Feb. 11, 1947. M. SHAPIRO 2,415,766

APPARATUS FOR MOUNTING PHOTOGRAPHS

Filed July 17, 1945

Fig. 1

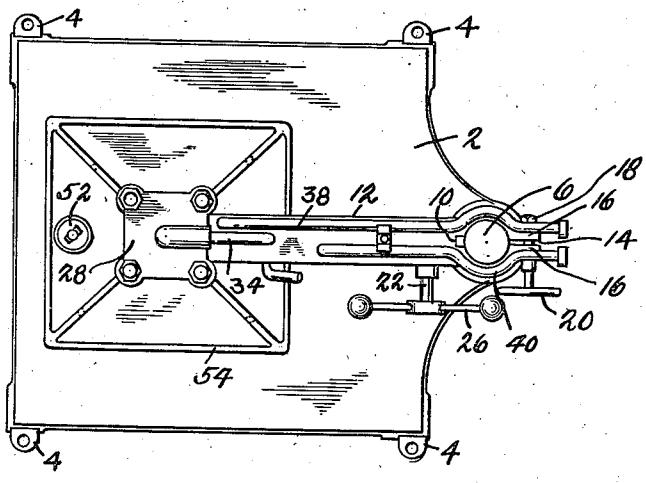
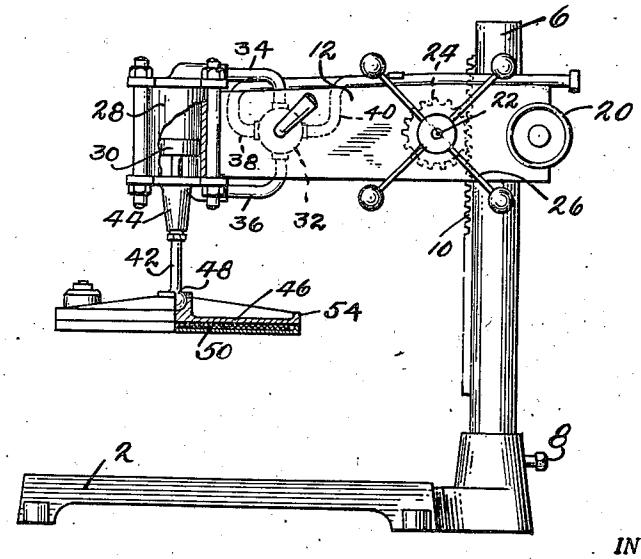


Fig. 2



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APPARATUS FOR MOUNTING PHOTOGRAPHS

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2 Claims. (Cl. 100—63)

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My invention relates to an improvement in apparatus for mounting photographs.

One of the objects of my invention is to provide a machine particularly well adapted for this type of work which will effect a saving in time and labor as compared with existing conventional equipment.

A further object of my invention is to provide apparatus for mounting photographs embodying a platen which is operated by pressure fluid, such as water, oil, air or steam, means being provided whereby not only may the operator be making a fresh charge ready while another charge is in the machine, but inasmuch as the machine opens without attention on the part of the operator, other than the setting of a valve, the preparation of the fresh charge may continue up to the time that the machine has opened sufficiently for the removal of finished work and the insertion of a new charge.

A still further object of my invention is to provide a machine of the general type referred to wherein by reason of my improved construction the travel of the platen under the impulse of the propulsion fluid is very short, which enables me to reduce the overall dimensions of the machine appreciably with a comparable reduction in cost of manufacture.

A still further object of my invention is to provide a machine such as briefly referred to wherein the platen may be brought into contact with the work manually, fluid being employed thereafter as the medium for imposing the desired pressure upon the work. This effects a saving in the time required for loading or charging the machine.

Another object of my invention is to provide a machine for mounting photographs, embodying the features above referred to, wherein the platen may be heated.

My invention has for another object to provide a machine which may readily be installed and operated in any photographer's studio with the minimum of expense.

In the accompanying drawing,

Fig. 1 is a plan view of my improved photograph mounting machine, while

Fig. 2 is a side elevational view of the same.

Referring to the drawing in detail, 2 designates the bedplate of my improved machine. This may be a flat plate of cast iron which preferably is provided with lugs or ears 4 by which the machine may be fastened to a table.

6 designates a vertically extending column, tubular or solid, which sits in a socket formed at

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one end of the bedplate 2, the column being held in place by a bolt 8.

The inner face of the column or standard 6 is provided with a rack 10 which may be integral with the column or rigidly secured to it in suitable fashion.

Overlying the bedplate 2 is an arm 12, the rear end of which is provided with a vertically extending bore for the reception of the column 6. This bore is split as shown at 14, and provided with laterally extending opposed ears or lugs 16. These ears or lugs receive a bolt 18 the head of which bears against the outer face of one ear, its other end projecting through the other ear. Threaded upon this end of the bolt is a small handwheel 20. By giving this wheel a partial turn the arm 12 is quickly clamped immovably to the column 6, or as quickly released.

Mounted in suitable bearings in the arm 12 in proximity to the rack 10 is stub shaft 22 carrying a pinion 24 which is in constant mesh with the rack 10. The shaft 22 carries also a handwheel 26 for rotation of the pinion. It will be obvious that this construction provides for quick adjustment of the arm 12 in either direction, and for locking the arm in adjusted position.

Carried at the outer end of the arm 12 is fluid cylinder 28 containing platen-supporting piston 30. 32 designates a four-way valve which is mounted on the arm 12 adjacent the cylinder 28, and a pressure fluid line 34 leads from this valve to the cylinder 28, above the piston 30, while another pressure fluid line 36 leads from this valve to cylinder 28 below the piston 30.

The fluid pressure supply line is designated 38, while the exhaust line is designated 40. For compactness and convenience I prefer to employ metal tubing for these lines, which may be mounted on the arm 12 and extended to the rear thereof, where each line may be equipped with a suitable coupling for ready attachment to pressure supply source and to waste. As noted in the early part of this description, I may employ any suitable pressure fluid, but I prefer water, inasmuch as this is always available in a photographer's studio, is always under pressure and very inexpensive.

The piston rod 42 for the piston 30 is brought out through a stuffing box 44 at the lower end of the cylinder 28 and carries the platen 46. The platen is attached to the piston rod by ball and socket connection 48 which facilitates proper seating of the platen on the work. Contained within the platen at the lower face of the same

is electrical heating element 50, thermostatically controlled by thermostatic switch 52.

The upper face of the platen is shaped to provide an upstanding peripheral flange 54. This provides a pan-like construction in which any liquid which may seep past the stuffing box 44 will collect, to avoid dripping of the same upon the work in the machine.

It will be seen from the drawings that the platen 46 is considerably smaller in area than the bedplate 2, and that work may be inserted beneath the same from the two sides and the front of the machine. This construction is of considerable practical advantage, in that it facilitates operation upon sheets which may be much larger than the platen and bedplate.

In use, the arm 12 is raised to the desired distance above the bedplate 2 by manipulation of the handwheel 26 and clamped in position by clamp wheel 20. The work, photographs and their individual mounts, is then placed upon the bedplate and the four-way valve 32 operated to admit pressure fluid to the cylinder 28 above the piston 30. With the valve 32 in this position, any fluid below the piston can escape through the valve to exhaust line 40.

After adjusting the valve 32 as just described no more attention may be given to the machine at this time. If the work is to be heated it will be understood that the switch 52 should be closed. The operator may now make up the next charge of photographs and their mounts, and if he should wish to add to the charge already in the machine it is merely necessary for him to reverse the valve 32 to drive the piston and platen upwardly sufficiently far to permit of insertion of the additional photographs and mounts and the valve 32 turned to its original setting to drive the platen downwardly again.

It will be seen from all of the foregoing that I have provided a machine for mounting photographs which is not only extremely simple in its construction, but particularly well adapted for the work for which it was invented. By providing for the manual shifting of the arm 12, it will be appreciated the size of the pressure fluid cylinder 28 may be kept to the minimum, in that the platen can be brought into contact with the work by manipulation of the handwheel 26, so that no more than slight movement of the piston 30 ever is required to impose the desired pressure of the platen upon the work.

It will be appreciated also that the platen 46 is pressure fluid driven in two opposed directions, and for operation merely requires manipulation of the valve 32. This is of considerable advantage over manual operation or manual operation in one direction and pressure fluid drive in the opposite direction.

It is to be understood that changes may be made in the details of construction and arrangement of parts hereinabove described within the purview of my invention.

What I claim is:

1. In a machine for mounting photographs the combination of a bedplate for receiving the work, a column mounted in one end of the bedplate and extending vertically therefrom, an arm carried by said column and overlying said bedplate, manually operable means for adjusting said arm axially of the column, means for locking said arm in adjusted position, a pressure fluid cylinder carried at the free end of said arm, a piston therein, a piston rod for said piston, a platen carried by the piston rod in overlying relation to said bedplate, and means for selectively admitting pressure fluid to either side of said piston while exhausting fluid from the opposite side of the piston, thereby imparting a limited movement to said platen in the selected direction with the said arm locked against movement.

2. In a machine for mounting photographs the combination of a horizontally disposed bedplate for receiving the work, a column mounted in one end of the bedplate and extending vertically therefrom, a horizontally extending arm carried by said column, manual means for adjusting said arm vertically of the column, manual locking means for locking the arm in adjusted position, a pressure fluid cylinder at the outer end of said arm, pressure fluid supply supply and exhaust conduits carried by said arm and extending from said cylinder along said arm to the rear end thereof, a piston in said cylinder, a valve controlling said supply and exhaust conduits whereby pressure fluid may be selectively admitted to the cylinder at one side of the piston and simultaneously exhausted from the cylinder at the opposite side of the piston, a piston rod affixed to said piston and projecting downwardly from the lower end of the cylinder and an electrically heated platen attached to the lower end of the piston rod with a ball and socket connection, said platen being adjustable toward and away from the bedplate under the influence of the pressure fluid after a coarse setting of the platen has been effected by said manual means and said arm locked in position.

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