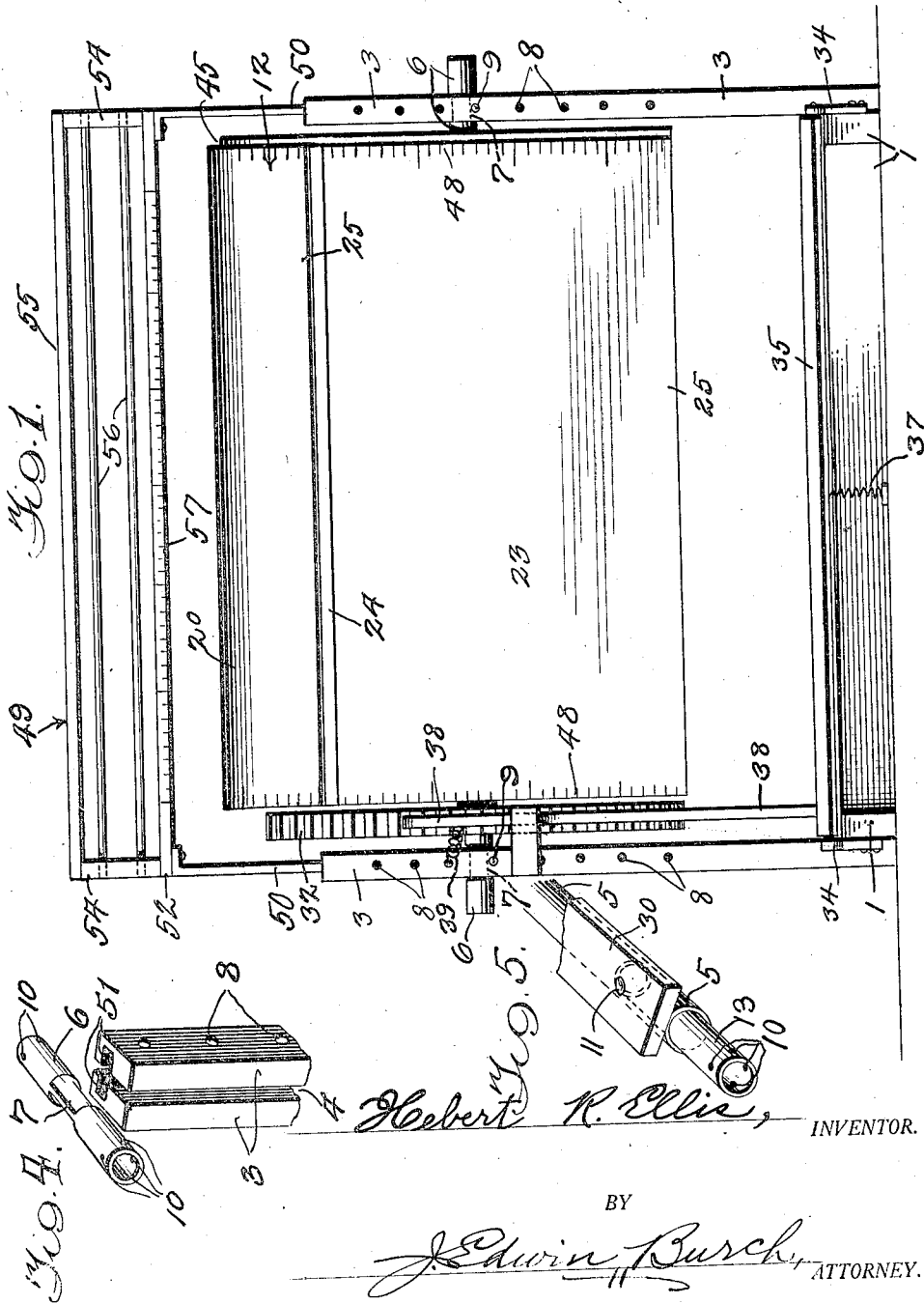


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APPLICATION FILED NOV. 13, 1920.

1,423,201.

Patented July 18, 1922.

3 SHEETS—SHEET 1.



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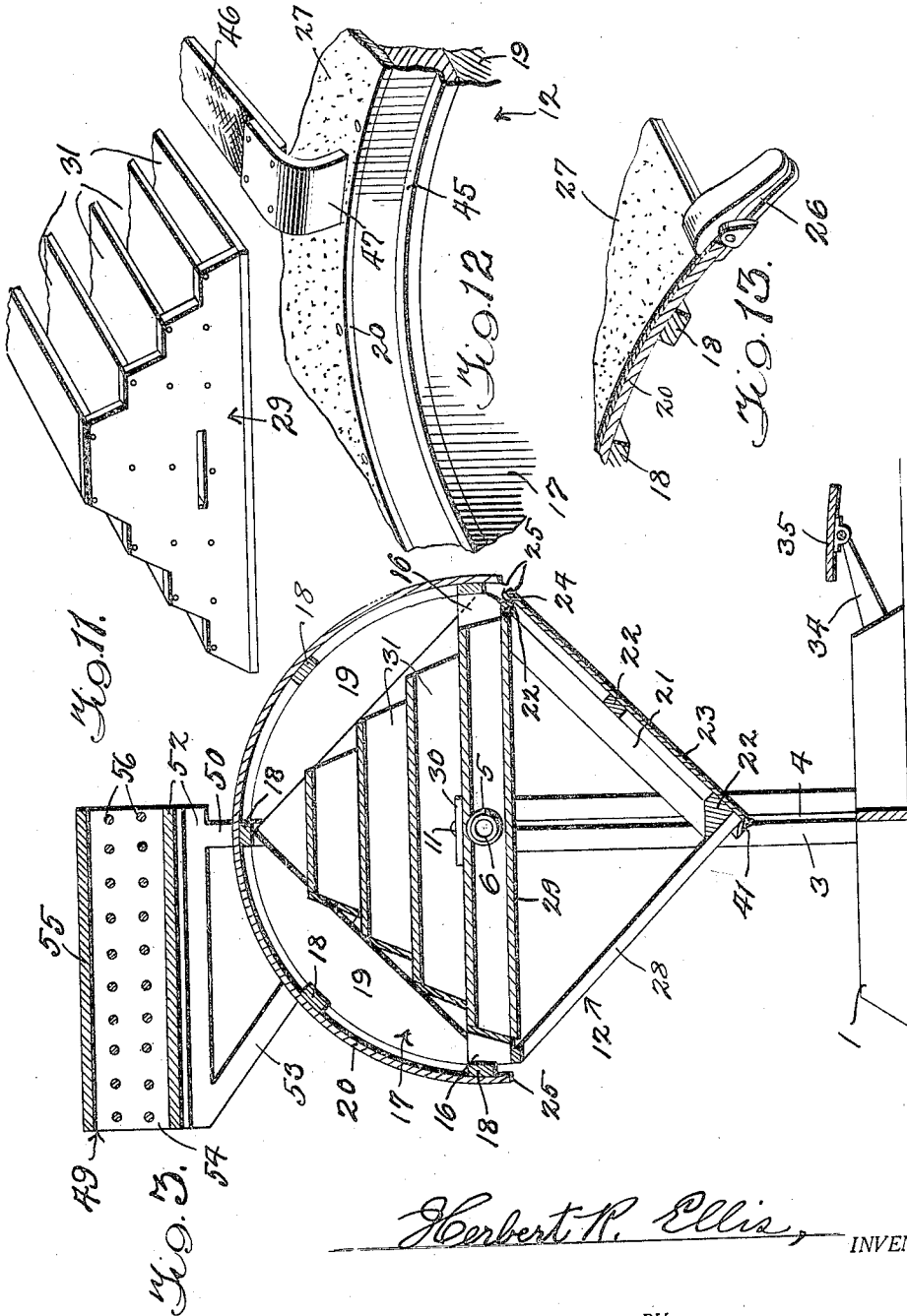
BY

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Herbert R. Ellis, INVENTOR.

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Edwin Burch, ATTORNEY.

UNITED STATES PATENT OFFICE.

HERBERT R. ELLIS, OF FREDERICKSBURG, VIRGINIA.

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Specification of Letters Patent.

Patented July 18, 1922.

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To all whom it may concern:

Be it known that I, HERBERT R. ELLIS, citizen of the United States of America, residing at Fredericksburg, in the county of Spottsylvania and State of Virginia, have invented certain new and useful Improvements in Card and Sign or Poster Painters' Workbenches, of which the following is a specification.

My invention relates to the class of furniture and more particularly to a revolving sectional bench for use by artists, draftsmen, sign, show card and poster painters or the like.

Among the objects of the invention are to provide a comparatively light and economical form of work bench of the above character which is equipped with a plurality of working surfaces, including a plane or flat surface and a round or curved surface to suit the particular kind of work at hand or the desires of the operator; which allows the bringing of each line of lettering and part of a picture or drawing up to the same point of the workman's hands or height or at such positions and angle as desired by the artist, thus eliminating reaching on the part of the workman; which will accommodate both small and large signs or the like, and is provided with means for supporting a supply of cards; which can be easily manipulated; which is so constructed as to facilitate marking off, and which possesses other and important differences and advantages as will be hereinafter set forth in detail and claimed.

With the above and other objects in view, the invention consists of certain novel combinations and arrangements of parts as will be hereinafter more particularly pointed out and claimed.

In the accompanying drawings—

Figure 1 is a front elevation of my improved work bench;

Figure 2 is a side elevation thereof;

Figure 3 is a vertical sectional view at right angles to the axis of rotation;

Figure 4 is a fragmentary perspective view of an end member or upright of the frame and an axle mounting or thimble;

Figure 5 is a similar view of one end of the axle and thimble used in coupling a plurality of bench sections, together with means for supporting an inside fixture;

Figure 6 is a perspective view of a frag-

mentary portion of the curved working surface and ledge thereof;

Figure 7 is a similar detail of the ledge;

Figure 8 is a similar view of the axle coupling for connecting two sections to form a long bench;

Figure 9 is a longitudinal sectional view showing the ends of the sections coupled;

Figure 10 is a perspective view of portions of the ends of two work surfaces;

Figure 11 is a similar view of the inside fixture or fitting;

Figure 12 is an enlarged perspective view of a portion of a curved or round working surface and paper holding means provided thereon, and

Figure 13 is a similar view showing the bottom edge of a working surface equipped to allow cards, paper, etc., to be fastened by means of clips or spring nippers.

Referring to the drawings in detail, in which like reference characters indicate corresponding parts throughout the several views, my improved work bench is shown as comprising a base 1 any number of sections of which may be employed, or a single base for a plurality of sections of the device, when a plurality of sections are used, as will be hereinafter more fully described. Extending upwardly from the ends of the base 1 and suitably secured thereto as shown at 2, are uprights 3 each formed with a vertical slot 4 in line with the axis of rotation of the bench as will be hereinafter more fully specified. These uprights may each be formed in one or two sections as preferred, in order to produce the slots or guideways for mounting the ends of an axle 5, said sections or sides of the uprights confining the slots being suitably braced or held in uniformly spaced or parallel relation so that the axle may be easily and accurately adjusted vertically to vary the position and height of the working surfaces of the bench to suit the particular operator and work at hand.

The axle is stationary, that is, held from rotation, and in order to support the same in the uprights, is made tubular to receive at the ends thereof a tubular thimble 6, one at each end, which like the main axle is preferably of metal. Each thimble is flattened intermediately as shown at 7 to engage the corresponding slot or guideway, so that the thimbles and axle are held from

rotating, while the uprights 3 are provided in the opposed sides thereof with a series of horizontally disposed and alined vertically spaced apertures or openings 8 in which are fitted pins or the like 9 on which the flattened portions of the thimbles rest so that the bench may be vertically adjusted as it is thought will be obvious.

In order to couple the thimbles to the ends of the axle removably and for angular adjustment around the axis of rotation, the said thimble and axle ends are provided with diametrically opposed pairs of alined openings or apertures 10 which when in registry, are engaged by bolts or like connectors 11. This construction also affords means for connecting or coupling together a series of sections 12 of the work bench as shown in Figure 9 of the drawings, in which case, the thimble or coupling 13 is not flattened as are the thimbles 6, while the ends of the axles or axle sections 5 are disposed in abutting relation and receive thereon spaced set collars 14 held by screws or the like 15 against the end members, cross members or spokes 16 at the ends of the bench sections or drums forming the same. Each bench section or drum 12 is of hollow formation and provided with end members or frame 17 shaping the same in the form of rims connected by longitudinal members or stringers 18. Two sections of the end members or frames 17 are sector shaped, as shown at 19, and the stringers 18 are equidistantly spaced circumferentially thereon so as to extend around one half of the circumference of the drum and permit the attachment of a curved or semicircular working surface 20.

The end members or frames 17 are rectangular at the inside, one quarter portion of the circumference being closed by straight sections 21 to which are attached similar longitudinal stringers 22 to which is secured a plane or flat working surface 23 in spaced relation to one edge of the curved portion as shown at 24, for a purpose to be made apparent. The coverings forming the working surfaces are preferably flexible enough to bend with facility, but relatively stiff, and the ends thereof project to form ledges 25 beyond the adjacent stringers to allow cards, paper, etc., to be fastened by means of clips or spring nippers 26. The coverings are made of pasteboard, beaverboard, wood-veneer, sheet metal or the like, and the flat and curved working surfaces on which the workman rests his work is covered with suitable pulverized soft material 27 of a cushioning, resilient and somewhat adhesive nature, such as "flock," pulverized saw dust or ground wood, sprinkled and held on by an adhesive, thus giving a soft roughened surface to prevent the work from slipping.

In addition to the curved and flat working surfaces at the outside of the drum or each bench section, the remaining one quarter portion of the circumference is provided with a rectangular open frame 28, thus providing three distinct parts, one curved, one flat and one open, through which latter access may be had to the interior of the bench containing shelves, bins, drawers, paper racks or the like, in the form of a fitting or fixture 29, in which is kept cards, paper or other material used by the operator or workman. As above explained, the axle 5 is held from turning and the fixture is secured thereto through the medium of a strip 30 running longitudinally of the axle and bolted thereto by the bolts 11 which connect the thimble to the axle, thus permitting the fitting to be held horizontally or vertically perpendicular to the axle by adjusting the bolts angularly in the openings 10, thus similarly disposing the shelves or bins etc., 31 thereof. As shown, the shelves are preferably made shorter or more shallow toward the periphery of the drum, the back portions or boards of the shelves of the inside fixture being on a slant, thus enabling the operator or workman to pick the cards up easily as the top card always projects slightly over the next at the front after the cards are pushed up against the back boards or portions of the shelves. As the drum is adapted to turn on the axle, the open side may be brought in front of or over the shelves, bins, etc., in order to obtain access to the latter, depending upon whether the latter are vertically or horizontally disposed. Suitable anti-friction means or ball bearings may be provided in connection with the cross members or spokes 16 to permit the drum to turn easily on the axle.

However, in order to turn the drum to any desired position to suit the convenience of the operator and to hold the same, as well as to prevent accidental turning of the drum, suitable means is provided. As shown, a toothed or cogged rim 32 is secured at one or both ends of the drum, teeth 33 being provided on the outer or peripheral edge thereof, while pivoted in the ends of bracket arms 34 at the ends of the base is a treadle 35 having an arm 36 extending rearwardly or inwardly and connected to the base by a spring 37. Pivoted to the inner end of the arm is the lower end of a vertical pawl 38, the downwardly and inwardly directed upper end of which engages the teeth 33, said end of the pawl or ratchet arm being held into engagement with the teeth or cogs by a spring 39 connected thereto and to the adjacent upright. In this way, the treadle may be operated to turn or revolve the drum or the pawl released to permit turning of the drum to any desired position, while a brake 40 extending up-

wardly and inwardly from the pawl and treadle engages at its upper end with the inside of the rim 32 to hold the drum at any desired point. In this way, each line of lettering or part of a picture or drawing may be brought up to the same or any desired point of the workman's hands, thus eliminating reaching on the part of the workman. In addition, the device may be enlarged to accommodate a large sheet, such as for window show, say 6 feet by 12 feet, which could only otherwise be accommodated against a wall by moving away objects, if indeed, such a large area or space could be found, and tacking the same against the wall at least 18 inches from the floor so that the operator or workman could kneel down to letter the bottom edge. However, this would require a step ladder to reach the top, only the line of lettering that could be done standing naturally on the floor permitting movement without climbing, stooping, etc., would be in a proper and comfortable position, and a slanting bench or working surface if preferred, would be lacking, as in connection with show cards. With the present device, a sign of any length or width can be accommodated and each line of lettering is brought to the natural point of the hand thereby saving at least one-third of the workman's time, and if it is desired to work in an upright position; the bench may be elevated or raised to the desired position on the uprights, as above explained, using either the curved or flat surface, and with the former, a slight curvature of the working surface makes it impossible to lodge drops from the brush on the work, as they would do when working upright against a wall and invariably drop on the sign.

The bottom edge of the flat or curved surface may be provided with an adjustable ledge 41 having a vertical slot 42 near each end engaged by a screw and washer 43 permitting the ledge to be lowered or to be raised above the surface to retain the work thereon and keep the same from sliding off of the working surface. The ledge may be adjusted and held at any height by the screws, and is provided with a groove 44 in its outer face and near its top edge to make a convenient slide for the finger in drawing parallel lines across the paper etc., as with a rule. When two or more sections or drums are fitted together as heretofore described, the right hand outside edge of the working surface of each section is cut away as shown at 45 to provide a channel or slot between the sections to permit a card or paper etc., to be held, especially at the bottom, by webbing or tape 46 stretched across the bench and held taut by spring or elastic with hook-shaped metal pieces 47 at each end engaging the slots to make it

adjustable. The thimbles permit the several sections or drums to be coupled together as heretofore explained.

In addition, the slots will accommodate in a similar manner, a tape or chalk line, etc., to mark horizontal parallel or other lines in marking off a sheet or card, the opposite edges being marked off with scales as shown at 48 to facilitate this. In addition to permitting the sections to be fastened together to lengthen the bench at any time, the uprights or standards at the ends, are adapted to support for vertical adjustment, a drying rack 49 having standards 50 depending therefrom slidably engaging the uprights 3, in grooves 51 provided in the opposed portions thereof and resting on the thimbles of the axle, so as to be raised or lowered therewith. The rack is provided with a bottom portion 52 braced to the standards 50 as shown at 53, end members 54, and a top 55, the top and bottom portions being imperforate boards or the like and the ends having a plurality of rows of rods 56 connecting them between said top and bottom to form perforate shelves on which the work is placed to dry. The bottom portion is also provided at its forward edge with a scale 57 in inches, or other standard scale, like the opposite edges of the drum, so that by holding a pencil or crayon at suitable places and revolving the drum, the paper may be marked off vertically or circumferentially. It will also appear that when the bench is vertically adjusted, the inside fixture and rack will be simultaneously adjusted therewith.

In view of the foregoing, it is thought that the construction and use of the device will be readily understood, and that it will commend itself to persons skilled in the art to which it appertains.

Having thus described my invention, what I claim is:—

1. A revolving sectional bench for use by artists, draftsmen, sign, show card and poster painters or the like, comprising drums, means for rotatably supporting the same, means for coupling the drums, and means for revolving the drums and holding the same against movement.

2. A work bench of the class described, comprising a series of connected drums, a stationary axle supporting the same for rotation, means for adjusting the drums vertically and a rack above the drums and adjustable therewith.

3. A work bench as characterized, comprising a drum having a curved work surface, a plane work surface and an open portion, a suitably supported axle for said drum, a fixture fixed on the axle within the drum, said axle being held from rotation and means for revolving the drum on the axle.

4. A work bench as characterized, comprising a suitably supported revolving drum having an end recess at the outside edge, holding means engaged in said recess and opposite end of the drum, means for revolving the same, and means for holding the drum against movement, said drum having plane and flat work surfaces provided with projecting ledges.
5. A work bench as characterized, comprising a base, uprights on the same, an axle adjustably supported by the uprights, a drum on the axle, said drum having work surfaces, means for revolving the drum, and a rack above the drum and adjustable with the axle.
6. A work bench as characterized, comprising a plurality of drum sections having end members, an axle support, an axle carried thereby engaged by said end members, couplings for said axles and coverings forming work surfaces on the drum.
7. A work bench as characterized, comprising a series of drum sections having end members, axles for the same suitably supported, thimbles coupling the axles, said drum sections each having a cut-out at one end and work holding means engaging said cut-outs and disposed across the sections.
8. A work bench comprising a base, uprights at the ends thereof provided with slots, an axle having flattened portions engaged in said slots, means carried by the uprights to support the axle and vertically adjust the same, a drying rack having standards supported on the axle for vertical adjustment therewith, a revolving drum on the axle and having work surfaces, treadle-operated ratchet means for turning the drum, and means for holding the drum from turning when the treadle is released.
9. A work bench comprising a base, uprights at the ends thereof, an axle carried by the uprights, a drum thereon, means to turn the drum step by step, means to retard the movement thereof, means to prevent end-wise movement of the axle and drum, means to hold the drum in an adjusted position, said drum having a semi-circular curved work surface and a plane work surface on one-quarter portion thereof, the remaining portion being open, said axle being stationary and a fixture on the axle and adjustable vertically or horizontally thereon.
10. A work bench comprising a suitably supported drum, said drum having working surfaces and an opening therein, an axle on which the drum revolves, and a fitting on the axle for adjustment in a horizontal or vertical position, said fitting having bins or shelves of different depths and having the back portions thereof disposed on a slant for the purpose set forth.
11. A work bench comprising a base, uprights on the base and spaced apart in parallel relation, said uprights being provided with vertical guideways, a horizontal axle having ends held from turning in said uprights, said axle being equipped to be coupled to a similar axle for connecting a plurality of bench sections, drums forming said sections, a drying rack above the drums and having depending standards engaged in said guideways, means to adjust to axle, drums and rack vertically, said drums having working surfaces, said surfaces being curved and flat, there being an opening in the drum, a fixture on the axle, means to secure the fixture to the axle and to adjust the same angularly, a cogged wheel on the drum, a spring pawl engaging the wheel, means to actuate the pawl and a brake for stopping the rotation of the drum.
12. In a work bench of the class described, a drum having a work surface provided with curved and flat portions and an opening between the same across the drum, means for supporting the drum for rotation about its axis and for vertical adjustment, means for checking rotation of the drum, and a stationary cabinet within the drum and accessible through the opening.

In testimony whereof I affix my signature.

HERBERT R. ELLIS.