March 19, 1929. A. J. MAY 1,705,582

VEHICLE SUPPORT

Filed May 28, 1924

Fig. 1.

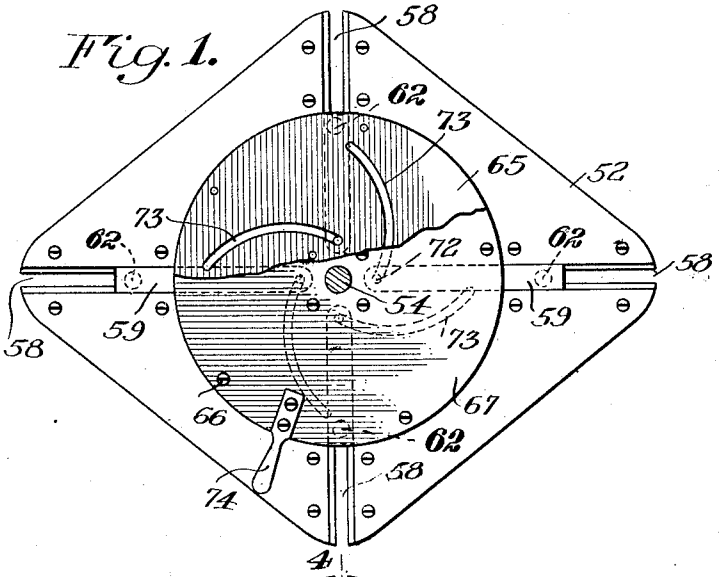


Fig. 3.

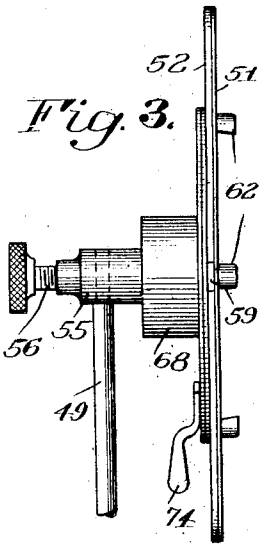


Fig. 2.

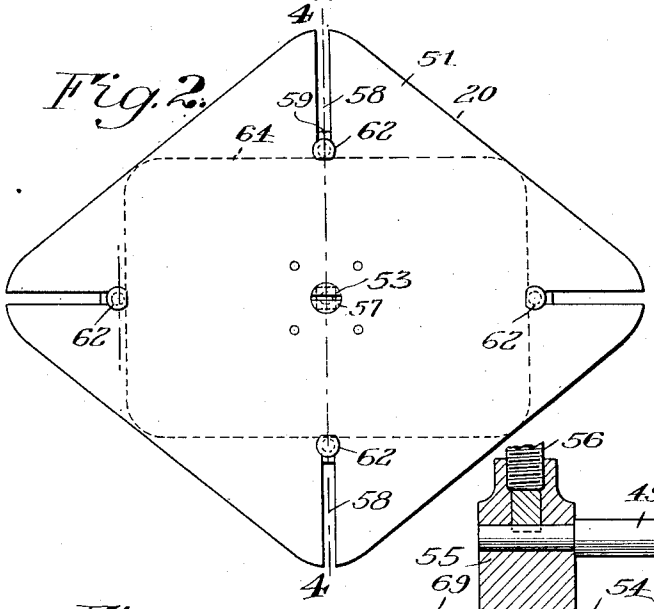


Fig. 4.

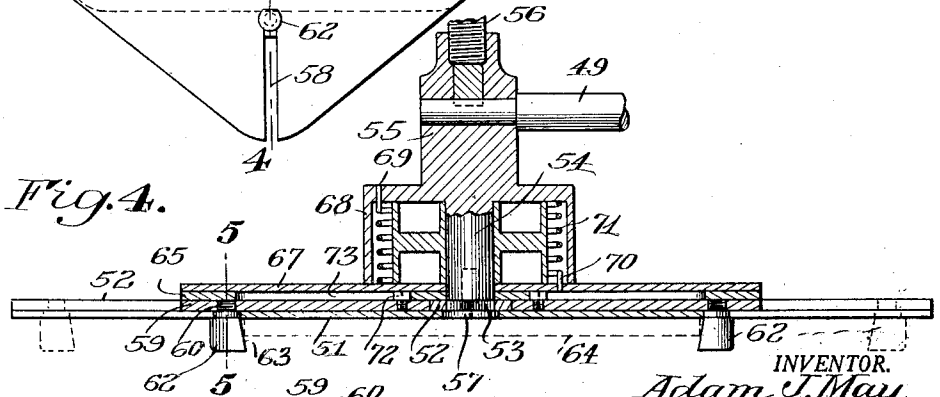
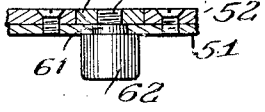


Fig. 5.



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Patented Mar. 19, 1929. 1,705,582

UNITED STATES PATENT OFFICE.

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ARTICLE SUPPORT.

Application filed May 28, 1924. Serial No. 716,506.

This invention relates to article supporting means or fixtures of the variety, for example, adapted for supporting an article such as a photographic film holder adjacent a surgical or dental chair, the chief object of the invention being to provide an improved apparatus of this character comprising a simple, practical and conveniently operated frame for receiving and retaining a film holder or other article with means for supporting the frame in a variety of different positions of adjustment in use.

To these and other ends the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Figure 1 is a rear elevation of the article receiving frame;

Figure 2 is a front elevation of the same;

Figure 3 is a side elevation thereon;

Figure 4 is a sectional view on the line 4—4 in Figure 2;

Figure 5 is a detailed sectional view on the line 5—5 in Figure 4.

Similar reference numerals throughout the several views indicate the same parts.

The present invention is applicable to a wide variety of uses, being shown in the present instance, by way of illustration, as an attachment for a surgical or dental chair for adjustably supporting a photographic film holder in position to have the head of the patient placed against the holder during the exposure.

An arm 49 may be mounted in any convenient manner, such as upon an adjustable bracket arranged to be secured to a dental chair, so that the frame 20 carried by the arm 49 and described below may be shifted to any desired position with respect to the head of a patient sitting in the chair. The frame 20 is preferably carried at the upper end of the arm 49, and constitutes a means for receiving or holding the article to be supported, which article may be, for instance, a photographic film holder.

Frame 20 preferably has the parallelogram shape shown and comprises a plate 51 against which the film holder is placed and gripped by a plurality of expanding fingers hereinafter described. Fixed to the rear side of plate 51 and coextensive therewith is a plate 52 having at its center a square opening fitting the square end 53 of a stud 54 extending forwardly from the frame head 55. The latter has an opening in which the supporting arm 49 is received and secured by a thumb screw 56. A screw 57 in the forward end of stud 54 has a head portion overlapping plate 52 and secures the latter immovably to the stud. Plates 51 and 52 are secured together as by means of screws and are thus fixed to the frame head 55. These plates are formed with radially extending slots 58 of less width in plate 51 than in plate 52. Sliding longitudinally in the slots in plate 52 are elements or slides 59 each carrying adjacent its outer end a stud 60 having an enlarged or cylindrical portion 61 sliding in the slot in plate 51 and a still larger end portion 62 undercut on the side thereof toward the center of the frame as at 63 to form a finger for gripping the film holder indicated in dotted lines at 64. The enlarged outer end of each finger 62 overlying plate 51 serves to slidably retain the supporting element 59 in the slot 58 in plate 52 and the element is further guided by a plate 65 rotatably carried at its center on stud 54 against the rear side of plate 52. Plate 65 is secured as by means of screws 66 to a plate 67 rotating on the stud and plates 65 and 67 are held against plate 52 by a cylindrical housing 68 on the head 55 surrounding stud 54. Within the housing and secured at one end 69 to the latter and at the other end 70 to plate 67 is a coiled spring 71 tending to rotate plates 65 and 67 in one direction.

Plates 65 and 67 are for the purpose of moving the fingers 62 inwardly and outwardly to grip and release a film holder, being connected with the elements or slides 59 carrying the fingers by pin and slot means best shown in Figures 1 and 4. Each slide 59 has fixed therein a stud 72, the rearwardly projecting end of which works in a curved slot 73 in plate 65, there being one such slot for each of the finger slides. Plate 67 carries a handle 74 for rotating or oscillating it and it is apparent from this construction that rotation of the handle in the clockwise direction tends to move the finger slides outwardly through the pin and slot connections described, to separate the fingers for the reception of a film holder. When the latter is located between the fingers against plate 51 and the handle released,

spring 71 rotates plates 65 and 67 in the opposite direction and cams the finger slides inwardly to cause the fingers to grip and retain the film holder. All that is required to operate the frame, therefore, is a movement of handle 74 in one direction which moves all of the fingers simultaneously outward. The film holder is then inserted and the spring 71 returns the fingers and maintains them in gripping engagement with the holder.

The holding frame is compactly and economically constructed of but few parts chiefly of plate material capable of being inexpensively manufactured and assembled, while the article engaging means or fingers are conveniently operated by movement of a single handle 74 in one direction, the gripping actuating of the fingers being automatically accomplished and maintained by spring means.

I claim as my invention:

1. A film holder support comprising a head having a stud and a housing thereabout, a holder receiving plate fixed on said stud and formed with outwardly extending guide-slots, elements sliding in said guide slots having holder engaging fingers thereon, a cam plate rotatable on said stud between said holder plate and housing and formed with cam slots, pins on said elements engaged in said cam slots and, a spring coiled in said housing and secured to said head and cam plate for rotating the latter and moving the fingers to engage a holder.

2. A film holder support comprising a head having a stud fixed thereon, a holder receiving plate fixed on said stud and formed with guide slots, elements sliding in said slots having holder engaging fingers thereon, a cam plate rotatable on said stud and formed with cam slots, pins on said elements engaged in said cam slots, spring means for rotating said cam plate and moving said fingers to engage a holder placed therebetween, and means for stationarily supporting said head in a predetermined position.

3. A film holder support comprising a head having a stud fixed concentrically therewith, a cylindrical housing spaced concentrically about said stud, a holder receiving plate fixed on said stud and formed with guide slots, elements sliding in said guide slots having holder engaging portions thereon, cam plate means rotatable on said stud between said housing and holder plate and formed with cam slots extending partially through the same from the side thereof adjacent said holder plate, pins on said elements engaged in said cam slots, a coil spring confined in said housing about said stud and fixed to said head and cam plate means for rotating the latter and moving the fingers to engage a holder, manually operable means for rotating said cam plate in the opposite direction to separate said fingers, and means for stationarily supporting said head in a predetermined position.

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