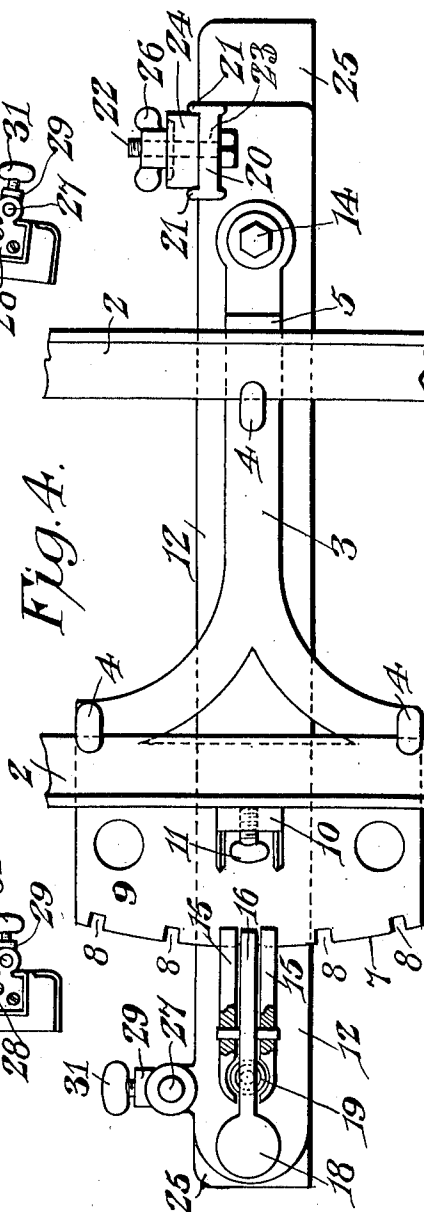
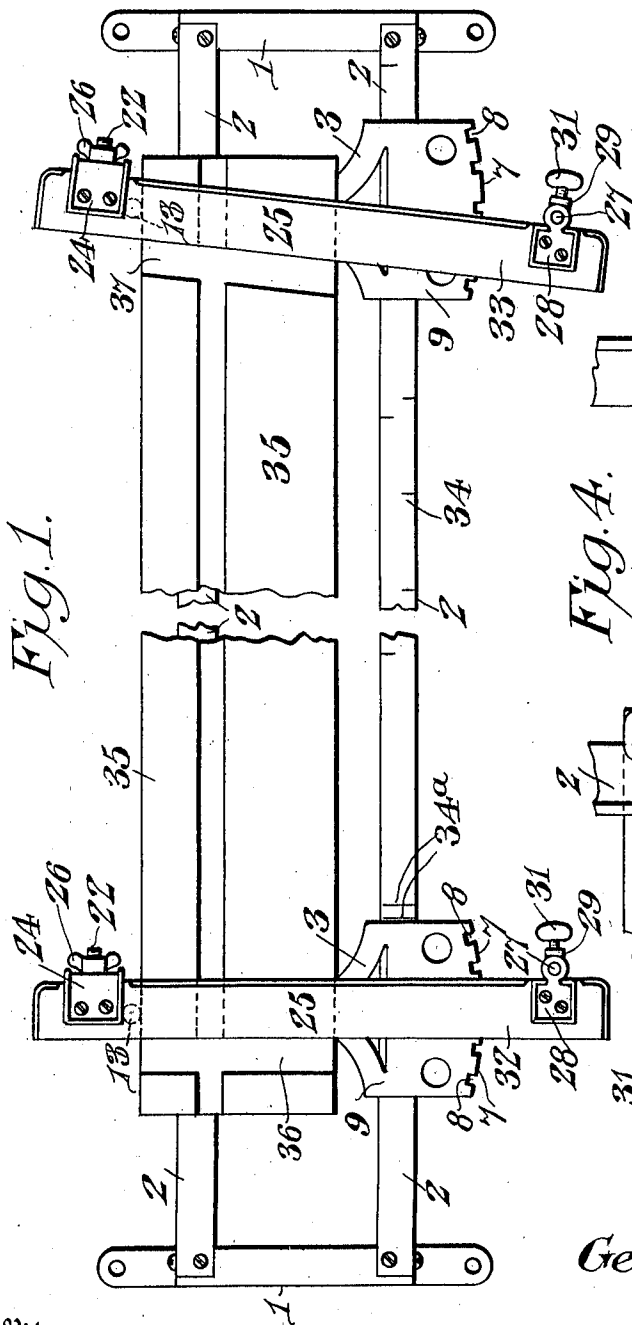


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 ADJUSTABLE AND REVERSIBLE MEASURING AND GAINING MACHINE.
 APPLICATION FILED FEB. 3, 1910.

1,035,328.

Patented Aug. 13, 1912.

2 SHEETS-SHEET 1.



Witnesses
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334

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 Inventor

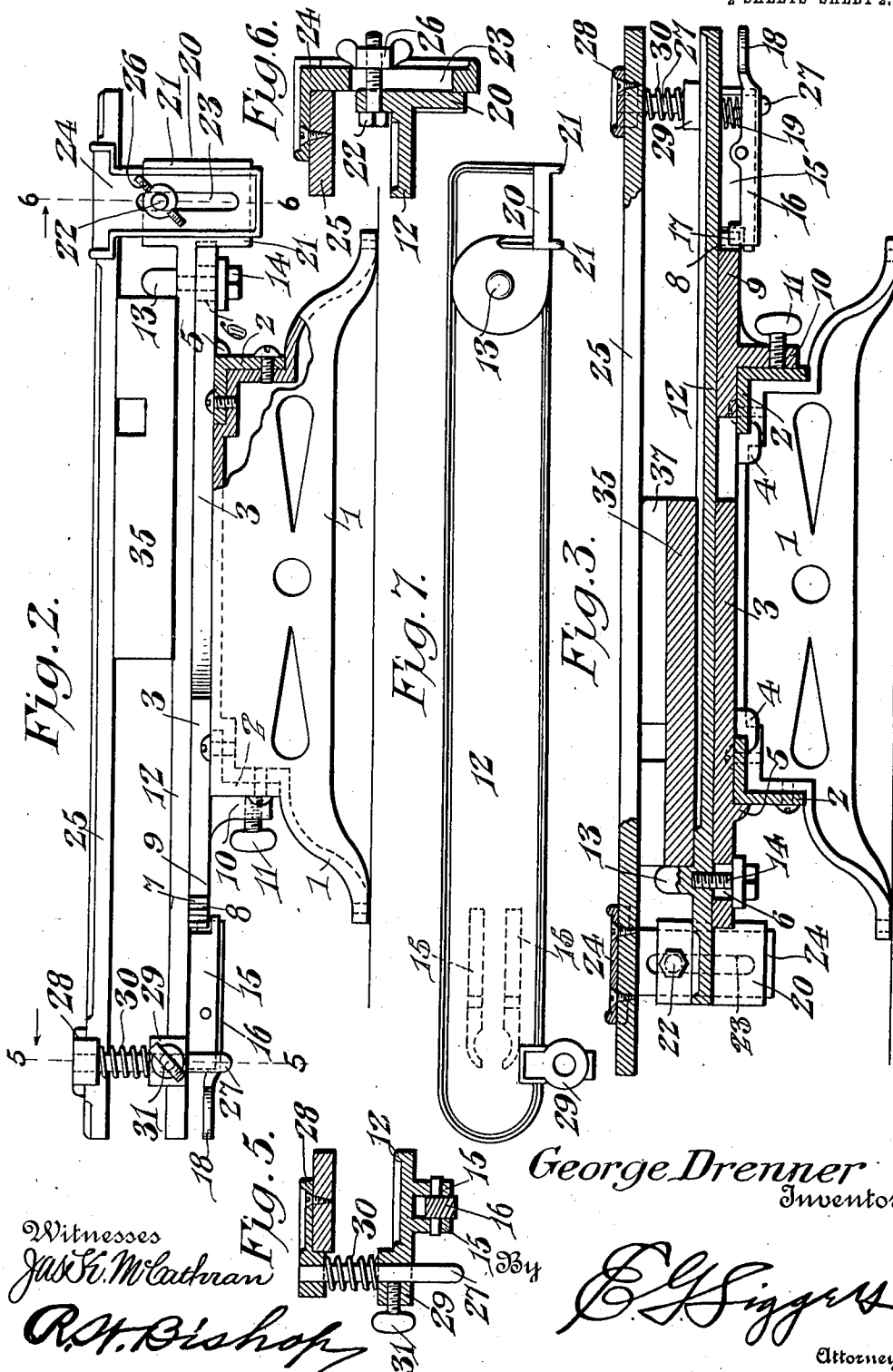
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UNITED STATES PATENT OFFICE.

GEORGE DRENNER, OF POLO, ILLINOIS.

ADJUSTABLE AND REVERSIBLE MEASURING AND GAINING MACHINE.

1,035,328.

Specification of Letters Patent.

Patented Aug. 13, 1912.

Application filed February 3, 1910. Serial No. 541,936.

To all whom it may concern:

Be it known that I, GEORGE DRENNER, a citizen of the United States of America, residing at Polo, in the county of Ogle and State of Illinois, have invented an Adjustable and Reversible Measuring and Gaining Machine, of which the following is a full, clear, and exact description.

This invention is an apparatus for use in making window or door jambs, and the object of the invention is to provide means whereby the transverse grooves near the ends of the jamb may be accurately located and rapidly produced.

The invention seeks to provide a device by which a workman may produce the gains or grooves in any width or length of a window or door jamb without previously measuring or laying off the jamb.

A further object of the invention is to provide means for cutting the groove or gain in a jamb at a right angle to the longitudinal edges of the jamb or at any desired inclination thereto, and to provide for the formation of the right or left jamb with equal facility.

A further object of the invention is to provide a device in which jambs of any desired thickness may be easily made and uniformity in the location of the gains attained.

All these objects, and such other incidental objects as will appear as the nature of the invention is more fully understood, are attained in the use of the apparatus illustrated in the accompanying drawings, and the invention consists in certain novel features thereof which will be hereinafter fully described and then more specifically pointed out in the appended claims.

In the drawings,—Figure 1 is a plan view partly broken away, of an apparatus embodying my invention. Fig. 2 is an elevation of the apparatus with a part shown in vertical section, as viewed from the right hand end of Fig. 1. Fig. 3 is a transverse vertical section through one of the clamping guides or gages, the device being reversed from the position occupied in Fig. 2, that is, looking toward the right of Fig. 1. Fig. 4 is an enlarged bottom plan view of one of the adjustable clamps. Fig. 5 is a detail section on the line 5—5 of Fig. 2. Fig. 6 is a detail section on the line 6—6 of Fig. 2. Fig. 7 is a plan view of the lower member of the adjustable clamp.

In carrying out my invention, I provide a support consisting of end frames 1 adapted to be rigidly secured to a work bench or other fixed support and provided with recesses at their upper corners in which are secured the ends of angle bars 2 which extend between the two end frames and serve to rigidly connect the same. The angle bars 2 are in parallel spaced relation and form the front and back of the supporting frame and also serve as guide rails to which adjustable clamping gages are secured. These gages, which may be practically identical one with the other, each comprises a base plate 3 of substantially T-shape and is provided on the face constituting its under side, when the parts are in operative position, with depending lips or hook-shaped lugs 4 adapted to engage the inner edges of the front and rear rails 2, as shown clearly in Figs. 3 and 4, and near its rear end the base plate is provided with a lug or stop 5 adapted to bear against the back of the rear rail 2, as will be readily understood. At its rear extremity the base plate is provided with an opening or passage 6, the purpose of which will presently appear, and the front end of the base plate is formed into a laterally broadened head 9 having a curved front edge 7 in which are formed a plurality of notches 8, the opening 6 being the center of the arc described by the curved edge 7.

On the underside and intermediate of the head 9 of the base plate is a depending lug or bracket 10 in which is mounted a thumb screw 11 adapted to bind upon the front face of the front rail 2 and thereby secure the said base plate at any point along the supporting frame, the corresponding lugs 4 engaging the rear edge of the front rail 2, wherefore the single screw 11 serves to very firmly hold the base plate and parts carried thereby in adjusted positions. Resting upon the base plate 3 is a clamping bar 12 constituting the lower or end member of a clamp, and this bar has on its upper surface near its rear end a pin or spur 13. The bar 12 is secured to the base plate 3 by a pivot bolt or screw 14 passing through the opening 6 in the base plate and engaging the clamping bar 12 immediately under the said spur 13. On the under side of the bar 12, near the front end thereof, I provide a pair of longitudinal ribs 15 between which a latch 16 is pivotally mounted. This latch is provided at its rear end with a tooth 17

adapted to engage one of the notches 8 in the head 9 of the base plate, and the front end of the latch is formed into a finger piece 18 by which it may be conveniently operated. A spring 19 is disposed between the clamping bar 12 and the latch 16 in advance of the pivotal support of the latch in order to hold the rear end of the latch normally in engagement with a notch 8.

On one side edge of the bar 12, at the rear end of the same, I provide a guide 20 having ribs 21 on its outer face, and a bolt 22 is mounted in this guide near the upper end of the same to project through a longitudinal slot 23 in an arm 24 secured to an upper clamping bar 25, a thumb nut 26, being mounted on the bolt 22 and adapted to be turned home against the arm 24 to secure the same at any desired position of adjustment so that the space between the clamping bars 12 and 25 will accommodate jambs of any desired thickness. The clamping bar 25 has practically the same dimensions as the clamping bar 12, but the upper bar is preferably of wood, while the lower bar is preferably of metal. This construction is strong and rigid and will permit the door jamb to be securely clamped in position in the apparatus, while at the same time the upper bar will not injure that face of the jamb which is exposed in use and will not break or otherwise injure the cutter when the same is manipulated by a careless or inexperienced workman. The front end of the upper clamping bar is held to the lower bar, to secure a jamb between them, by means of a holding device comprising a bolt or pin 27 secured at one end in a bracket 28, secured upon the upper clamping bar and projecting laterally from one long edge thereof, the lower end of the pin passing through a lug or ear 29 projecting from the like edge of the lower clamping bar directly under the bracket 28, as shown clearly in Figs. 2 and 5. A spring 30 surrounds the bolt or pin 27 between the two clamping arms and tends to move the upper clamping bar away from the lower clamping bar, and a set screw 31 is mounted in the lug or ear 29 to bear against the bolt or pin 27 to hold the same in adjusted positions.

A clamp consisting of the base plate or carrier 3, lower clamping bar 12, and upper clamping bar 25 and their connections, as above described, is provided for each end of the jamb, and one of the clamps, designated 32 in Fig. 1, is intended to remain fixed, relative to the supporting frame, after having been once adjusted and secured thereto, while the other clamp, designated 33 in Fig. 1, is intended to be adjusted from time to time along the frame to accommodate jambs of different lengths. To insure accuracy in the adjustment of the clamp,

the front rail 2 of the supporting frame is provided on its upper face with a series of graduations 34 in accordance with standard frames or jambs to accurately locate the adjustable clamp according to the length of jamb to be made. Two scales are provided, the front scale being graduated for single-light windows, and the rear scale being graduated for double-light windows. A jamb 35 is inserted under the upper clamping bars with one edge, to constitute the outer edge for use resting against the spurs or stops 13 of the lower clamping bars and one end at the proper distance from the respective clamp, this distance being ascertained by measurement, or by a suitable indication on the machine. The upper clamping bars are then brought down firmly upon the upper surface of the jamb and secured by tightening the thumb screws 31. The clamp, appearing at the left in Fig. 1 and designated 32, is ordinarily set at a right angle to the outer edge of the jamb, by engaging the latch 16 in the central notch 8 and the left hand straight edge of the upper bar 25 of this clamp, as viewed in Fig. 1 will serve as a guide or gage against which the dado cutter may be supported when moved across the jamb so as to cut a groove or gain 36 therein. The proper position for the clamp 32 is indicated by the lines 34^a, on the graduated bar 2. The clamp 33 is adjusted to the desired angle by engaging the latch 16 thereof in the proper notch 8 of the base plate of the clamp, and the left hand straight edge of the upper bar of this clamp likewise serves as a guide for the cutter while producing a groove 37. The jambs for one side of the windows having been grooved or gained in this manner, the right hand clamp is set at a right angle, while the left hand clamp is set at the same inclination formerly given the right hand clamp. The jambs for the opposite sides of the window may then be produced by moving the cutter across the jamb while resting the same against the edges of the upper clamping bars in the manner previously described.

When a jamb has been finished, the set screws 31 of the clamps are released and the springs 30 at once throw the front ends of the upper clamping bars from the jambs so that the latter may be easily removed. The upper clamping bar may be adjusted to and from the lower clamping bar so as to accommodate jambs of different thicknesses by loosening the thumb nut 26, then raising or lowering the upper bar, and then turning the thumb nut home against the dependent arm 24 so as to secure the upper clamping arm in its adjusted position.

My device is exceedingly simple in its construction and compact in the arrangement of its parts so that it will not easily

get out of order and may be quickly adjusted to the requirements of any particular case.

Window or door jambs of any standard length or thickness may be rapidly finished by the use of the apparatus, and its many advantages are thought to be obvious without detailed mention of the same.

While I have described the principle of operation of the invention, together with the apparatus which I now consider to be the best embodiment thereof, I desire to have it understood that the apparatus shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

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

1. An apparatus for the purpose described comprising a suitable frame, and a pair of clamps mounted thereon, each clamp comprising a base plate fitted to the supporting frame, a clamping bar pivoted near one end to the base plate to be moved laterally with relation thereto, another clamping bar adjustably connected to the first named clamping bar and having one edge formed into a tool guide, and means on the first named clamping bar to engage the base plate and hold the clamp in adjusted positions.

2. In an apparatus for the purpose set forth, the combination of a supporting frame, a base plate fitted to the supporting frame, a clamping bar mounted on the base plate, another clamping bar connected at one end to the corresponding end of the other clamping bar, a bolt extending from the second named clamping bar, an ear on the first named clamping bar receiving said bolt, a spring surrounding the said bolt between the bars, and a set screw carried by the first named bar and adapted to bear against said bolt.

3. The combination of a supporting frame, a base plate fitted to and adjustable along said frame and having a front edge provided with a plurality of notches, a clamping bar pivoted upon the base plate at the rear end of the same, a catch mounted on said clamping bar and adapted to releasably engage one of said notches to effect an adjustment of the bar relative to the plate, and an upper clamping bar connected with the pivoted clamping bar to bind a jamb thereto.

4. In an apparatus for the purpose described, a supporting frame, a pair of base plates mounted on the frame for independent adjustment along the frame and with respect one to the other, and a pair of co-acting clamping bars mounted on each base plate and adapted to receive and secure a jamb between them, said bars being provided with means imparting to one of the bars a normal tendency to move away from

the other bar, one of said bars being pivotally connected to the base plate adjacent one end of the pair of bars for adjustment in a plane substantially parallel with the base plate.

5. The combination of a supporting frame, a base plate fitted thereto and adjustable longitudinally thereof, a clamping bar pivotally mounted on the base plate and provided with a guide on one side at its rear end, an upper clamping bar provided at its rear end with a depending arm fitting in the said guide and formed on the side remote from the depending arm to direct a tool, means for adjustably securing said arm to the guide, means for locking the front ends of the clamping bars together, means for locking the clamping bars in adjusted relation to the base plate, and means for locking the base plate in adjustable relation to the frame.

6. The combination of a supporting frame, a base plate fitted to and adjustable along said frame and having an arcuate front edge provided with a plurality of notches, a clamping bar pivoted upon the base plate at the rear end of the same, a latch pivoted on the under side of said clamping bar and adapted to engage one of said notches, a spring between the base plate and the latch in advance of the pivot, and an upper clamping bar connected with the pivoted clamping bar to bind a jamb thereto.

7. The combination of a supporting frame comprising longitudinally spaced angle bars, a base plate resting on said bars and provided on its under side with lugs adapted to engage under the inner edges of the bars, a bracket depending from the base plate near its front end, a thumb screw mounted on said bracket and bearing against the front bar, and clamping bars carried by said base plate and adapted to hold a jamb.

8. The combination of a supporting frame comprising longitudinally spaced rails, a base plate resting on said rails and provided with lugs adapted to engage the rails, a bracket mounted on the base plate near one end, a thumb screw mounted on said bracket and bearing against one of the rails, the base plate having an arcuate front provided with a plurality of notches, a clamping bar pivoted upon the base plate at one end of the same, a catch mounted in the other end of said clamping bar and adapted to releasably engage one of said notches to effect an adjustment of the bar relative to the plate, and an upper clamping bar connected with the pivoted clamping bar to bind a jamb thereto.

9. In an apparatus for the purpose described, an elongated supporting frame adapted to be attached to a bench, and clamps each comprising a carrier mounted on and adjustable along said frame in the

direction of the length thereof, and two bars connected together at one end and one adjustable toward and from the other at the other end, the connected bars being
 5 pivotally mounted on the respective carriers to move about their pivots in a plane parallel with the plane of adjustment of the carriers along the supporting frame.

10. In an apparatus for the purpose described, an elongated supporting frame, and clamps each comprising a carrier mounted on and adjustable along said frame in the direction of the length thereof, and two bars connected together at one end and one
 15 adjustable toward and from the other at the other end, the connected bars being pivotally mounted on the respective carriers to move about their pivots in a plane parallel with the plane of adjustment of the carriers
 20 along the supporting frame, each pair of connected bars being provided with a stop for material lodged between the bars said stop being located substantially in the pivotal axis of the connected bars.

25. 11. In an apparatus for the purpose described, an elongated supporting frame, and clamps each comprising a carrier mounted on and adjustable along said frame in the direction of the length thereof, and two
 30 bars connected together at one end and one adjustable toward and from the other at the other end, the connected bars being pivotally mounted on the respective carriers to move about their pivots in a plane parallel
 35 with the plane of adjustment of the carriers along the supporting frame, each pair of bars being provided with a stop for material lodged between the bars, said stop being located substantially in the pivotal
 40 axis of the connected bars, and each pair of connected bars being provided with a latch in coactive relation to the respective carrier for holding the connected bars in different positions of adjustment about their
 45 pivotal axis.

12. In an apparatus for the purpose described, an elongated supporting frame having means for its attachment to a bench and clamps each comprising a carrier mounted
 50 on and adjustable along the frame in the direction of the length of the latter and provided with means for securing the carriers in adjusted positions, and two bars one pivotally mounted on the carrier to move in
 55 a plane about its pivot substantially parallel with the plane of movement of the carrier along the frame, and the other bar being connected at one end to the pivot end of the first named bar and provided with
 60 means for its adjustment bodily toward and

from the first named bar, and means for securing that end of the second bar remote from its pivot to the first bar.

13. In an apparatus for the purpose described, an elongated supporting frame having means for its attachment to a bench,
 65 and clamps each comprising a carrier mounted on and adjustable along the frame in the direction of the length of the latter and provided with means for securing the
 70 carriers in adjusted positions, and two bars, one pivotally mounted on the carrier to move in a plane about its pivot substantially parallel with the plane of movement of the carrier along the frame, and the other
 75 bar being connected at each end to the respective ends of the first named bar and provided with means for its adjustment bodily toward and from the first named
 80 bar, the connecting means between the two bars at the ends remote from the pivot end of the first named bar including means for holding the connecting means in adjusted
 85 positions and a spring normally tending to move the second named bar away from the first named bar.

14. In an apparatus for the purpose described, an elongated supporting frame having means for its attachment to a bench,
 90 and clamps each comprising a carrier and provided with means for securing the carriers in adjusted positions, and two bars, one pivotally mounted on the carrier to move in a plane about its pivot substantially parallel
 95 with the plane of movement of the carrier along the frame and the other bar being connected at each end to the respective ends of the first named bar and provided with means for its adjustment bodily toward and
 100 from the first named bar, the connecting means between the two bars at the ends remote from the pivot end of the first named bar including means for holding the connecting means in adjusted positions, and a
 105 spring normally tending to move the second named bar away from the first named bar, the first named bar and the carrier being provided with coacting means for locking the connected bars in different positions of adjustment about the pivot of the
 110 first named bar.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

Dated at Polo, Illinois, this 10th day of
 January, A. D. 1910.

GEORGE DRENNER.

Witnesses:

HARRY TYPER,
 I. M. KIDDER.