May 23, 1933. M. O. JUNG 1,910,293

STAINING RACK

Filed March 21, 1932

Fig. 1.

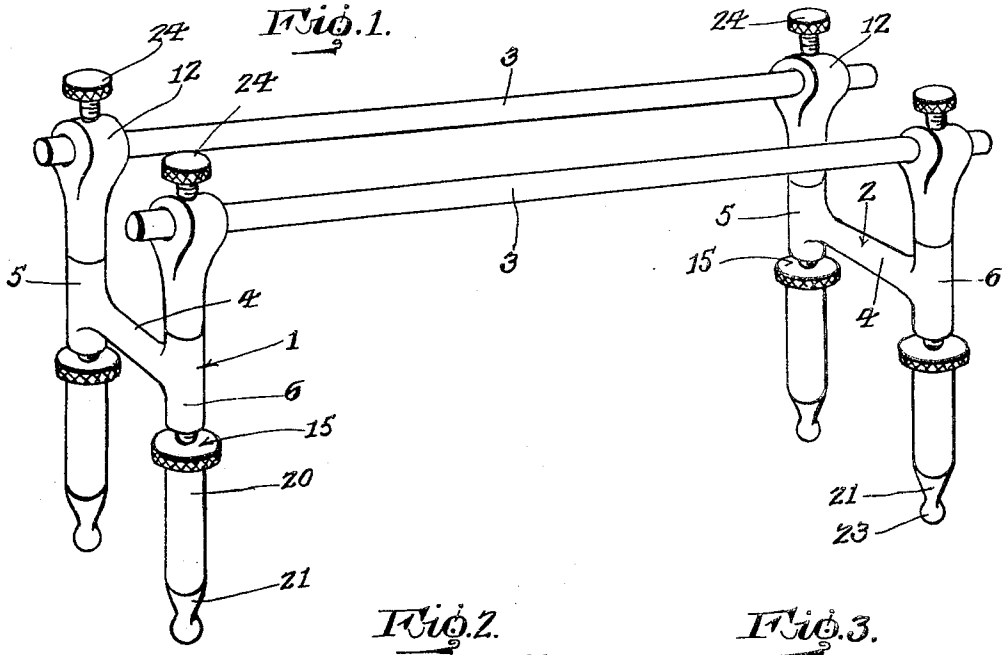


Fig. 2.

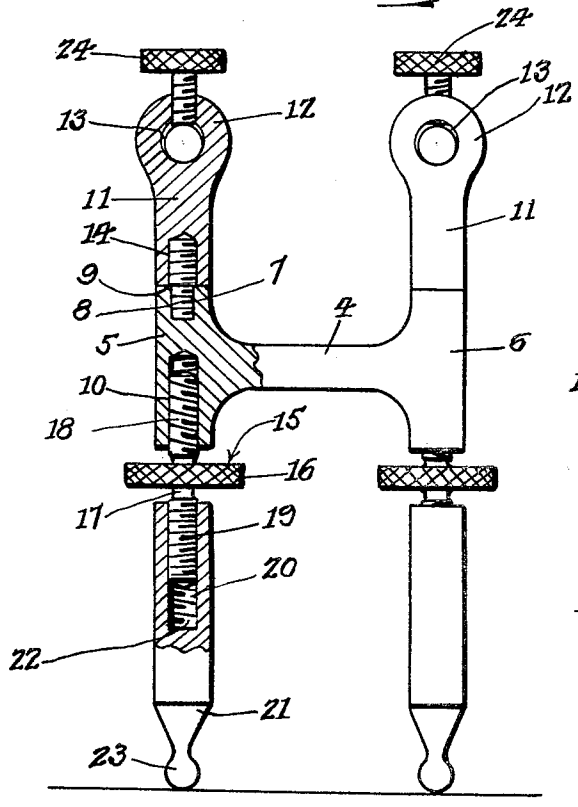
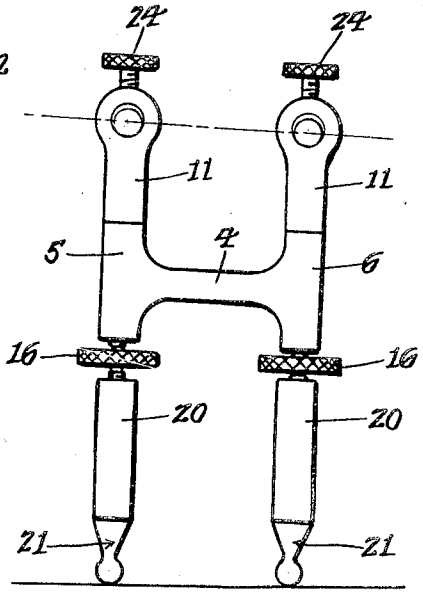


Fig. 3.



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Patented May 23, 1933

1,910,293

UNITED STATES PATENT OFFICE

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STAINING RACK

Application filed March 21, 1932. Serial No. 600,293.

My invention relates to a staining rack for microscopic slides or for any purpose for which it may be found applicable, and is designed for use in laboratory work, physician's and dentist's offices and in hospitals.

The essential objects of my invention are to insure for satisfactorily sustaining the plates when for drying or for other purposes; to provide for supporting the plates at various heights and at different angles; and to attain these ends in a strong, durable, compact, adjusable, thoroughly efficient and comparatively inexpensive structure.

To the above ends essentially my invention consists in such parts and combination of such parts as fall within the scope of the invention as claimed.

In the drawing:

Figure 1 is a perspective view.

Figure 2 is an end sectional view.

Figure 3 is an end elevation with the rack adjusted.

The rack includes a pair of vertical supports, referred to generally at 1, 2, arranged in opposed spaced relation and each of like construction. The rack also includes plate sustaining rods arranged in opposed spaced relation, supported by the supports 1, 2 and indicated at 3. The distance between the supports 1, 2 and the length of rods 3 can be as desired.

Each support includes an H-shaped intermediate part of section formed of a horizontal bar 4 terminating at each end in and centrally of a vertical bar. The vertical bars are disposed in parallel spaced relation and indicated at 5, 6. Each vertical bar has a socket 7 in its upper portion. The socket 7 has a threaded wall and fixedly engaging therewith is a coupling member 8 in the form of a peripherally threaded bolt having an annular peripheral shoulder 9 intermediate its ends which abuts against the top edge of the vertical bar. Each vertical bar has its lower portion formed with a socket 10 opening at the bottom edge of the bar. The wall of the socket 10 is threaded.

Attached to each member 8 is a horizontally and vertically adjustable supporting element 11 having its upper end enlarged, as at 12 and provided with an eye 13 for receiving an end terminal portion of a rod 3. The lower portion of element 11 is formed with a socket 14 opening at its bottom edge. The wall of socket 14 is threaded for adjustably engaging with the upper part of a member 8. The members 8 of each support are arranged in parallel spaced relation.

Threadedly engaging with the wall of the socket 10 is a rotatable extension member 15, consisting of a circular thumb piece 16 formed integral with a bridge part 17 and a pair of oppositely disposed peripherally threaded extensions 18, 19 connected together by bridge part 17. The thumb piece 16 is disposed centrally of the bridge part 17 and the latter intersects the axis of thumb piece 17. The threads on extension 18 are left and on extension 19 right.

Adjustably connected to the extension 19 is the cylindrical upper portion 20 of a foot piece or element 21. The portion 20 is formed with a socket 22 having a threaded wall. The extension engages with such wall. The lower end of foot piece 21 is of globular form as at 23.

Carried by the enlarged upper end 12 of the supporting element 11 is a set screw 24 which extends into eye 13 for removably engaging a rod 3 to bind it against the wall of the eye thereby preventing the shifting of the rod lengthwise thereof relative to the supporting element, as well as preventing the revolving of the rod in the eye.

The foot pieces are independently adjustable relative to the sleeve to provide for increasing and decreasing the height of the supports, as well as to provide for the front or rear of such elements being higher or lower with respect to each other to dispose the plate at an angle. The same function can be obtained by adjusting the supporting members 11 relative to the coupling elements 8. The supporting elements can also be angularly adjusted with respect to the bars 5 or 6. The extension members 15 are independently adjustable and are provided for increasing and decreasing the height of the supports. The same function can also be obtained by the sleeves 20.

What I claim is:—

1. In a staining rack, a pair of vertical supports of like form and each including an intermediate part, a pair of foot elements, a pair of upper supporting elements, means for horizontally and vertically adjusting said upper elements, relative to said intermediate part and means for vertically adjusting bodily said upper elements and intermediate part relative to said foot elements, a pair of spaced parallel uninterrupted sustaining rods extending through said upper elements, said supports being adjustable on and lengthwise of said rods, and means for detachably binding said supports in their adjusted position to said rods.

2. In a staining rack, a pair of spaced parallel sustaining rods, a pair of spaced supports, each including an intermediate part carrying a pair of spaced parallel apertured supporting elements for adjustably mounting lengthwise of said rods, each of said supports being provided with means for positioning the apertures in said elements at an angle with respect to and vertically adjusting said elements relative to and independent of said intermediate part, and each of said supports provided with means for vertically adjusting simultaneously said part and elements and for disposing said part and elements bodily at an inclination, and means carried by the supports for clamping them in adjusted position to and with respect to said rods.

3. In a staining rack, a pair of spaced parallel supports, each including an intermediate part, a pair of apertured spaced parallel supporting elements above said part, a pair of spaced parallel foot elements below said part, means coacting with said supporting elements and part for vertically adjusting said elements and angularly positioning the apertures in said elements with respect to said part and means interposed between said foot elements and part for vertically adjusting said part relative to the foot elements and inclining the support from front to rear, a pair of spaced sustaining rods mounted in the apertures of said supporting elements, said supports being lengthwise adjustable upon said rods, and means for detachably clamping the supports to the rods.

4. In a staining rack, a pair of spaced sustaining rods, a pair of sectional supports each having a pair of spaced openings at its top, the openings in one support aligning with the openings in the other support, each rod being slidably mounted in a pair of aligning openings, each of said supports provided above its transverse median with means for extending it lengthwise and for selectively disposing its openings at a horizontal inclination and means below its transverse median for extending it lengthwise and for disposing it at an inclination from front to rear, and means carried by the supports for detachably clamping them to the rods.

5. In a staining rack, a pair of skeleton supports of like form, each provided with an opening at the front and at the rear of its top, each of said supports including selective independent means at spaced points of its front and rear for extending the length thereof at its front and rear and for disposing it at an inclination from front to rear, the openings of one support aligning with the openings in the other support, a pair of spaced sustaining rods, each mounted in a pair of aligning openings, said supports slidably mounted in and adjustable lengthwise of said rods, and means carried by the supports for detachably clamping the latter to said rods.

6. In a staining rack, a pair of supports, each being of like form and including a pair of spaced parallel foot elements, an intermediate part, rotatable means interposed between said elements and intermediate part for vertically adjusting the latter, a pair of spaced parallel vertically and angularly adjustable upper elements, each formed with an opening and means for maintaining said upper elements in adjusted position, the openings in one pair of upper elements aligning with the openings in the other pair of upper elements, a pair of spaced parallel sustaining rods, each extending through a pair of aligning openings, said supports being adjustable lengthwise of said rods, and means carried by the upper elements for maintaining the supports in adjusted position relative to said rods.

7. In a staining rack, a pair of parallel spaced supports of like form and each consisting of an intermediate part, a pair of spaced threaded coupling members secured to and extended upwardly from said part, a pair of spaced parallel vertically and horizontally adjustable apertured supporting elements threadedly engaging with said members, a pair of spaced parallel foot elements arranged below said part and means interposed between and threadedly engaging in said part and foot elements for vertically adjusting said part and disposing the support at an inclination from front to rear, and a pair of spaced sustaining rods slidably mounted in the apertures of the supporting elements of and detachably connected to said supports.

In testimony whereof, I affix my signature hereto.

MANNER O. JUNG.