Sept. 2, 1952 W. L. WILKOFF 2,609,047

PAPER CUTTER

Filed Feb. 8, 1949 2 SHEETS—SHEET 1

Fig. 1.

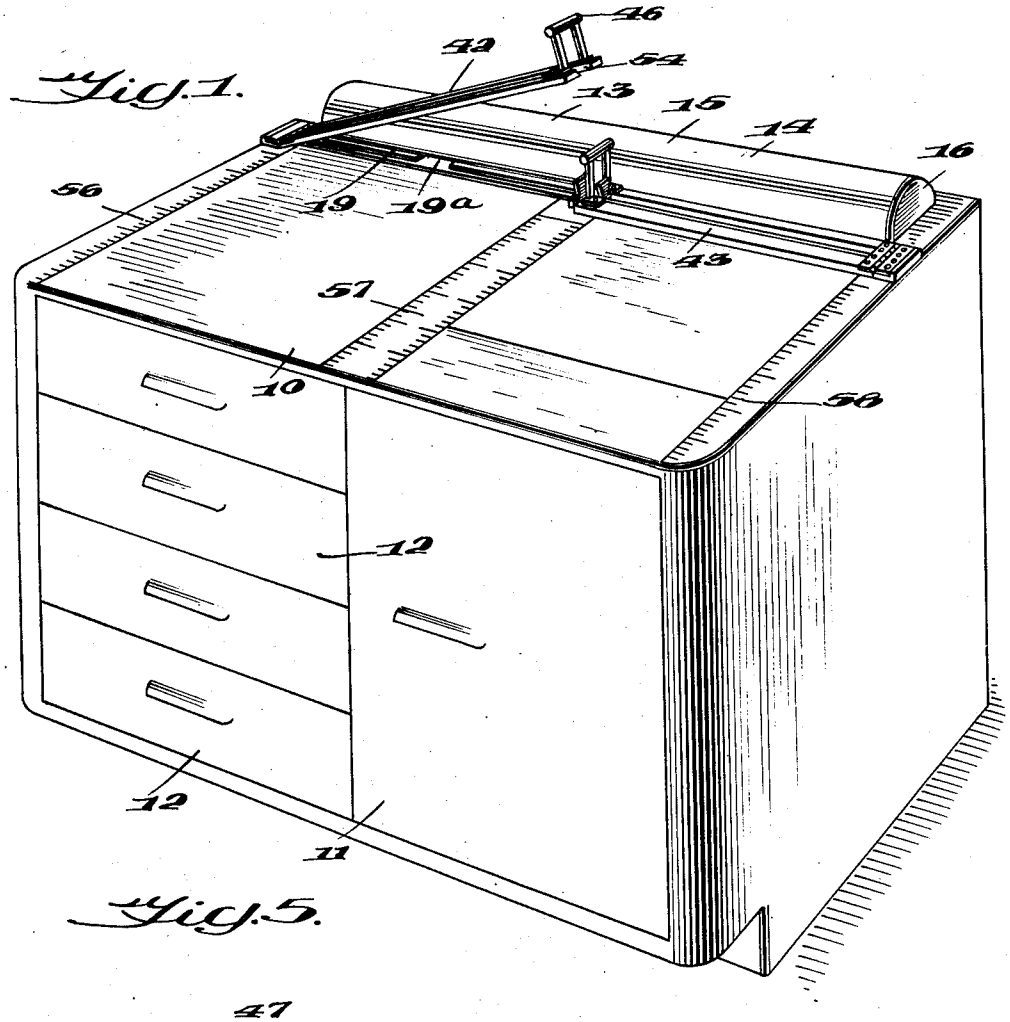
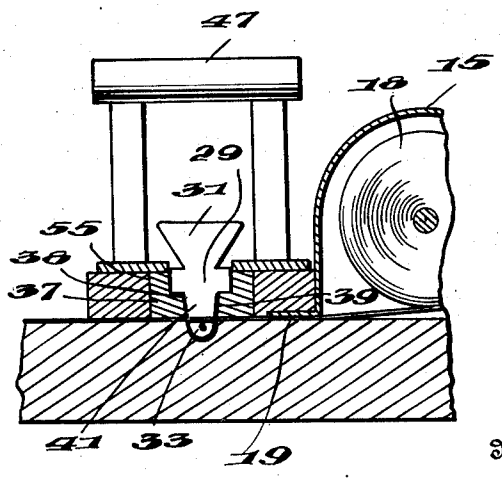


Fig. 5.



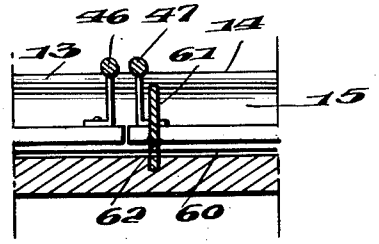


Fig. 6.

Inventor

WILLIAM L. WILKOFF,

By Parry & Miller

his Attorneys

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Fig. 2.

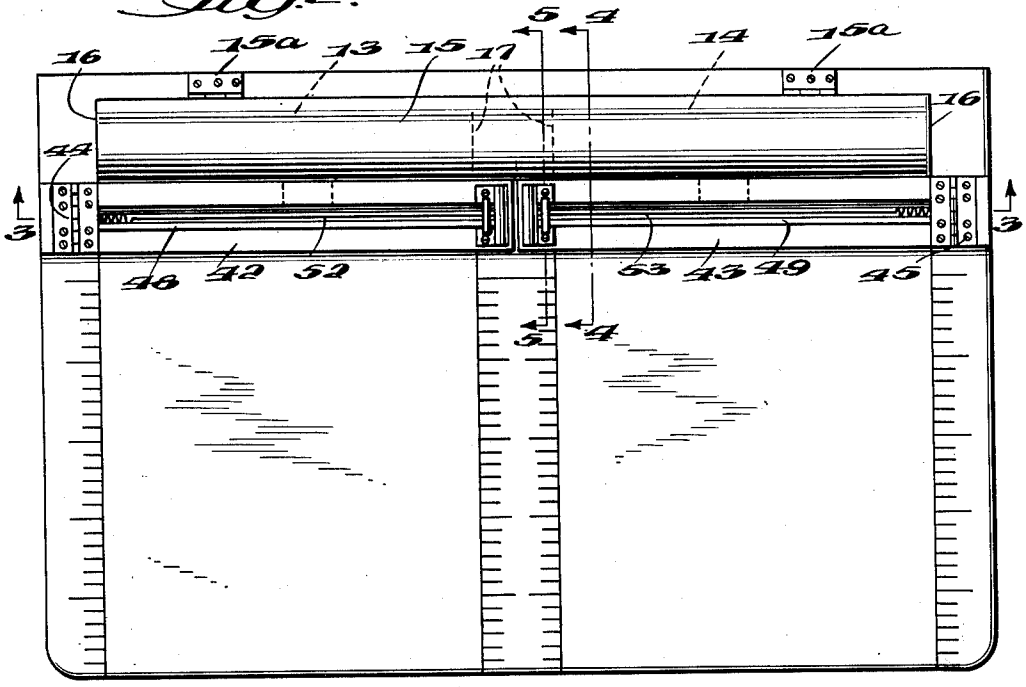


Fig. 3.

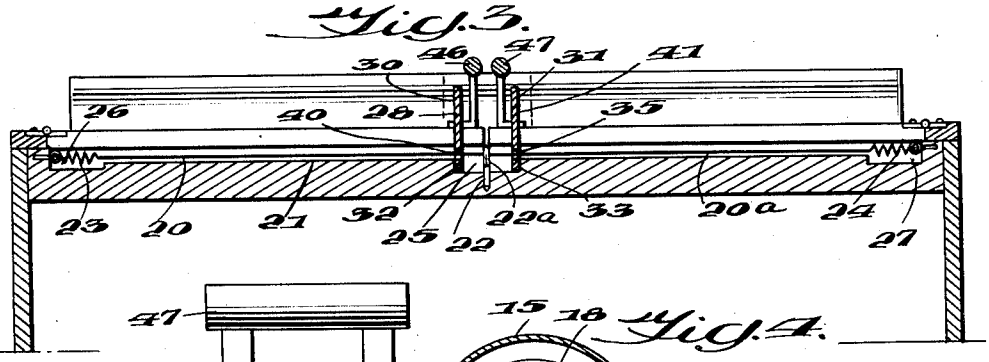
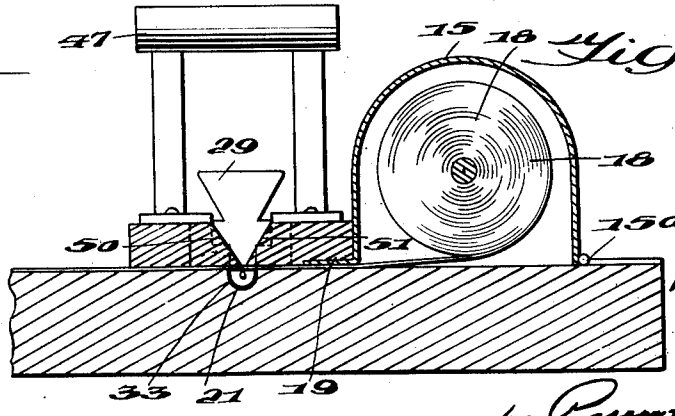


Fig. 4.



Inventor
WILLIAM L. WILKOFF,
by Parry & Miller
his Attorneys

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PAPER CUTTER

William L. Wilkoff, Youngstown, Ohio

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8 Claims. (Cl. 164—34)

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This invention relates to paper cutters and aims generally to improve paper cutters of the wire blade type.

A primary object of this invention is the provision of a paper cutter of the wire blade type whereby paper may be easily and quickly cut to a required size with a minimum of wastage.

Another object of the invention is the provision of a paper cutter which is simple in construction, easy to operate, and highly effective in cutting a sheet of paper or the like to a required size.

Still another object of the invention is the provision of a wire blade paper cutter which is particularly adapted for the shearing of sensitized printing paper fed from suitable dispensing rolls or the like and used in the making of blue prints and white prints.

A further object of the invention is the provision of a paper cutter having a wire blade cutting element adapted to shear a sheet of paper along a predetermined straight line to thereby obtain a severed sheet of a predetermined required size.

A still further object of the invention is the provision of a paper cutter designed to facilitate feeding a desired length of paper from a dispenser roll, positioning the paper according to the size desired to be severed, clamping the paper adjacent the line of intended shearing and clearly shearing the paper along the intended shearing line.

Still another object of the invention is the provision of a wire blade paper cutter which may be mounted on a cabinet, table or other suitable support.

A further object of the invention is the provision of a paper cutter which will simultaneously shear a plurality of sheets of paper or the like to the same or different sizes.

These and other objects and advantages of the invention will be apparent to those skilled in the art from a consideration of the accompanying drawings and annexed specification illustrating and describing a preferred embodiment of the invention.

In the drawings—

Fig. 1 is a perspective view of the improved paper cutter of this invention with one of the blade guides in raised position;

Fig. 2 is a plan view of the paper cutter;

Fig. 3 is a cross-sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is an enlarged cross-sectional view taken on the line 4—4 of Fig. 2;

Fig. 5 is an enlarged cross-sectional view taken on the line 5—5 of Fig. 2; and

Fig. 6 is a partial cross-sectional view similar

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to Fig. 3 showing a modified form of the invention.

Referring now to the drawings, the improved paper cutter of this invention preferably comprises a base portion 10 which may be positioned on a table or like supporting structure but, as shown, is preferably embodied in a cabinet or like structure 11 provided with drawers 12 for storing prints and the like. The base portion 10 is designed to receive paper from dispenser boxes 13 and 14 and to support it during the cutting operation hereinafter described.

The dispenser boxes 13 and 14 are preferably embodied in a unitary structure comprising a semi-cylindrical member 15 hingedly connected to the base portion 10 by the hinges 15a and having ends 16 and partitions 17. Rolls of paper 18, such as sensitized printing paper or the like, are suitably confined and supported in the dispenser boxes 13 and 14 so that the ends thereof may be pulled outwardly from the dispenser boxes under a protecting flange 19. The protecting flange 19 forms a forward extension of the semi-cylindrical member 15 and prevents tearing or other damage to the paper as it is being pulled from the dispenser boxes. Cutouts 19a in the flange 19 facilitate grasping the paper so that it may be readily pulled from the dispenser.

Paper from the dispenser boxes 13 and 14 is pulled outwardly over wire blade cutters 20 and 20a of fine piano wire or the like and thence across the top surface of the base portion 10 as shown in Fig. 1. The wire blade cutters 20 and 20a are normally positioned in a groove 21 extending across the base portion 10 and are maintained under tension therein by having their adjacent ends connected to the loop 22a of the screw 22 and their opposite ends connected to the springs 23 and 24. The screw 22 is secured in a notch 25 located centrally of the base portion 10 and the springs 23 and 24 are secured in notches 26 and 27 located adjacent opposite edges of the base portion 10 as shown in Fig. 3. Thus, the wire blade cutter 20 normally underlies a strip of paper pulled from the dispenser box 13 and the wire blade cutter 20a normally underlies a strip of paper pulled from the dispenser box 14.

The wire blade cutters 20 and 20a may be pulled upwardly from the groove 21 to sever the paper thereabove by runners 28 and 29 having upper handle portions 30 and 31 and lower wire-receiving portions 32 and 33 provided with apertures 34 and 35 through which the wire blade cutters 20 and 20a pass. The runners 28 and 29 are normally seated in seats 36 and 37 attached to the base portion 10 and positioned between the strips of paper so as not to interfere therewith when

they are pulled outwardly across the base portion 10. The seats 36 and 37 are preferably shaped to facilitate entry of the runners 28 and 29 thereinto and to accurately seat the runners so that the openings 34 and 35 therethrough coincide with the wire blade cutters 20 and 20a in their normal positions in the groove 21. For this purpose the lower portions of the seats 36 and 37 are desirably bevelled as shown at 38 and 39 for cooperation with the correspondingly shaped projections 40 and 41 on the runners 28 and 29. Thus the runners 28 and 29 are readily positioned in their seats 36 and 37 and quickly guided into seated position by the construction above described.

An important feature of the present invention resides in the provision of wire guides 42 and 43 which serve to hold the strips of paper in position during the cutting operation and insure cutting along a predetermined straight line. The wire guides 42 and 43 are hinged at 44 and 45 to opposite sides of the base portion 10 and have adjacent handles 46 and 47 at their meeting edges. The wire guides 42 and 43 are provided with elongated openings 48 and 49 having inwardly converging sides 50 and 51 which terminate in elongated slits 52 and 53. The slits 52 and 53 are normally positioned directly above the wire blade cutters 20 and 20a and are just wide enough to permit passage of the wire blade cutters upwardly therethrough.

The wire guides 42 and 43 are preferably formed of two strips of material held in adjacent relationship to form the openings 48 and 49 and slits 52 and 53 by the hinges 44 and 45 and the handles 46 and 47. Alternatively the wire guides 42 and 43 may be made of a single piece of material with the openings 48 and 49 formed therein in any desired manner.

In order that the wire guides 42 and 43 may be swung upwardly without unseating the runners 28 and 29, openings 54 and 55 are formed in the guides adjacent the handles 46 and 47, the openings 54 and 55 being of a size to snugly engage the edges of the seats 36 and 37 and permit the runners to pass therethrough.

In the operation of the device the wire guides 42 and 43 are swung upwardly to permit the paper to be grasped and pulled outwardly over the wire blade cutters 20 and 20a and the base portion 10 until the desired lengths of paper, as indicated by the scales 56, 57 and 58 are obtained. The wire guides 42 and 43 are then swung downwardly into position, resting on the strips of paper, and the paper is ready to shear. The operator then lifts the runners 28 and 29 from their seats 36 and 37 thereby pulling the wire blade cutters 20 and 20a from the groove 21 upwardly through the paper and the elongated slits 52 and 53 to shear the paper. The process is completed by pulling up and across on the runners until the wire is completely visible along the openings 48 and 49. At this point the paper is completely severed and the runners 28 and 29 are returned to their seats. Simultaneously therewith the wire blade cutters 20 and 20a are returned to the groove 21 in the base portion 10 by the pull of the springs 23 and 24, the sloping sides of the openings 48 and 49 guiding the wire blade cutters in their return movement.

Although the operation of the device has been described in connection with the cutting of two strips of paper, it will be apparent, of course, that it may be used to cut only one strip of paper. Thus, where two different kinds of paper are being used it is possible to selectively cut one or the other to a required size.

The modified form of the invention shown in Fig. 6 is designed to simultaneously cut two strips of paper by a single manipulation of the wire blade cutter or to selectively cut one or the other of the two strips of material. In this form of the invention a single wire blade cutter 60 is suspended from the springs 23 and 24 and is adapted to be actuated by a single runner 61 similar to the runners 28 and 29, hereinbefore described, and having an opening 62 to receive the wire blade cutter 60.

The operation of the device of Fig. 6 is similar to that above described except that when the strips of paper are in position to be cut, it is merely necessary to lift the single runner 61 from its seat and pull it upwardly and across to the right from its seated position of Fig. 6. When the wire is completely visible along the openings 48 and 49 the cut is complete and the runner 61 may be returned to its seat.

It will thus be seen that the present invention provides a very simple and highly effective device for feeding and cutting a piece of paper to a predetermined size. In the tandem arrangement illustrated and described it is possible to feed a plurality of rolls of the same or different material and to simultaneously cut them to the same or different sizes. If desired either one of the rolls may be fed and cut to the desired size independently of the other.

Although the constructions shown and described are preferred, many modifications thereof may be made without departing from the scope of the invention. Thus, in the device of Figs. 1 to 5 the two wire blade cutters 20 and 20a may be replaced by a single wire blade cutter which is restrained adjacent its central portion by passing through the loop 22a of the screw 22. This type of device may be operated the same as the device of Figs. 1 to 5 with similar results.

Although I have illustrated and described a preferred embodiment of the invention, I do not intend to be limited to the precise details thereof as the scope of the invention is best defined in the appended claims.

I claim:

1. A paper cutter of the wire blade type comprising a base member adapted to support a strip of paper thereon in position to be cut, a groove in said base member, a wire positioned in said groove and maintained under tension therein by spring means, a guide for said wire adapted to rest on a strip of paper on said base to hold it in position during the cutting operation and having an elongated opening of relatively narrow width therein positioned above said wire, and runner means for pulling said wire upwardly through a strip of paper positioned on said base and through said elongated opening to sever the paper along a predetermined line.

2. A paper cutter of the wire blade type comprising an elongated base member having a groove therein, a wire positioned in said groove, means for yieldably maintaining said wire under tension, a guide member for said wire adapted to be positioned on a strip of paper on said base member to hold it in position during the cutting operation and having an elongated relatively narrow opening therein positioned above said wire, and runner means slidably receiving said wire and movable outwardly from said base member for pulling the wire upwardly through the strip of paper positioned on said base and through

the opening of said guide member to cut the paper along a predetermined line.

3. A paper cutter as set forth in claim 2 including means for feeding paper to be cut from a roll of paper positioned adjacent said base member, a dispenser box for said roll, a lip on said dispenser box under which the paper from said roll is fed, said lip having notched openings therein adapted to facilitate grasping the paper to pull it from the roll.

4. A paper cutter as set forth in claim 3 including scale means on said base for measuring the size of paper to be cut.

5. A paper cutter of the wire blade type comprising a base member having a groove therein, a wire blade cutter positioned in said groove, means for maintaining said wire blade cutter under tension, restraining means for holding the mid-portion of said wire blade cutter in said groove, guide members adapted to rest on strips of paper on said base member and having elongated openings therein positioned above said wire blade cutter, runners connected with said wire blade cutter on opposite sides of said restraining means and adapted to be selectively moved upwardly to pull said wire blade cutter through the openings in said guide members to cut a plurality of strips of paper positioned on said base.

6. A paper cutter of the wire blade type comprising a base member having a groove therein, a wire blade cutter positioned in said groove, means for maintaining said wire blade cutter under tension, guide members adapted to rest on strips of paper on said base member and having elongated openings therein positioned above said wire blade cutter, said guide members being hinged to said base member whereby they may be raised to permit individual strips of paper to be fed thereunder above said wire blade cutter, and a runner connected with said wire blade cutter and adapted to be moved to pull said wire blade cutter upwardly through the openings in said guide members to cut strips of paper positioned on said base.

7. A paper cutter as set forth in claim 6 including a seat for said runner.

8. A paper cutter as set forth in claim 7 including an opening in one of said guide members for receiving said runner.

WILLIAM L. WILKOFF.

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