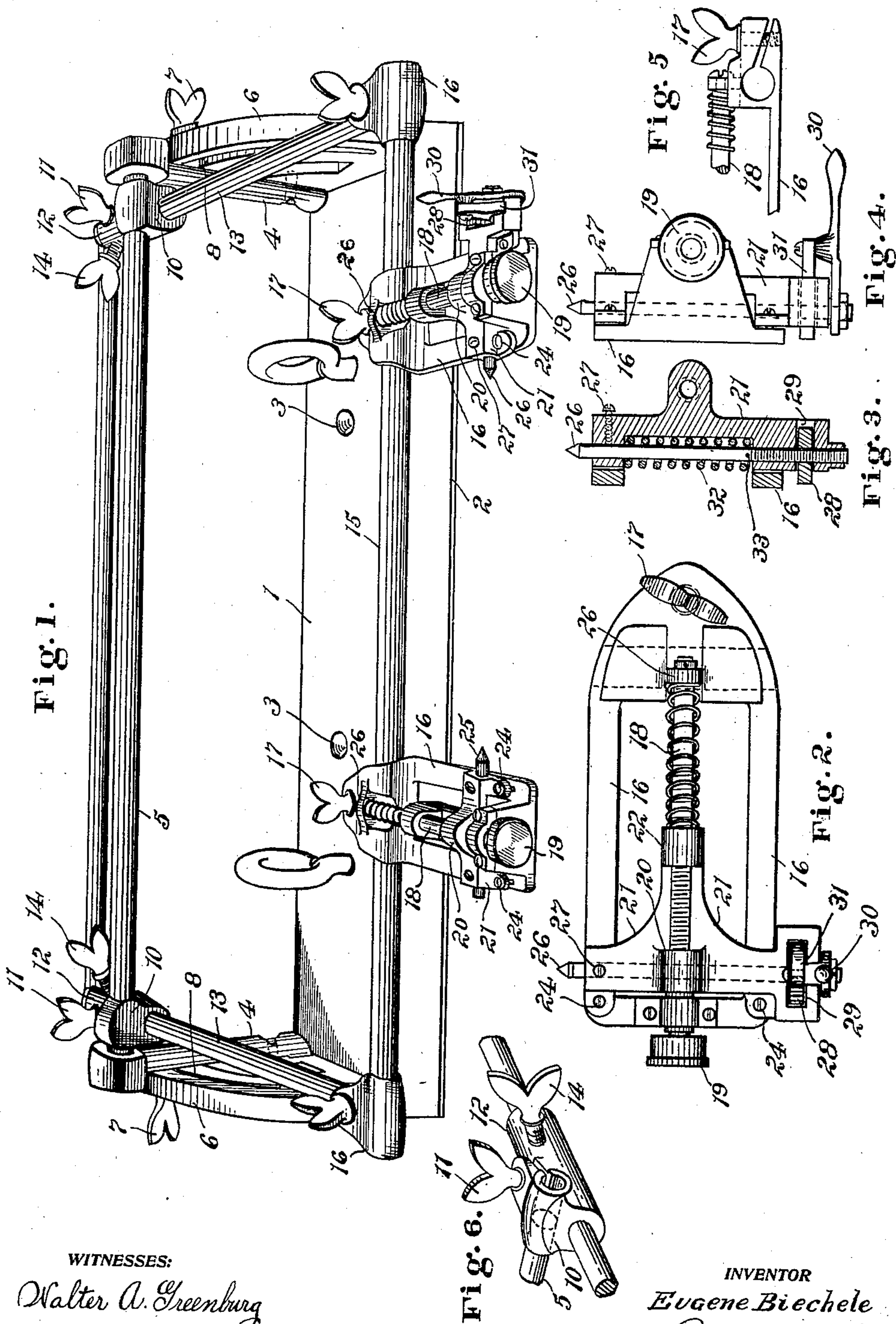


E. BIECHELE.
ADJUSTABLE FILM FRAME CARRIER.
APPLICATION FILED JUNE 8, 1908.

914,694.

Patented Mar. 9, 1909.



WITNESSES:
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UNITED STATES PATENT OFFICE.

EUGENE BIECHELE, OF DETROIT, MICHIGAN.

ADJUSTABLE FILM-FRAME CARRIER.

No. 914,694.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed June 8, 1908. Serial No. 437,249.

To all whom it may concern:

Be it known that I, EUGENE BIECHELE, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Adjustable Film-Frame Carriers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to adjustable film frame carriers for use in lithographic work and color printing and especially to means therein for bringing the register, fitting or film frame into accurate register with the
15 several plates, stones or the like used in the successive steps of the process.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

20 In the drawings, Figure 1 is a view in perspective of a carrier embodying features of the invention. Fig. 2 is a plan view, enlarged, of an adjustable film frame bearing clamp. Figs. 3, 4 and 5 are views in detail of the
25 clamp. Fig. 6 is a view in detail of a sliding hinge.

Referring to the drawings, 1 indicates a rectangular base or bed, preferably lined on its underside with felt 2, or the like, and
30 sufficiently heavy to retain its position when placed on a lithographer's stone, or similar place, although bolt holes 3 are provided if it is to be secured permanently. A pair of arms 4 connected at their outer ends by a
35 cylindrical rod 5 are pivoted each to a bracket 6 on the end of the base, and thumb-screws 7 engaging segmental slots 8 in the brackets, or other suitable clamping means, hold them in adjusted position. A pair of
40 hinges secured adjustably by split bearings 10 and clamping screws 11 or other like means affording support without play between the parts, have tubular sleeves 12 in which the end members 13 of a rectangular frame are
45 longitudinally adjustable, set screws 14 or the like holding them in place. A cylindrical front rod 15 which may be longer than the frame is removably secured to the outer extremities of the end members by suitable
50 clips 16 or the like.

A pair of pivot hinges are adjustably secured on the front rod 15. These each consist of a substantially rectangular frame 16, whose inner end is transversely apertured and slotted or otherwise fitted for a
55 take-up bearing and clamp encircling the

rod, a thumb-screw 17 holding it in adjusted position. A centrally disposed spindle 18 adapted to be turned by a milled head 19 or the like, is rotatable in end bearings 20 on
60 the frame, and is screw-threaded to shift a pivot block 21 longitudinally of the hinge, a spring in compression between a lug 22 engaged by the spindle 18 and an end bearing 23 taking up any slack in the parts. Set
65 screws 24 through the ends of the block 21 bear against the hinge frame and hold the block firmly in adjusted position. A conical tipped pivot pin 25 parallel to the rod 15 has screw-threaded engagement with the block
70 of one of the hinges or is otherwise longitudinally adjustable therein. A mating pivot pin 26 is longitudinally adjustable through an aperture in the block of the other hinge, a set screw 27 holding it from rotation,
75 a ratchet wheel 28 in the slot 29 of the block having screw-threaded engagement with the pin, and a lever 30 with double pawl 31 adapted to engage the ratchet either way affording convenient means for rotating the ratchet
80 and thereby moving the pivot pin. A spring 32 takes up slack and prevents back lash between the parts. The pivot pins 25 and 26 are adapted to clamp a film frame between them by engaging sockets in the
85 frame sides in the usual manner.

By this construction, the carrier may be adjusted to hold the film frame as desired, and the latter may be brought into accurate register with the guide marks on the stone
90 very readily even on a stone of different thickness than that on which the bed is placed. There is no possibility of movement owing to the take-up arrangement in the joints.
95

Obviously, changes in the details of construction may be made without departing from the spirit of the invention, and I do not care to limit myself to any particular form or arrangement of parts.
100

What I claim as my invention is:—

1. A device for the purposes specified comprising a base, a bracket at each end thereof, a pivot rod parallel to the base, arms each pivoted at one end to a bracket and secured
105 at the other to the pivot rod, clamping means on each arm engaging the brackets, a frame tiltable and laterally adjustable on the rod, and film frame clamping means adjustable longitudinally on the front of the frame.
110

2. A device for the purposes specified comprising a base, a pivot rod parallel to the base,

arms carrying the rod angularly adjustable on the base, clamping hinges angularly adjustable on the rod, a frame whose side members are longitudinally adjustable in the hinges, and adjustable film frame clamping means both angularly and longitudinally adjustable in the front of the frame.

3. A device for the purposes specified comprising a base, a pivot rod parallel to the base, arms carrying the rod angularly adjustable on the base, clamping hinges angularly adjustable on the rod, a frame having side rods each longitudinally adjustable in a hinge, a rear rod connecting the side rods, a front rod, and a clip on each side rod detachably engaging the front rod, and adjustable film frame clamping means both angularly and longitudinally adjustable on the front of the frame.

4. A device for the purposes specified comprising a base, a main frame articulated adjustably in parallel relation thereto, a cylin-

dric member forming the front of the frame, and film frame clamping means consisting of a pair of substantially rectangular frames each having a friction clamping bearing at one end adjustably engaging the said frame member, a pivot pin block longitudinally movable on each clamping frame, a spindle journaled in each frame longitudinally thereof having screw-threaded engagement with the pivot block, a back lash spring on each spindle engaging the block, a pivot pin journaled in each block parallel to the cylindrical member of the main frame, means for shifting the pins longitudinally and spring pressed means adapted to take up lost motion in the pins.

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

EUGENE BIECHELE.

Witnesses:

C. R. STICKNEY,

WALTER A. GREENBURG.