(No Model.) 2 Sheets—Sheet 1.

A. K. CROSS.

STUDIO EASEL.

No. 374,116. Patented Nov. 29, 1887.

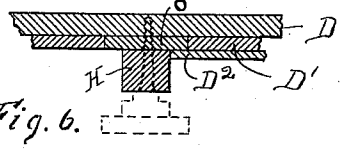


Fig. 6.

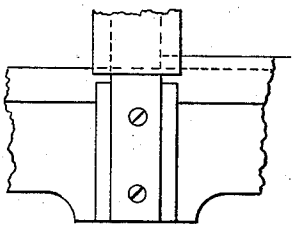


Fig. 5.

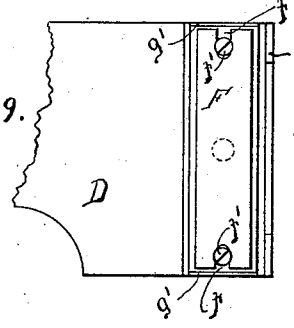


Fig. 9.

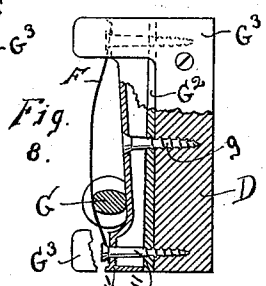


Fig. 8.

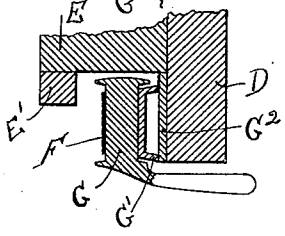


Fig. 7

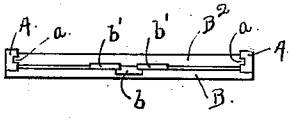


Fig. 3.

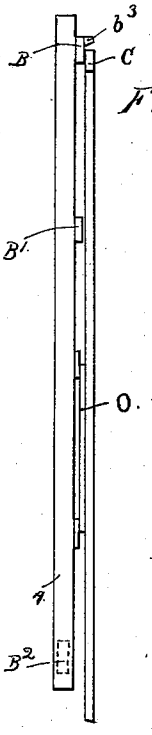


Fig. 4.

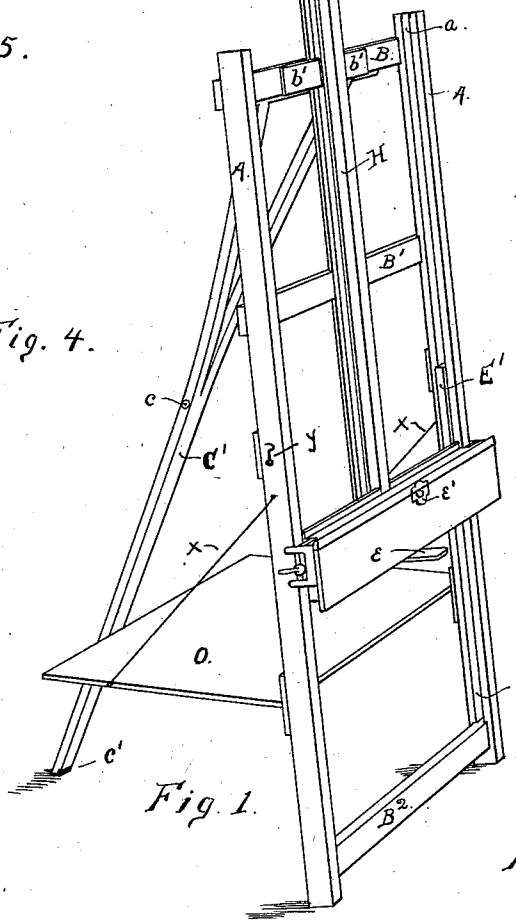


Fig. 1.

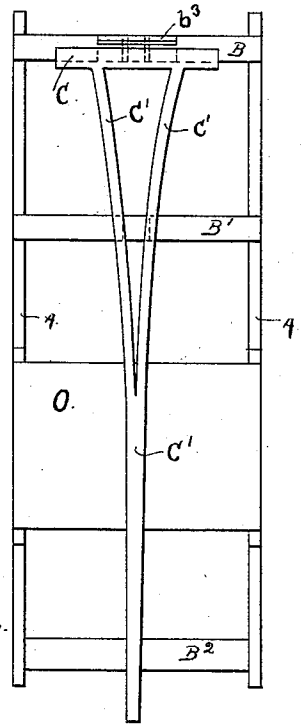


Fig. 2.

Witnesses:
Chas Hall Adams.
Martin McDonough.

Inventor.
A. K. Cross.
per A. K. Cross.
Attorney.

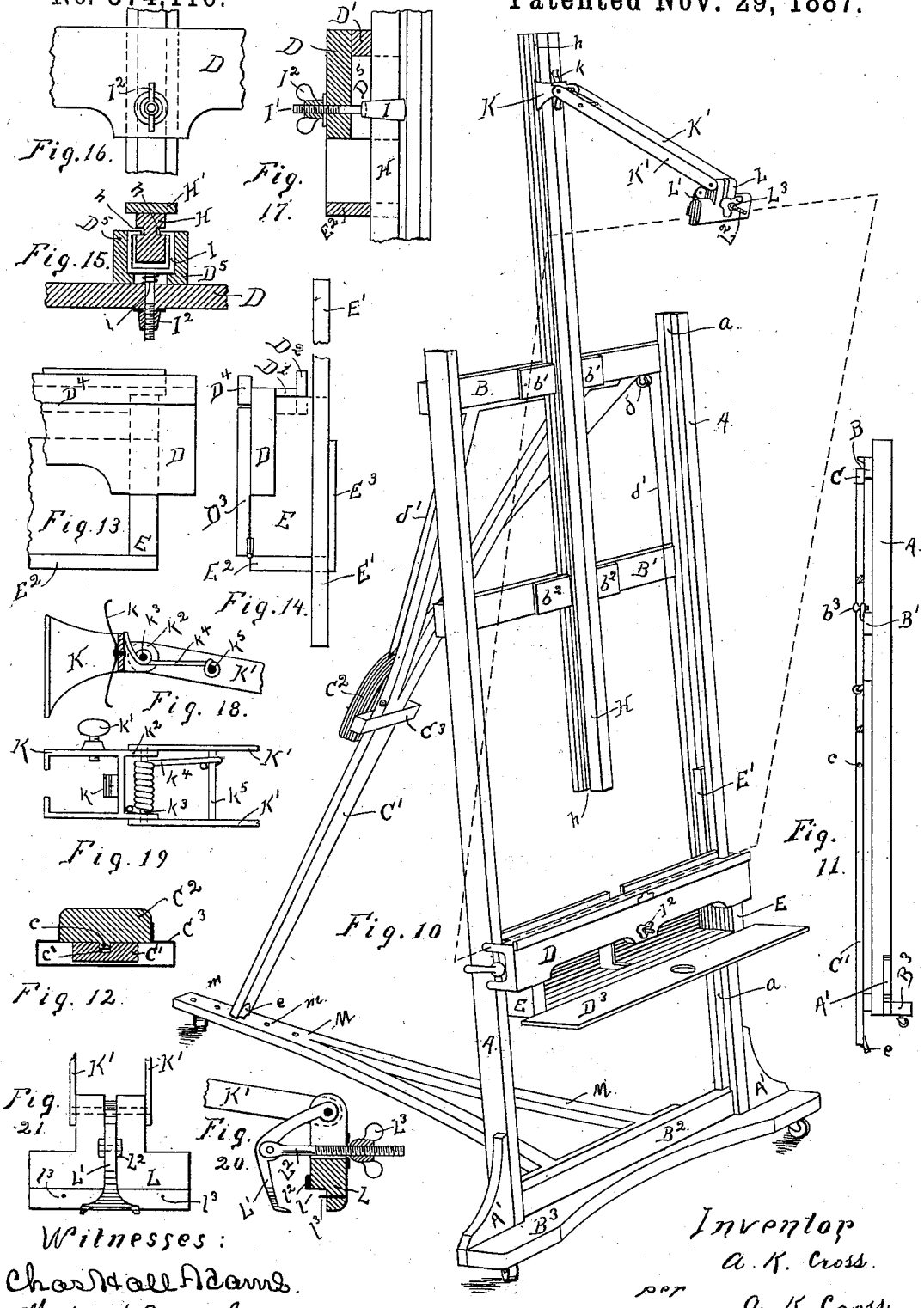
N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

A. K. CROSS.

STUDIO EASEL.

No. 374,116. Patented Nov. 29, 1887.



Witnesses:
Chas. H. Hall Adams.
Martin McDonough.

Inventor
A. K. Cross.
per
A. K. Cross.
Attorney.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ANSON K. CROSS, OF BOSTON, MASSACHUSETTS.

STUDIO-EASEL.

SPECIFICATION forming part of Letters Patent No. 374,116, dated November 29, 1887.

Application filed February 25, 1887. Serial No. 228,812. (No model.)

To all whom it may concern:

Be it known that I, ANSON K. CROSS, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Studio-Easels, of which the following is a specification.

My invention relates to improvements in studio-easels in which the parts are intended to close one upon another; and the objects of my improvements are, first, to insure a strong and simple construction; second, to afford facilities for the easy adjustment of all the parts; third, to provide for inclining forward and supporting pictures from the smallest to a very large size; fourth, to arrange for the easy moving of the easel when in use. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective of the easel, showing the swinging shelf behind, the locker, and central sliding bar; Fig. 2, a view of the back of the easel, showing the back leg and shelf closed; Fig. 3, a top view, and Fig. 4 a side view, of the same; Fig. 5, a back view of the central part of the front of locker and lower end of central sliding bar; Fig. 6, a top view of the same; Fig. 7, a horizontal section through end of front of locker, showing the cam and its seat; Fig. 8, an end view of the same; Fig. 9, a view of the back of locker-front, showing spring and cam-seat; Fig. 10, a perspective of the complete improved easel; Fig. 11, a side view of frame of easel, showing back leg and folding base closed; Fig. 12, a section through back leg and the sliding weight; Fig. 13, a view of the front of end of locker; Fig. 14, an end view of same with slide and swinging front of locker closed; Fig. 15, a horizontal section through central part of front of locker and central sliding bar; Fig. 16, a front view of same; Fig. 17, an end view of same, the front and bottom of locker being in section; Fig. 18, a vertical section through the sliding end of incline device; Fig. 19, a top view of same; Fig. 20, a vertical section through center of clamping end of incline device; Fig. 21, a view of back of same.

Similar letters refer to similar parts throughout the several views.

The uprights A A and the horizontals B B' B^2 form the frame of the easel. The ends of the horizontals B B' are notched to give a shoulder on the inside of uprights A A and are screwed to the back edges of uprights A A. Grooves *a a* run the entire length on the inside faces of uprights A A. The lower horizontal, B^2, is tenoned into these grooves and secured by screws from the outside of uprights A A. The horizontals B and B' have vertical slots *b b* in the middle of the front faces. These slots are partly covered by strips *b'* *b'* and b^2 b^2.

The head-piece C of the back leg is hinged to the back of the upper horizontal, B, whose upper edge is provided with the customary stop, b^3. The leg is completed by splitting for about half its length a tapering strip, C', separating the two parts, and tenoning them into the head-piece C. A rivet, *c*, with washers upon each edge of C', prevents the leg from splitting beyond the cut. This construction gives strength, and the wood taking its natural curve a neat appearance results.

In Fig. 1 the easel is shown without the improved base and casters, the back leg and uprights A A having at their ends pieces of soft rubber to prevent slipping.

The ledge for the support of the picture is formed into a locker the hinged front of which, D^3, dropping forms a shelf. Piece D forms the basis of the locker. Pieces E E, having the slides E' E', are fastened to the back of piece D. These pieces are of such a size that when the slides E' E' are placed in the grooves *a a* there shall be between uprights A A and piece D a space for the spring F, cam G, seat G', and backing G^2.

The cam G is the same as in the sketching-easel whose application, No. 215,237, filed October 4, 1886, has been allowed. Its weight brings it to the bottom of its seat G', and its handle hanging down keeps the long axis of the cam parallel to upright A, in which position the cam does not fill the space between its seat and upright A, and the locker is free to slide upon uprights A A.

The cam-seat G' is an adaptation of the wedge-shaped slot used in the sketching-easel to the heavier construction of the studio. It is held by the screws *g* and *f' f'*.

In place of the simple strap or retaining-band used in the sketching-easel a steel spring, F, is used. This fulfills the purposes of said band—namely, serves as a gib for the cam and

prevents it from falling out when the locker is removed from upright A A, and also, by its pressure upon upright A, prevents the locker dropping suddenly upon horizontal B^2. The spring F is held in place upon its seats at each end of cam-seat G′ by the screws f' f', which pass through the slots f f in each end of the spring. Its motion lengthwise is prevented by the stops g' g' at the ends of the seat G′, and by means of the screws f' f' it may be adjusted to give any desired pressure.

The cam-seat G′ is adjusted by means of the wedge-shaped piece G^2, inserted between cam-seat G′ and piece D, so that when the cam is at the bottom of its seat and is turned at right angles to upright A it binds and holds the locker with sufficient firmness for ordinary work. By raising the cam in its tapering seat before turning sufficient pressure may be obtained to support the heaviest picture. The cam is filed, so that flat surfaces may come against the seat and spring and keep it in position.

The plate G^3 is screwed to the ends of piece D, giving finish and preventing lengthwise motion of the locker.

The space between piece D and upright A is filled by a strip, D′, which is secured with its upper surface flush with that of piece D. On the back of strip D′ strip D^2 is fastened. This projects above strip D′ and prevents the picture slipping back off the ledge. The strip D^4 prevents it slipping forward.

The bottom of the locker E^2 is fastened to the ends of pieces E E. The back E^5 is secured to the back edges of pieces E E E^2 and bar H. The front D^3 is hinged to pieces E E, is held against piece D by a spring-catch, e', and open by the button e, which is fastened to the bottom of piece E^2.

The central sliding bar, H, has its front edges in the same plane as the front edges of uprights A A. On its back edge the strip H′ is secured. This slides in the slots in horizontals B and B′, being held by the pieces b' b' and b^2 b^2. In each side of bar H are the grooves h h.

In Fig. 1 the locker is shown secured to the bar H, the construction which has always been used in easels having vertical sliding bars. Figs. 5 and 6 give the details of this construction, in which the space between piece D and bar H is filled by piece d and the parts secured by screws.

In Fig. 10 is shown my improved construction, in which the locker is independent of the bar and each is adjustable. The bar may thus be secured at the top and the locker at the bottom of the easel, which permits the holding of a very large canvas. When the canvas is small, it is convenient to have the bar and locker connected to move together. The back and bottom of the locker are cut to allow the bar to slide through it, so that when closed the bar may project but little above the top of uprights A A, and by means of the yoke I, which projects into the grooves h h in bar H, and has a threaded bolt projecting through piece D, and the thumb-screw I^2 upon the same, the bar H may be clamped to the locker. The yoke I is kept from turning by pieces D^5 D^5, which are slotted to receive it, and are secured to piece D. The ends of the back of locker are held by the pieces D^5 D^5. A spring, i, keeps the yoke in position to enter the grooves in bar H.

The lower ends of bar H and the slides E′ E′ are provided with rubber cushions to receive the blow of falling upon horizontal B^2.

The locker is balanced upon the uprights A A by means of a weight, C^2, a cord passing through the weight over pulleys secured to the under edge of upper horizontal, B, and being attached at each side to the back of piece E. The weight slides upon the back leg, C′, being kept central upon the same by a guide, c, which slides in a groove, c', cut in the middle of the back face of the leg. The weight is kept in place upon the leg by a strap, C^3, which encircles the leg and projects beyond the weight to allow the weight to slide far enough upon the upper part of the leg to carry the locker to the bottom of the uprights A A.

The incline device consists of a slide, K, which is held upon bar H by projecting into the grooves h h. This has a spring, k, to retain, and a thumb-screw, k', to secure, it wherever it may be placed upon bar H. The arms K′ K′ are pivotally secured to ears projecting from the slide by the pin k^3. A spiral spring, k^4, is placed upon the pin k^3, and has one end attached to the pin k^5, its pressure acting to close the arms against bar H. At their outer ends the arms K′ K′ are pivotally connected to clamps L and L′, which are suitable for a firm attachment to the edge of a picture. These may be of metal; or clamp L may be of wood or rubber and clamp L′ of metal. In the form shown the shoulder in clamp L is intended to receive the edge of a canvas, the points l^3 l^3 coming in front near the edge, the clamp L′ being brought against the back of the picture by means of the thumb-screw L^3 and the bolt L^2. The picture is securely held between the two parts, the points of which are embedded in the stretcher. To hold a frame the clamps would be opened wide to receive the edge of the frame, the front of which rests upon the soft rubber l^2, and is not scarred by the pressure of the clamp L′ upon the back of the frame. By changing the position of the slide K upon bar H any inclination desired may be given to a picture, whether large or small, and, as the slide is always above the top of the picture, pressure upon it serves to brace it the more firmly.

Fig. 10 shows the improved base of the easel with casters. Studio-easels have always been placed upon casters; but they have been frame-easels, in which the uprights were rigidly attached to the base.

At the back lower edge of horizontal B^2 a frame, M, similar to the back leg, is hinged, so as to close within the back leg or drop to the floor. At the end of frame M a caster is fit-

ted, which, when the easel is closed, occupies the space between the two parts of back leg, C′, or two casters may be fitted in a piece at right angles to end of frame M. On the front of horizontal B^2 the extension-base B^3 is secured. This has a caster at each end, and to its back edge and the sides of uprights A A braces A′ A′ are fastened. The back leg has a pin, *e*, at its extremity, which fits in holes *m m m m*, bored in frame M. The frame of the easel may thus be held at any angle up to vertical, and the whole easel may be closed for storage, not occupying any more space than the form shown in Fig. 1.

In Fig. 1 is shown a hinged shelf, O, which is held horizontal for the support of materials by chains or cords *x x*, the hook *y* being used to hold the shelf closed.

Having described my improvement, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In an easel, the combination, with the frame of easel, of a sliding locker or shelf adjusted to said frame, substantially as described, and an oval pin for retaining the same wherever desired.

2. In an easel, the combination, with an oval pin serving to secure the sliding parts, of an inclined or wedge-shaped seat for said pin by means of which the pin by being moved longitudinally upon said seat may be made to give any desired pressure to prevent motion of the sliding parts, and a spring serving as a gib for said pin, and being adjustable to produce any pressure between said sliding parts, all constructed and operating substantially as described.

3. In an easel, the horizontals B B′, having slots and covering-pieces *b′ b′* and b^2 b^2, in combination with the vertical bar H, which is fitted to slide in the slots and is held at any height by a thumb-screw on the horizontal B′.

4. In an easel, the combination, with an adjustable ledge, of a detachable extension-bar adjustable at will to the ledge or to the upper part of the easel by means of suitable set-screws, substantially as and for the purpose specified.

5. In an easel, the combination, with the frame, of an adjustable locker or ledge balanced upon said frame by a weight encircling the back leg of easel and suspended by a cord passing over pulleys at the top of easel and attached to locker, substantially as described.

6. In an easel, an incline device consisting of a slide having a spring for retaining and a thumb-screw for securing same upon upright of easel, an arm pivotally connected to said slide, a spring for closing said arm against easel and pivotally connected to outer end of said arm, and adapted by means of a thumb-screw to firmly hold the upper edge of the picture, all constructed and operating substantially as described, and serving to incline the picture at any desired angle.

7. In an easel, the front extension-piece, B^3, with side braces, A′ A′, and at the back the hinged frame M, said frame and piece B^3 being provided with casters, and the frame M having sockets for receiving and holding the end of back leg in place upon it.

8. The combination, with the frame of an easel, of a shelf hinged at the back, adapted to fold within the back leg of easel and by means, substantially as described, to be supported horizontally or held against the easel.

9. In an easel, the uprights A A, and the horizontals B B′, screwed upon their back edges, in combination with the adjustable locker and adjustable bar, the weight, the folding base, and incline device, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ANSON K. CROSS.

Witnesses:

CHAS. HALL ADAMS,

MARTIN MCDONOUGH.