

Dec. 25, 1951

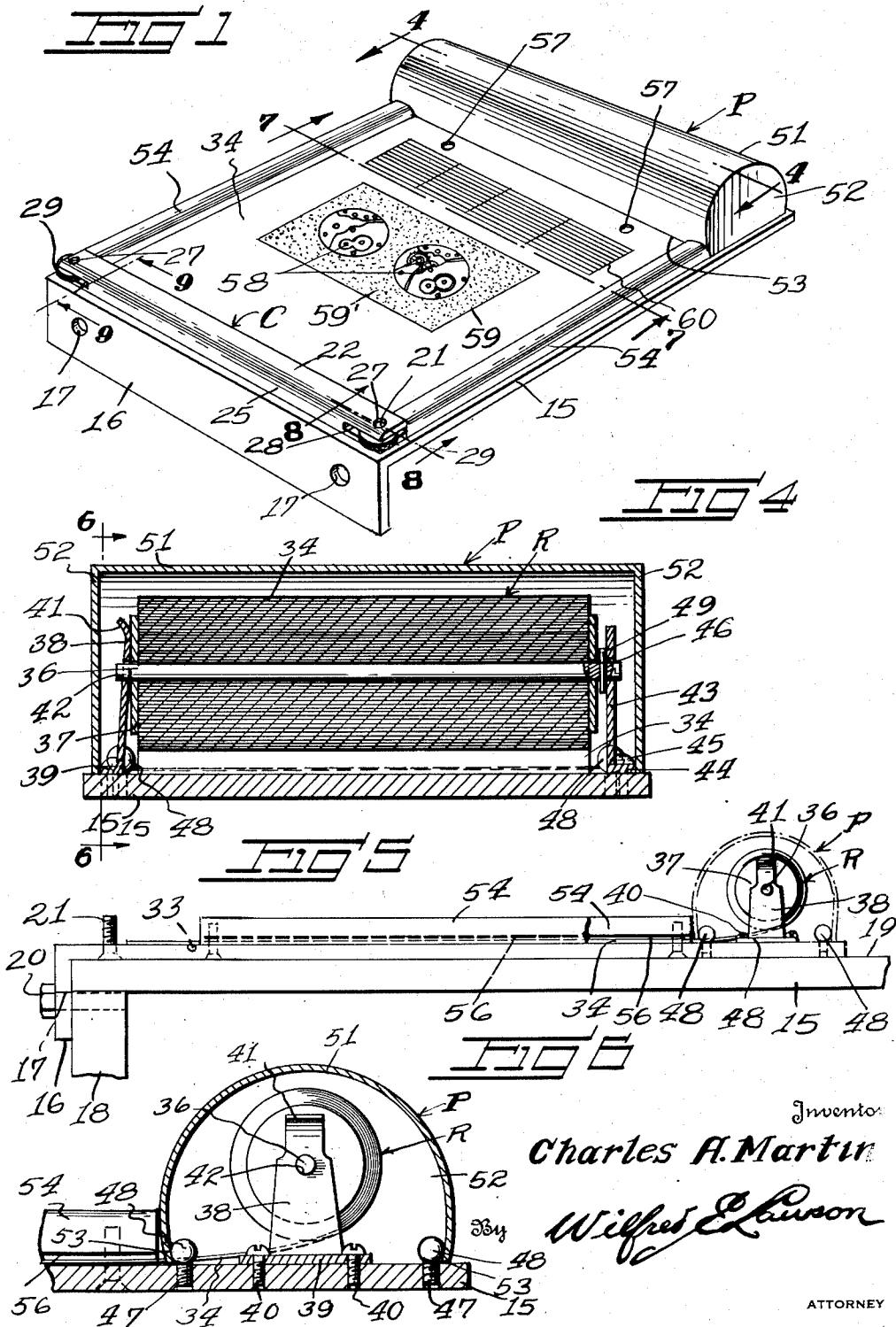
C. A. MARTIN

2,579,844

TECHNICIAN'S BENCH PLATE

Filed July 20, 1948

4 Sheets-Sheet 1



Dec. 25, 1951

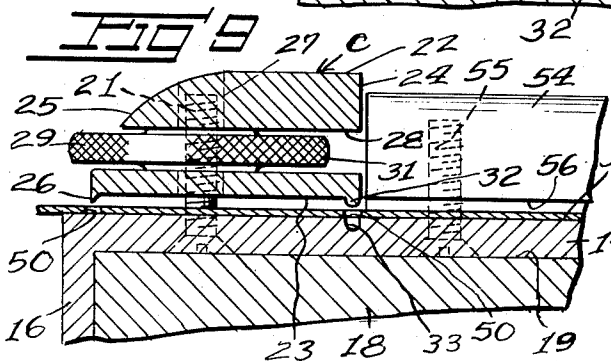
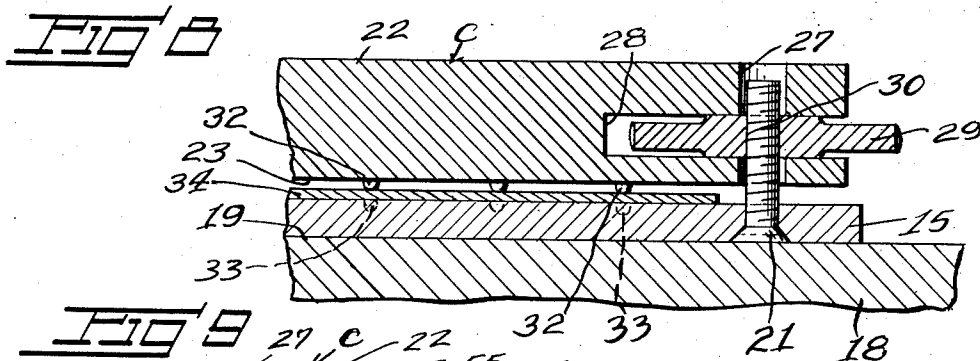
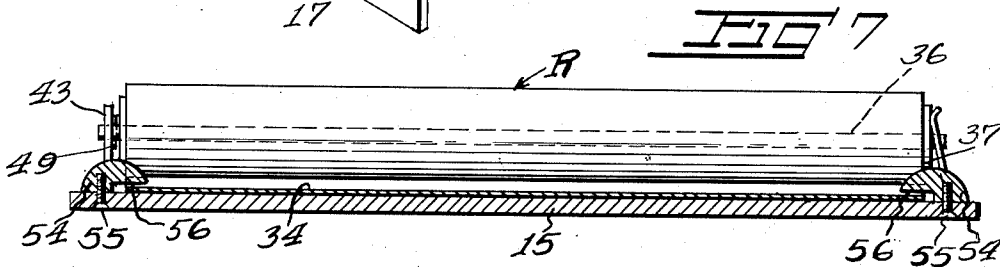
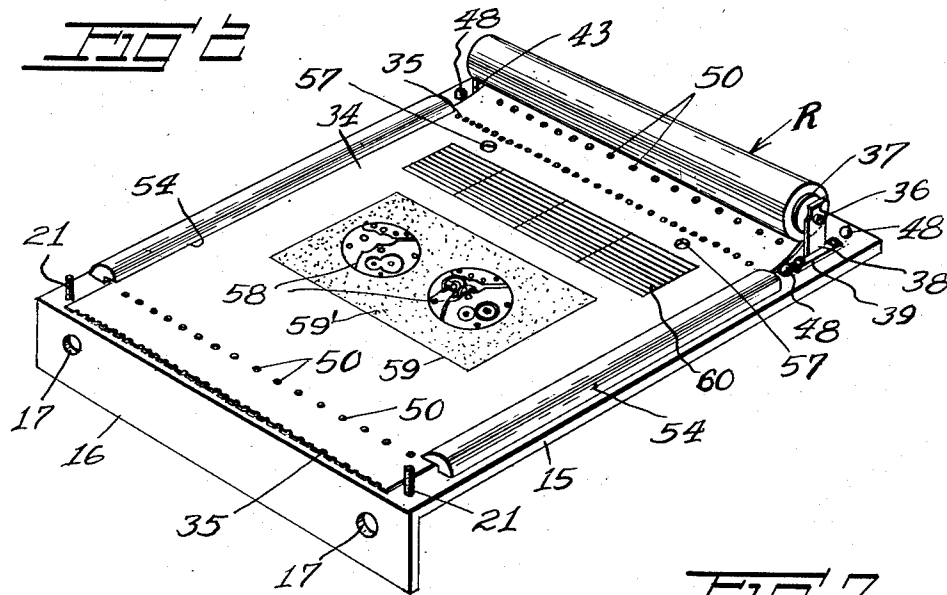
C. A. MARTIN

2,579,844

TECHNICIAN'S BENCH PLATE

Filed July 20, 1948

4 Sheets-Sheet 2



Inventor

Charles A. Martin

By

15
Wilfred Lawson

ATTORNEY

Dec. 25, 1951

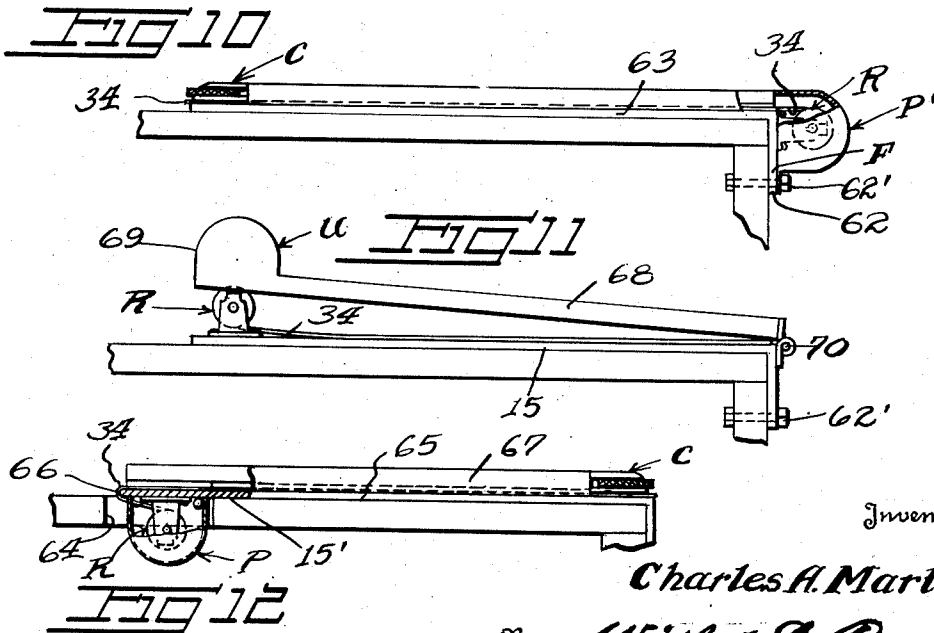
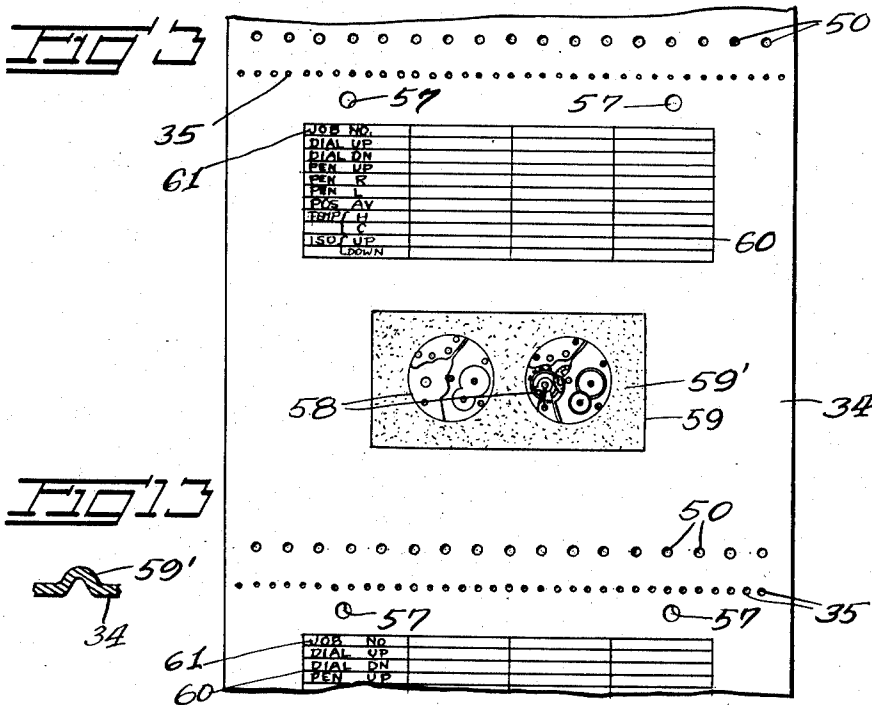
C. A. MARTIN

2,579,844

TECHNICIAN'S BENCH PLATE

Filed July 20, 1948

4 Sheets-Sheet 3



Inventor

Charles A. Martin

334

Wilfred Larson

Attorney

UNITED STATES PATENT OFFICE

2,579,844

TECHNICIAN'S BENCH PLATE

Charles A. Martin, Tupelo, Miss., assignor of one-half to Herbert K. Brasfield, Tupelo, Miss.

Application July 20, 1948, Serial No. 39,680

9 Claims. (Cl. 281—12)

1

The invention relates to work benches and more particularly to improvements in work benches for fine mechanics such as watch makers, instrument makers and the like. The primary object of the invention is to provide a work bench attachment furnishing at all times a clean working surface on said bench.

Another object of the invention is to provide a work bench attachment of the character indicated above comprising a roll of paper composed of a plurality of sheets each of which is adapted to be removably held in place on top of the work bench, and to serve as a working surface.

A further object of the invention is to provide a work bench attachment of the character above set forth, each sheet of paper of which has a roughened surface adapted to prevent accidental displacement of small screws or other parts of a watch or instrument being assembled or disassembled on said bench.

A still further object of the invention is to provide a work bench attachment of the character indicated above each sheet of paper of which is provided with a printed and embossed diagram of the piece of work to be assembled or disassembled, so that the several parts of said piece of work can be arranged in their respective correct position on said diagram.

A still further object of the invention is to provide a work bench attachment of the character indicated above on each sheet of paper of which a schedule is printed enabling the mechanic to post data regarding the work performed, the condition of the watch or instrument being repaired, or assembled, number of parts used or ordered, etc.

Another object of the invention is to provide a working bench attachment of the character indicated above, each sheet of paper of which is adapted to be easily and readily detached from the roll of paper and to be filed for future reference in any conventional loose leaf binder or the like.

Other objects of the invention not specifically mentioned may appear in the following specification describing the invention with reference to the accompanying drawings illustrating preferred embodiments of the invention. It is, however, to be understood, that the invention is not to be limited or restricted to the exact constructions and combinations of parts described in the specification and shown in the drawing, but that such changes and modifications can be made which fall within scope of the claims appended hereto.

In the several figures of the drawing similar

2

parts of the invention are indicated by similar reference characters, and

Figure 1 is a view in perspective of a work bench attachment in accordance with the invention;

Figure 2 is a view in perspective of the work bench attachment in accordance with the invention, the paper roll cover and the clamping means being omitted;

Figure 3 is a top plan view of a sheet of paper used in connection with the invention, parts of adjoining sheets of paper being shown;

Figure 4 is a sectional view taken on line 4—4 of Figure 1;

Figure 5 is a side view in elevation of Figure 2, the attachment being shown secured to a fragmentarily indicated work bench;

Figure 6 is a sectional view taken on line 6—6 of Figure 4;

Figure 7 is a sectional view taken on line 7—7 of Figure 1;

Figure 8 is a sectional view taken on line 8—8 of Figure 1 the attachment being shown secured to a bench;

Figure 9 is a sectional view taken on line 9—9 of Figure 1 the attachment being shown secured to a bench;

Figure 10 is a side view in elevation of a modified form of a work bench attachment in accordance with the invention, a portion of the paper roll cover being broken away;

Figure 11 is a side view in elevation of another modified form of the invention;

Figure 12 is a side view in elevation of a third modified form of the invention a portion of the paper roll cover and of one guide bar being broken away;

Figure 13 is a fragmentary sectional view indicating the embossing of the paper;

Figure 14 is a view in perspective of a modified form of a paper roll cover to be used in connection with the invention;

Figure 15 is a top plan view of the rear portion of a modified form of the bench attachment in accordance with the invention;

Figure 16 is a top plan view of the rear portion of another modified form of the invention;

Figure 17 is a top plan view of a single sheet of paper to be used in connection with the invention as embodied in Figures 14 and 15; and

Figure 18 is a sectional view taken on line 18—18 of Figure 16.

Figure 19 is a detail sectional view taken substantially on the line 19—19 of Figure 15.

The work bench attachment embodied herein

3

comprises a rectangular metal plate 15 having a front portion 16 bent down at right angles to its main portion. A plurality of holes 17 are provided in the front portion, which abuts the front edge surface 18 of the work bench top 19, when the metal plate 15, which forms the body of the work bench attachment in accordance with the invention embodied herein, is arranged in working position on the bench top 19. Screws 20 or the like extend through the holes 17 and engage the bench top 19 to secure the plate 15 in working position.

Adjacent to each front end corner of the plate 15 a bolt 21 is firmly secured in said body and extends upwardly at right angles to the upper surface thereof. A clamp bar C has substantially flat top and bottom surfaces 22 and 23, respectively, the latter of which may be knurled. A rear edge surface 24 extends at right angles to the top and bottom surfaces. The front edge surface 25 is curved upwardly and rearwardly and the lower front edge 26 of the bar C forms a sharp cutting edge to be used for a purpose to be described later. The length of the clamp bar C is slightly shorter than the width of the plate 15 and at each end of said bar, a hole 27 extends vertically through said bar and is arranged so that the bolts 21 in the body corners project loosely into and through said holes 27, when the clamp bar C is placed in working position on the plate 15 adjacent to the front edge thereof. A horizontal slot 28 extends from each end of the clamp bar C into said bar and a substantially flat round nut 29 fits slidably into each slot 28 and is provided with a thread 30 extending vertically through and centrally of said nut. The circumferential surface of each nut 29 is knurled as at 31, and the threads 30 in said nuts are adapted to engage the bolts 21. To secure the clamping bar C in position on the body 15, the nuts 29 are placed in the slots 28, so that the threads 30 are arranged coaxially with the holes 27 in the bar C, and then the bar is placed on the bolts 21, which are then engaged by the threads 30. A plurality of small downwardly extending projections 32 are arranged on the under side of the clamp bar C and a corresponding number of small indentations 33 are provided in the upper surface of the plate 15, and are adapted to receive the projections 32 therein.

A roll of paper R consists of a plurality of individual sheets 34 of equal size partly divided from each other by transverse lines 35 each of which is formed by small perforations. The paper roll is narrower than the plate 15 and is formed so that a cylindrical rod 36, or arbor, is adapted to pass through it to support it rotatably. The rod 36 protrudes at both ends beyond the paper roll R and on each projecting end of the rod 36 is mounted a flat circular metal disc 37 provided with a central opening, and abutting the adjacent end of the paper roll to prevent lateral over-running of the paper forming the roll.

On the rear end portion of the plate 15 adjacent to one longitudinal edge thereof and spaced from its rear edge a standard 38 is firmly mounted. The standard is formed by a flat blade spring or the like, the lower end portion of which is bent outwardly at a right angle to its main portion to form a foot 39 secured to the plate 15 by means of screws 40 or the like. A thumb piece 41 is formed by the upper end portion of the spring standard 38 by being curved outwardly with respect to the main portion of said standard. A hole 42 is provided in the standard below the

4

thumb piece 41 and is adapted to receive the rod 36 slidably therein. A second standard 43 made of rigid material has an outwardly extending foot 44 firmly secured to the top surface of the plate 15 in any desired conventional manner, for instance by means of screws 45. The second standard 43 is located oppositely to the first standard 38 and is provided in its upper end portion with a hole 46 arranged substantially coaxially with the hole 42 in the first standard, so that the rod 36 can be slidably supported in said two holes in a position substantially parallel to the top surface of the plate 15. In each rear corner of the plate 15 a pin 47 with a substantially globular head 48 is secured to the body and extends upwardly therefrom. Two similar pins 47 are securely fastened to and extend upwardly from the plate 15 so that these pins are located at the same distance in front of the axis of the rod 36 as the first named pins 47 are located rearwardly from said axis. Each lateral pair of pins 47 is spaced equidistantly from the adjacent side edge of the plate 15.

When a paper roll R is being mounted on the rod 36, the standard 38 is sprung outwardly by means of the thumb piece 41, so that the rod can be removed from said standard and the disc 37 adjacent to the spring standard 38 can be removed from the rod 36. The other disc 37 is prevented from sliding off the adjacent end portion of the rod by a pin 49 extending diametrically through said rod end portion and protruding with both of its end portions beyond said rod. After the roll R has been mounted on the rod 36 the removed disc 37 is placed on the rod, which is then inserted again in the hole 42 in the spring standard. The spring standard 38 urges the adjacent disc 37 against the end of the paper roll R, and said paper roll against the other disc 37. This disc is forced toward the pin 49, which is urged against the rigid standard 43, so that the paper roll R is arranged at all times approximately at equal distances from the side edges of the plate 15.

The paper roll R is mounted on the rod 36 so that the outer end of the paper forming the roll is located adjacent to the plate 15 and is directed forwardly. The length of each sheet 34 is such that it substantially covers the surface of the plate 15. To secure the front edge portion of the first sheet 34 on the plate 15 the clamping bar C is moved upwardly on the bolts 21. The front edge portion of the paper is fed into the opening between the clamping bar and the plate and the bar is moved downwardly on the bolts 21 by means of the nuts 29 to clamp the paper securely between said bar C and the plate 15. Each sheet 34 is provided with a plurality of holes 50 corresponding in number and located with the projections 32 on the under side of the clamp bar C and the indentations 33 in the upper surface of the plate 15, so that the projections extend through sheet 34 into the indentations, when the clamp bar secures the sheet in working position.

To protect the paper roll R on the plate 15 a cover P is provided, which has a semi-cylindrical hollow body 51, closed at both of its ends by end walls 52 and provided with rolled bottom edges 53 adapted to snap onto the globular heads 48 of the pins 47 and to be forced downwardly so that the forward edge allows the paper sheets to slide under it, but prevents them from raising from the plate 15.

At each side edge of the plate 15 a guide bar 54 is secured to the plate in any preferred con-

5

ventional manner, for instance by means of screws 55 and each guide bar 54 fits snugly between the clamping bar C and the front of the cover P. A longitudinal undercut 56 is provided on the inner edge portion of the under side of each guide bar forming with the plate 15 a guide channel for the paper sheets 34.

Below the upper perforated line 35 of each sheet a pair of holes 57 are provided and are arranged so that each individual sheet can be secured and filed in a suitable conventional loose-leaf binder after having been detached from the adjacent sheet. Approximately centrally each sheet 34 is provided with a printed and embossed diagram 58 of the piece of work, such as a watch, instrument or the like, which is to be disassembled or assembled, so that the small parts such as gears, plates, screws, etc. of said piece of work can be arranged in their regular correct positions on said diagram 58. Preferably the surface of the portion 59 of the sheet surrounding the diagram is also roughened in any conventional manner, for instance by embossing it with upwardly extending tiny beads 59', so that any pieces of a watch, instrument or the like, which are placed on this area, will remain where they are placed and are prevented from rolling around on the paper.

A columnar schedule 60 is printed at any suitable place on each sheet to enable the mechanic to record any parts missing and replaced or ordered, the working time spent on the piece of work, and any other information essential for future reference. In addition each sheet 34 can be used for advertising purposes by firms furnishing repair parts and the like, and to facilitate the recording of the work each sheet may be provided with a serial number 61.

When a piece of work is finished and entered in the columnar schedule, the clamping bar C is loosened and the sheet is slidably pulled forwardly until the upper perforated line 35 coincides with the lower forward edge 26 of the clamping bar. This cutting edge facilitates the severance of the used sheet 34 from the following one along the perforated line 35. Then the clamping bar C is lowered again into working position to secure the fresh paper sheet in working position, so that at all times a clean working surface is provided for each new piece of work.

In Figure 10 is illustrated a modified form of the work bench attachment in accordance with the present invention. In this embodiment the paper roll R is removably secured to the front surface of a bent down front portion 62 of a rectangular sheet metal plate 63 shaped similar to the metal plate 15. The front portion 62 is wider than the front portion 16 so that the paper roll R and the cover P' therefor can be mounted on said front portion by means of a plurality of bolts 62' which extend through the front wall of the bench 18, the front portion of the sheet metal plate 63 and a downwardly extending flange F' on the lower edge of the cover P'. A clamp bar C is mounted on the sheet metal plate 63 adjacent to the rear edge thereof, as described for the original embodiment of the invention. The paper sheets 34 are fed toward the rear in the modified form of the invention.

In Figure 12 another modification of the present invention is illustrated, in which the means for supporting the paper roll R and the cover P are mounted on the underside of the rear portion of the plate 15' and an elongated opening 64 is provided in the bench top 65 to permit the paper

6

roll, the members supporting the same, the cover and its supporting means to extend downwardly into the work bench. The rear edge 66 of the plate 15' in this modified form of the invention is rounded, so that the paper sheets 34, which are fed rearwardly from the paper roll R and are then trained over said rear edge 66 to extend forwardly over the plate 15' as described above, are not exposed to damage while sliding over the rear edge. In this modified form the guide bars 54 described above are replaced by guide bars 67 constructed on the plate 15' in the same manner as in the original embodiment of the invention, the only difference between the guide bars 54 and the guide bars 67 being that the latter are long enough to extend from the clamping bar C to the rear edge 66 of the plate 15'.

In Figure 11 a further modified form of the work bench attachment in accordance with the present invention is illustrated and in this form the pins 47 are omitted and a guide bar 68 similar to the guide bars described above, is secured to a paper roll cover 69, constructed similar to the paper roll cover P, adjacent to each of its ends. The unit U consisting of the cover 69 and the guide bars 68 is pivotally secured to the plate 15, by means of hinges 70 connecting either the rear edge portion of the cover 69 or the front end portions of the guide bars 68 with the plate 15.

The paper roll cover P can be replaced by a cover 71 having a right angled cross section so that the top 72 thereof extends parallel with the sheet metal plate 15, when the cover 71 is in working position thereon. A rail 73 or the like may extend along the rear and end edges of the top 72, so that small tools like tweezers, bottles containing oil or the like may be safely placed on the top 72.

In Figure 15 the rear end portion of a modified form of a work bench attachment is illustrated. The sheet metal plate 74 of this modified form differs from the above described sheet metal plate 15, in that the pins 47 and the standards 38 and 43 are omitted. Adjacent each rear corner of the plate 74 an upwardly extending bolt 75 is firmly secured in said plate and a clamp bar 76 similar to the above described clamp bar C is adjustably mounted on the bolts 75 in the same manner as the clamp bar C is mounted on the bolts 21. The plate 74 is provided on each of its side edge portions with a guide bar 77 similar to the guide bars 54, but extending from the inside edge of the front clamp bar C to inside edge of the rear clamp bar 76. A single sheet of paper 78 is prepared in the same manner as the individual sheets 34 forming the paper roll R.

To put the paper sheet 78 exchangeably into working position the two clamp bars C and 76 are raised, the sheet 78 is inserted between the guide bars 77 and the plate 74, so that the two cross edges of the sheet coincide with the front edge of front clamp bar C and with rear edge of the rear clamp bar 76 respectively and then the two clamp bars are lowered until they press firmly on the paper sheet 78.

In Fig. 16 the rear portion of another modified form of the work bench attachment is illustrated. In this embodiment of the invention a body plate 79 is used, which is similar to the above described plate 74 with the exception that the bolts 75 are omitted. A stop bar 80 is secured to the top surface of the body 79 adjacent to the rear edge thereof in any conventional manner and extending across its entire width. The stop bar 80 is formed like the guide bars 54 as shown in

7

Figure 7, and is placed on the body plate 79 so that the under cut 81 of the bar 80 faces forwardly of the body plate. On each side edge portion of the body plate 79 a guide bar 82 formed like the guide bars 54 is secured so that the under cuts 83 thereof face each other. The two guide bars 82 extend from the inside edge of the clamp bar C to the inside edge of the stop bar 80. To place an individual paper sheet 78 in working position on the body plate 79 the clamp bar C is raised, the sheet is inserted between the guide bars 82 until the rear edge of the paper sheet abuts the stop bar 80 and is located in the under cut 81 of said bar. Then the clamp bar is lowered until it firmly engages the front edge portion of the paper sheet 78.

I claim:

1. A device of the character set forth comprising a body having a flat top, means for supporting a roll of paper sheets across an end of said top to be drawn out thereover, a transverse clamping bar mounted on the body adjacent to a cross edge thereof, means for holding the bar in spaced relation with respect to the body to permit the paper to extend between the bar and the body top and for urging the bar against the body to engage the paper clampingly and hold it in position, said bar holding means comprising a bolt secured to the body and extending vertically therefrom and a nut loosely arranged in a slot provided in the clamping bar and extending parallel to the underside of the bar, the nut being threaded on the bolt, which projects loosely through a hole provided in the bar so that it traverses the slot.

2. A device of the character set forth, comprising a body having a flat top surface, means on the body for supporting a paper roll in a position in which it may be unrolled to lie upon said surface, a clamping bar extending transversely across the body surface and adapted to engage a sheet of paper clampingly after it has been unrolled into body surface covering position, and a plurality of projections in the underside of the clamping bar adapted to engage corresponding indentations in the surface of the body and corresponding holes in each sheet of paper.

3. A device of the character set forth, comprising a body having a flat top surface, means on the body for supporting a paper roll in a position in which it may be unrolled to lie upon said surface, a clamping bar extending transversely across the body surface and adapted to engage a sheet of paper clampingly after it has been unrolled into body surface covering position, a plurality of projections in the underside of the clamping bar adapted to engage corresponding indentations in the surface of the body and corresponding holes in each sheet of paper, the lower outer edge of the clamping bar being formed into a cutting edge to facilitate the detachment of a sheet of paper from the following sheet.

4. A paper roll supporting means for a device of the character stated including a flat supporting body, comprising a rod adapted to extend through the paper roll and support it rotatably, a pair of standards secured to the body adjacent to the lateral edges and projecting at substantially right angles from said body, the rod being arranged in coaxial holes provided in the upper portions of the standards, a hollow cover adapted to be removably supported on the body to protect

8

the paper roll and a plurality of pins having globular heads and secured on the body, the cover clampingly engaging said heads.

5. A device of the character set forth comprising a plate, means carried thereby for rotatably supporting a paper roll in position adjacent to one edge of the plate to be drawn out to lie upon the top of the plate, and a holddown element carried by the plate and having means for engaging in said perforations in the portion of the roll lying on the plate to maintain the said roll portion fixedly in place.

6. A device of the character set forth comprising a plate, means carried thereby for rotatably supporting a paper roll in position adjacent to one edge of the plate to be drawn out upon the top of the plate, and a hold down bar disposed across the plate to lie flat on the paper thereon and having corresponding elements adapted to engage in a series of perforations in the portions of the roll lying on the plate and said bar further having an edge spaced from the series of elements to facilitate transverse severance of a portion of a sheet which has previously covered the plate.

7. A device of the character set forth in claim 6, wherein said plate is provided with a transverse row of depressions arranged to receive the series of elements of the hold down bar.

8. A device of the character stated in claim 6, with a pair of upstanding threaded studs carried by the plate adjacent to the end edge thereof remote from the paper roll supporting means, said pair of studs being spaced apart transversely of the plate, said holddown bar having a longitudinal slot in each end and a transverse passage passing through each slot, each of said passages being of a size to freely receive a threaded stud, and a threaded nut positioned in each slot of the holddown bar coaxial with the adjacent passage for threaded engagement with a stud extending into the passage.

9. A device of the character stated in claim 6, with a removable shield housing mounted upon the plate to overlie and protect the paper roll, and a pair of side guide members supported upon the plate at the longitudinal sides thereof and extending between said housing and the hold-down bar, said guide members being adapted to receive and guide longitudinal edges of the sheet.

CHARLES A. MARTIN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
804,743	Lemaster	Nov. 14, 1905
1,086,946	Smith	Feb. 10, 1914
1,101,596	Wehrle	June 30, 1914
1,388,365	Minton	Aug. 23, 1921
1,429,436	Kelley	Sept. 19, 1922
1,649,234	Johnson	Nov. 15, 1927
1,718,404	Bonnell	June 25, 1929
1,731,017	Lewis	Oct. 8, 1929
1,977,217	Veeder	Oct. 16, 1934
2,015,368	Ryan	Sept. 24, 1935
2,121,865	Flood	June 28, 1938
2,347,176	Doner	Apr. 25, 1944
2,444,853	Scharf	July 6, 1948