

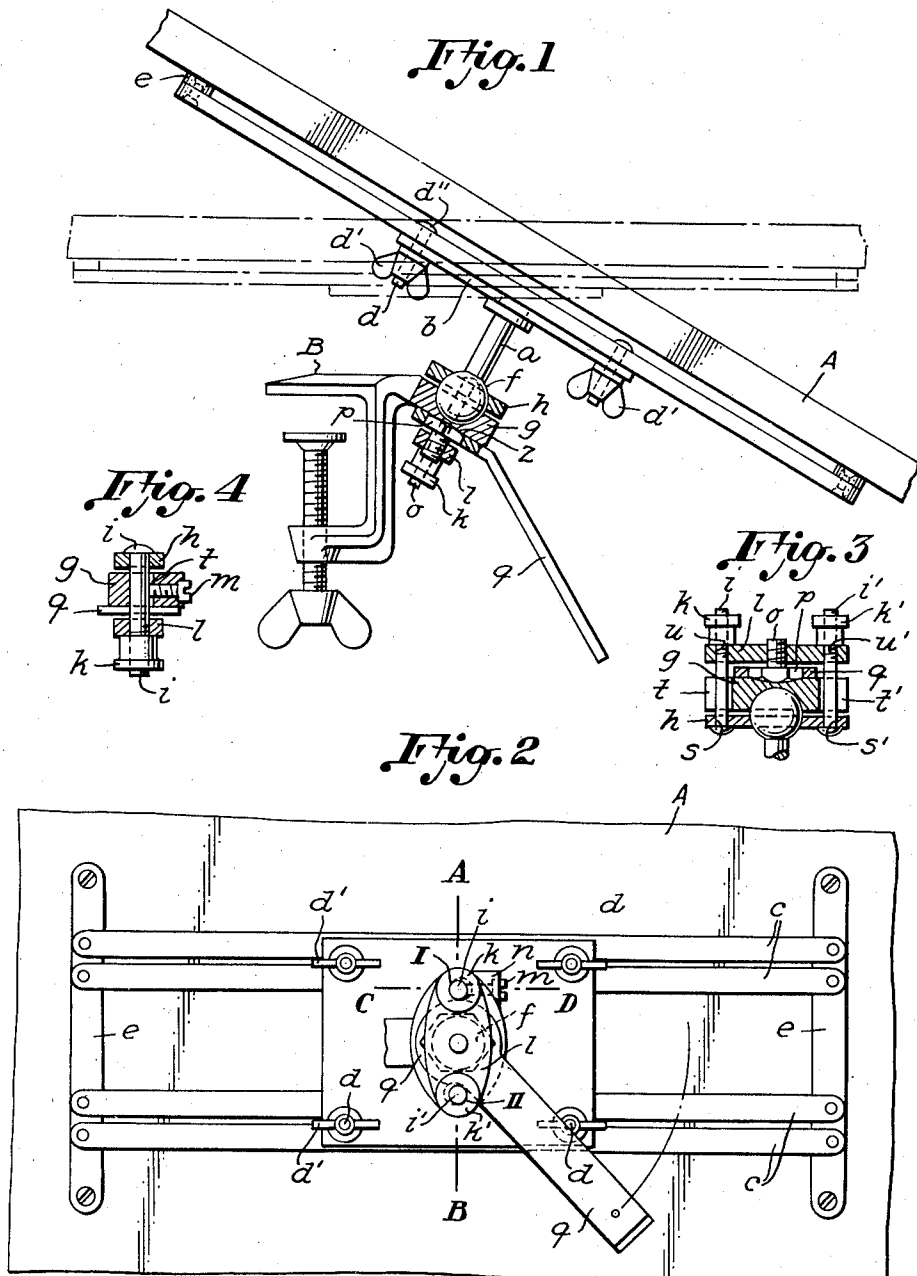
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SUPPORTING MEANS FOR DRAWING BOARDS

Original Filed March 19, 1938



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SUPPORTING MEANS FOR DRAWING
BOARDSKarl Gack, Erlangen, Germany; vested in the
Alien Property CustodianOriginal application March 19, 1938, Serial No.
197,012. Divided and this application May 13,
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2 Claims. (Cl. 287-87)

The present application is a division of application Serial No. 197,012, filed March 19, 1938.

This invention relates to a device for fixing a drawing board to a table or the like, which makes it possible to displace the drawing board both by swinging it into different planes and sliding it in the direction from top to bottom.

The invention also has for its object to provide a drawing board holder which ensures that the drawing board will remain rigidly fixed in every position and will therefore not move while drawing is proceeding, for drawing is greatly disturbed, when the drawing board moves suddenly in an unexpected manner.

This is effected according to the invention through the parts of the joint of the drawing board holder being secured with respect to one another against lateral turning and through the pin of the joint being arranged so as to be capable of sliding and of being fixed on the drawing board. In a preferred arrangement any turning of the parts of the joint is prevented by a clamping screw which is arranged perpendicularly to the connecting line of the two screws connecting the parts of the joint and which bears against the shank of one of the two connecting screws and by this means presses both connecting screws against the wall of their bores in the middle piece. For slidably supporting the joint pin on the drawing board a plate is provided, which by means of four bolts is capable of sliding on and being fixed to guides formed by rails. In place of the rails for fixing and sliding the drawing board holder on the drawing board a supporting plate, for instance of sheet metal, may be used, which is provided with one or more guiding slots and has depressions which constitute a reinforcement and are preferably arranged on either side of the guiding slots.

A drawing board holder constructed according to the invention enables the drawing board to be swung in a simple manner into different planes, whereby drawing is greatly facilitated. It also ensures unobstructed working on the drawing board. Any turning of the parts of the joint with respect to one another is prevented by the pressure action of the clamping screw which is disposed perpendicularly to the shank of one screw. This eliminates the play of the screw bolts in their bores, which play is practically unavoidable in the manufacture. Furthermore, through the slidable mounting of the joint pin on the drawing board the mobility of the latter is greatly increased. Through sliding and swinging the

drawing board with respect to the joint pin a motion of the drawing board in the direction from top to bottom or vice versa can be obtained, which corresponds almost to twice the height of the board.

The employment of the supporting plate referred to above is of particular advantage. This plate is very rigid and unyielding. As it consists of a single constructional part it is very simple and cheap to make and can be fixed to the drawing board rapidly.

The accompanying drawing illustrates constructional examples of the invention.

Fig. 1 shows the device in side elevation, partly in section through the centre axis of the parts of the joint.

Fig. 2 is a bottom plan view of the device.

Fig. 3 is a section on line A—B of Fig. 2 through the parts of the joint.

Fig. 4 is a section on line C—D of Fig. 2.

The drawing board holder is fixed to the working table by means of a screw clamp B. To the drawing board A the drawing board holder is fixed by means of the pin *a* which carries the ball *f* of the joint. The ball *f* is disposed so as to be capable of turning in a spherical socket provided in the middle part *g* formed by the clamp B. The ball *f* is clamped by the upper part or plate *h* of the joint, which has a corresponding spherical hole, in the position of use by corresponding pressure against the middle part or plate *g*. For connecting the upper part *h* of the joint, the middle part *g* and the bottom plate *l* with one another the two bolts *i* and *i'* are provided, which extend through the bores *s*, *s'*, the guide slots *t*, *t'* and the bores *u*, *u'* of the parts. The bolts *i*, *i'* are provided with nuts *k*, *k'*.

In the centre of the bottom plate *l* is a screw *o*. The head *p* of this screw, which lies between the plate *l* and the middle piece *g*, is preferably slightly conical and is guided in a countersunk bore *z* of the middle piece *g*. The head of the screw is connected to a lever *q* which brings about and releases the clamping effect exerted between the upper part *h* of the joint and the middle piece *g* on the ball *f*.

With the lever *q* in the position which allows the ball to turn unhindered and consequently the drawing board to swing, the two bolt nuts *k*, *k'* are tightened. On the lever *q* being swung in the direction for unscrewing the screw *o*, *p*, the middle piece *g* and the plate *l* are forced apart by the screw *o* screwing out of its thread or its head *p*. This results in a corresponding tight-

ening of the upper part *h* of the joint against the middle piece *g* and a clamping of the ball *f* between the parts *h* and *g*. For releasing the clamping action the lever *q* is swung in the opposite direction.

For compensating the play of the connecting bolts *i, i'* in their bores *s, s', u, u'* or in their slots *t, t'*, which cannot be eliminated in the manufacture of the parts, so as to prevent any turning of the parts of the joint with respect to one another, a clamping screw *m* is provided, which bears against the shank of one of the two connecting bolts, for instance the bolt *i*, and presses the latter at the point I tightly against the wall of the slot *t*. This causes the shank of the bolt *i'* to be pressed at the point II firmly against the wall of the slot *t'*. Preferably the middle piece *g* is provided in the region of the screw *m* with a suitable thickening *n*.

The joint pin *a* is fixed to the plate *b*. The latter is provided with two or more, preferably four, bolts *d* which extend through the guide slots formed by the rails *c*. By means of the nuts *d'* which are preferably in the form of wing nuts, the plate *b* and with it the whole drawing board holder may be fixed in any desired position on the rails *c*. The rails *c* are arranged at a certain distance from the drawing board *A*, for which purpose the transverse rails *e* are placed under them, so that the screw bolts *d* which may be provided with heads *d''* will have sufficient clearance during the sliding motion.

Having now particularly described and ascer-

tained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1. A device for supporting and adjusting a drawing board or the like comprising a pin secured at one end to the board and having a ball at the other end, an upper plate, a middle plate, and a bottom plate, the upper and middle plates being in contact with and adjacent to the ball, means to maintain the plates in alignment and to limit the distance between the upper and bottom plates, and means operatively connected to the bottom plate including a screw clamp secured to the middle plate to force the middle plate against the upper plate to clamp the board in position.

2. A device for supporting and adjusting a drawing board or the like comprising a pin secured at one end to the board and having a ball at the other end, an upper plate, a middle plate, and a bottom plate, the upper and middle plates being in contact with and adjacent to the ball, means to maintain the plates in alignment and to limit the distance between the upper and bottom plates, and means operatively connected to the bottom plate including a screw having a head and a lever connected to the head, said screw being in screw-threaded engagement with the bottom plate and the head engaging the middle plate whereby upon rotation of the lever the head will increase or relieve the pressure of the upper and middle plates on the ball.

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