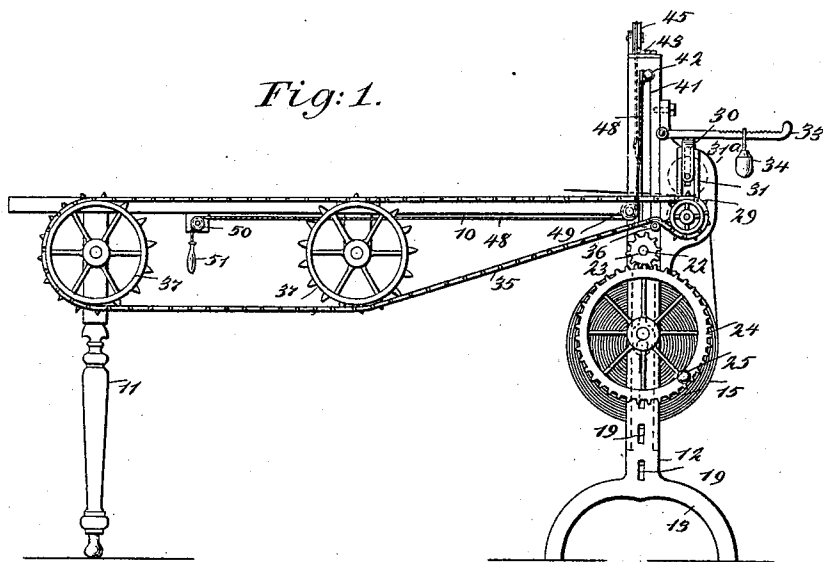
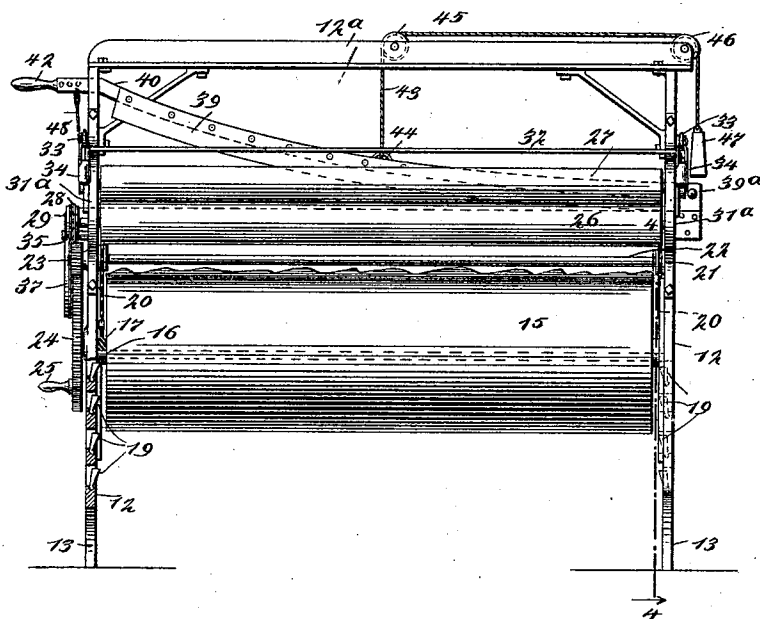


Fig: 2.



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2 Sheets—Sheet 2.

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CUTTING MACHINE.

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Fig. 3.

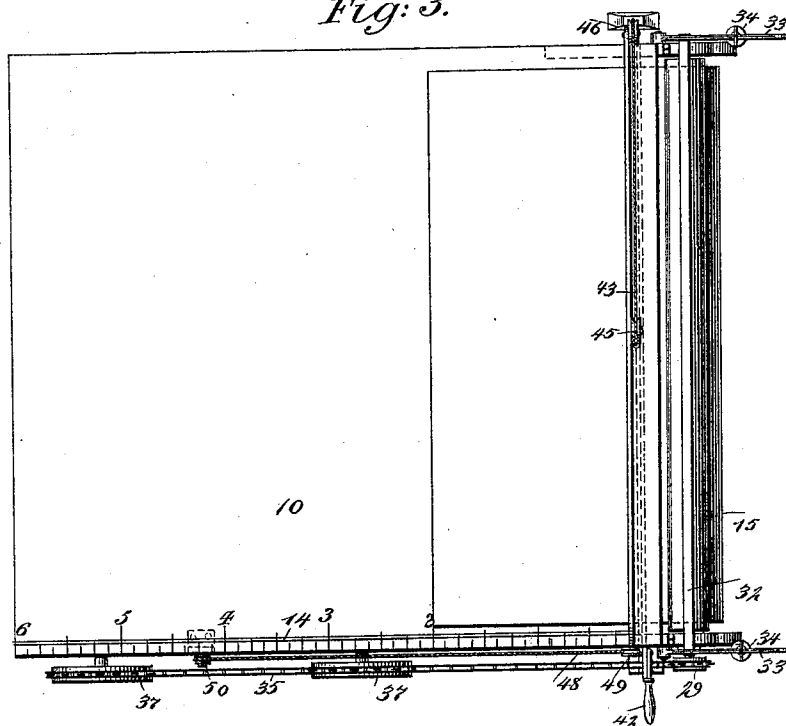


Fig. 4.

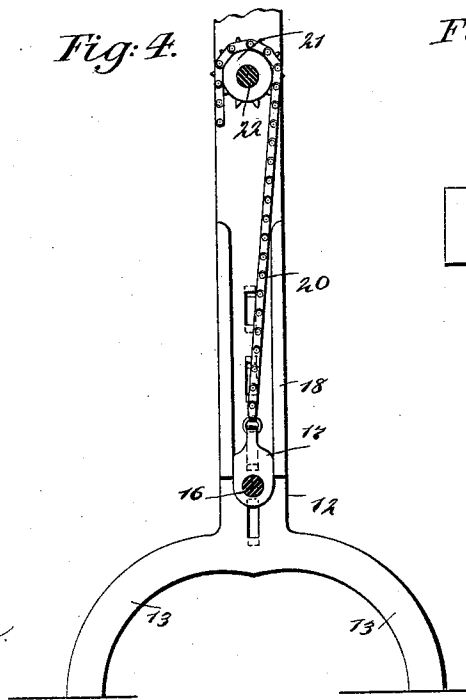
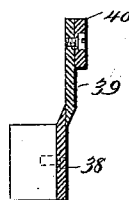


Fig. 5.



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UNITED STATES PATENT OFFICE.

PERRY E. WILSON AND PHILIP M. HESCH, JR., OF TITUSVILLE, PENNSYLVANIA; SAID HESCH ASSIGNOR TO SAID WILSON.

CUTTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 518,978, dated May 1, 1894.

Application filed February 2, 1893. Serial No. 460,710. (No model.)

To all whom it may concern:

Be it known that we, PERRY E. WILSON and PHILIP M. HESCH, Jr., both of Titusville, in the county of Crawford and State of Pennsylvania, have invented certain new and useful Improvements in Cutting-Machines, of which the following is a full, clear, and exact description.

Our invention relates to improvements in machines which are adapted to cut flexible material which is usually carried on rolls, such as paper, belt, asbestos cloth, and other similar material; and the object of our invention is to produce a simple efficient machine capable of handling large and heavy rolls and which is provided with means for conveniently adjusting the rolls vertically, is adapted to cut the material in strips of any desired length, and which has the cutting and feeding mechanism so arranged that they may be operated at any point on one side of the machine.

To this end our invention consists in certain features of construction and combinations of parts, as will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the machine embodying our invention. Fig. 2 is a front elevation with one leg in section. Fig. 3 is a plan view of the machine. Fig. 4 is an enlarged detail section on the line 4-4 in Fig. 2, and shows the mechanism for raising the roll; and Fig. 5 is a detail cross section of the shears.

The machine is provided with a flat table 10 which may be of any suitable length and width, and it is supported at one end by legs 11 which extend from the under side of the table and at the opposite end by stronger and wider legs 12, as these are adapted to sustain the greater portion of the weight of the machine and also of the rolled material, and the legs 12 project upward above the table and are connected by a cross bar 12^a, while their lower ends terminate in branching feet 13 which form a firm support. On one edge of the table is a graduated scale 14, and the ma-

terial which is fed upon the table may be measured by the scale and cut into strips of a desired length.

The roll 15 of the material to be cut is held between the legs 12 and upon a mandrel 16, the ends of which project from the roll and into slide blocks 17 which are adapted to move vertically in slideways 18 formed on the inner sides of the legs 12. The slide blocks and roll are held at the desired height by pawls or detents 19 which are pivoted one above another in slots in the legs 12 and which are adapted to swing outward beneath the slide blocks, as shown clearly in Fig. 2. The slide blocks 17 are raised by chains 20 which are secured to the blocks and which extend upward over spur wheels 21 carried by a shaft 22 which is journaled in the legs 12, and this shaft has at one end a pinion 23 which meshes with a cog wheel 24 on the side of the machine, the latter having a suitable crank 25 by which it may be turned, and it will be seen that by turning the cog wheel, the shaft 22 may be turned and the chains 20 wound up so as to raise the slide blocks and the roll. The vertical adjustment of the roll, that is to say the height to which it is raised and at which it is held by the detents, depends upon its thickness. In any case, it is raised and held as close to the shaft 22 as practicable, since the nearer it is so placed the more easily may the sheet be drawn off from the roll.

The paper or other material constituting the roll is fed between rollers 26 and 27 at one end of the machine and opposite one end of the table 10. The rollers 26 and 27 are arranged one beneath the other, and the lower one 26 is provided with a shaft 28 on which is a driving sprocket 29 which is driven by a chain in the manner described below. The lower roller is held in stationary bearings and the upper roller is journaled in the slide blocks 30 which move in slideways 31 on the brackets 31^a, which brackets are secured to the front portion of the legs 12 at a point opposite the table.

The slide blocks 30 are formed on the ends of a cross bar 32, see Figs. 2 and 3, and this cross bar and the slide blocks are pressed downward by the pivoted presser bars 33 which are arranged on opposite sides of the

machine, each presser bar being pivoted at a point above the roller 27 and extending forward so as to rest upon the cross bar 32. The presser bars have notched upper edges, as shown clearly in Fig. 1, and carry movable weights 34 by regulating which the tension of the upper roller may be controlled. The material to be cut is entered between the rollers 26 and 27, and when the rollers are turned the friction on the material carries it rearward and delivers it upon the table 10. The lower roller is driven by a chain 35 which extends rearward substantially parallel with the table 10 and over spur wheels 37 which are pivoted on the side of the machine. It will thus be seen that by turning either of these wheels, the sprocket wheel 29 will be turned so as to feed the paper from the roll 15 rearward upon the table top. The lower member of the chain 35 passes over a guide pulley 36 which is arranged near the sprocket wheel 29 and on one of the legs 12 and which causes the chain to hug the wheel 29 closely. As the paper or other material is fed rearward it passes between shear knives 38 and 39, the former being secured to the table bed and having its upper edge level with the table top and the latter being pivoted at one side of the machine, as shown at 39^a in Fig. 2, so that it may be moved up and down and slide against the face of the fixed shear. The shear blade 39 is curved slightly so that it shall bear at all times with the proper pressure upon the material to be cut. The blade 35 is secured to a bar 40 which, at its free end, moves vertically in a slot 41, see Fig. 1, in one of the legs 12 near the top of the leg, and the free end of said bar terminates in a handle 42 by which the bar and shear may be operated. The shear comprising the blade 39 and bar 40 is normally raised by a cable 43 which is secured to the back of the shear, as shown at 44, and which extends upward and outward over guide pulleys 45 and 46 on the cross bar 12^a and has, at its outer end, a weight 47 sufficiently heavy to lift the shear 39.

To the under side of the bar 40 near its free end is secured a cord 48 which extends downward beneath a guide pulley 49 on the side of the table 10, and thence rearward over an angle 50 near the rear end of the table, and at its rear end the cord is provided with a handle 51. It will be seen then that the shears may be operated either by pressing

directly downward on the handle 42 or by pulling upon the cord 48, and after a cut has been made the weight 47 will again raise the upper shear blade.

In operating the machine, the roll 15 is hung at the desired height in the manner previously described, the free end of the material is entered between the rollers 26 and 27, and the rollers are then operated by turning one of the spur wheels 37, thus imparting a movement to the lower roller 26 and the latter turns the upper roller by friction. The paper or other material as it is fed moves backward upon the table top, and its length may be determined by reference to the scale 14 and the strips are severed by simply forcing down the upper shear.

From the foregoing description, it will be seen that the machine may be easily operated and that the strips may be conveniently measured.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a cutting machine, the combination with the feed rollers and the cutting shears, of vertically movable slide blocks arranged beneath the feed rollers and adapted to carry a roll-holding mandrel, and fastening devices to secure the slide blocks at different heights, substantially as described.

2. The combination with the table, the feed rollers and the cutting shears, of vertically movable slide blocks arranged on the table legs and adapted to support a roll-holding mandrel, a vertical row of detents arranged on the table legs and adapted to support the slide blocks, and a hoisting device for lifting the slide blocks, substantially as described.

3. The combination with the table having suitable feeding and cutting mechanism thereon, of the vertically movable slide blocks held to slide on the table legs, the detents for supporting the slide blocks, the hoisting chains secured to the slide blocks, revoluble spur wheels to engage the hoisting chains, and a gear mechanism for turning the spur wheels, substantially as described.

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Witnesses:

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