

Aug. 4, 1931.

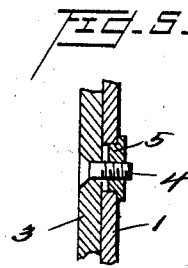
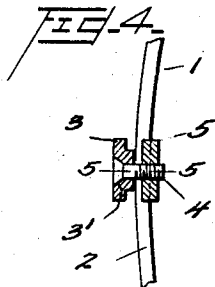
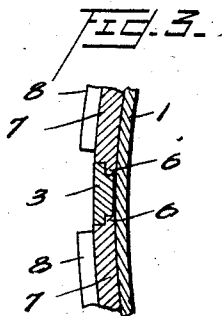
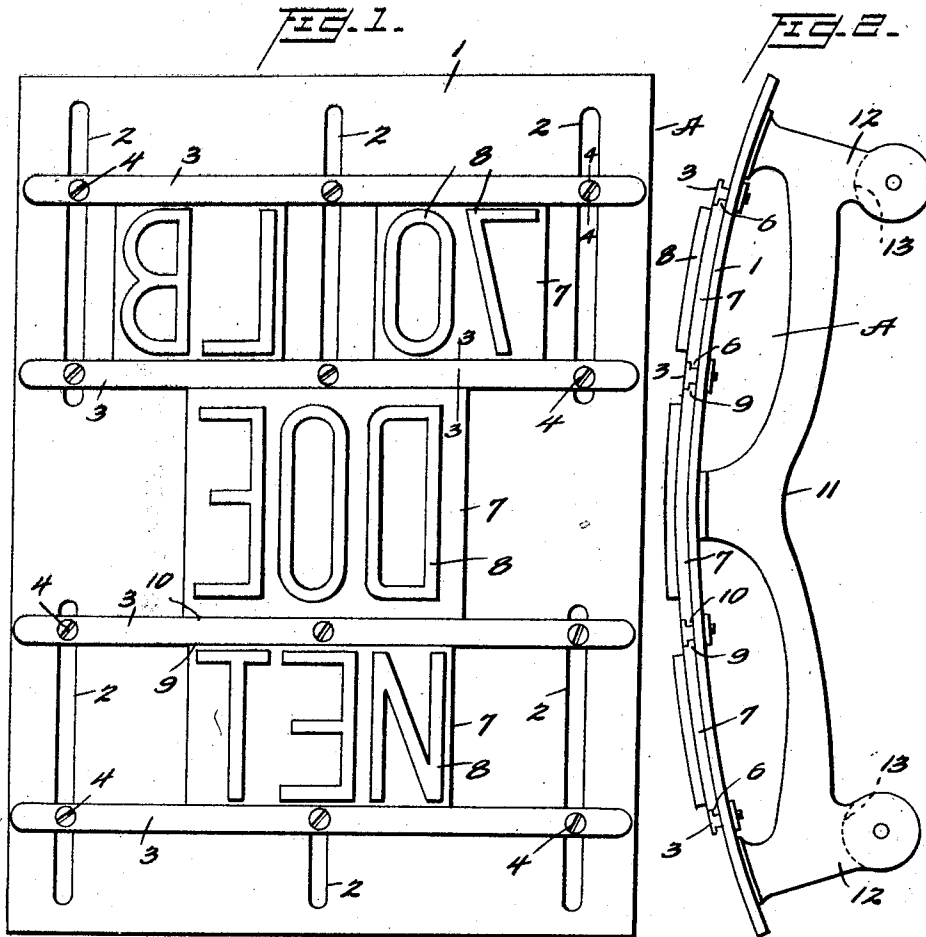
J. SCHMUTZ

1,817,587

PRINTING PLATE HOLDING MEANS

Filed Sept. 3, 1929

2 Sheets-Sheet 1



Inventor
Julius Schmutz

Shaw, Crow & Gordon

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Attorneys

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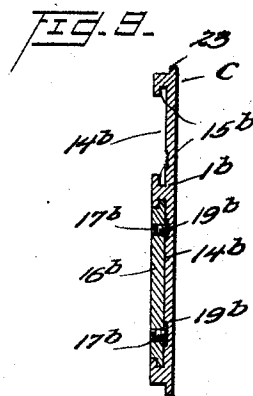
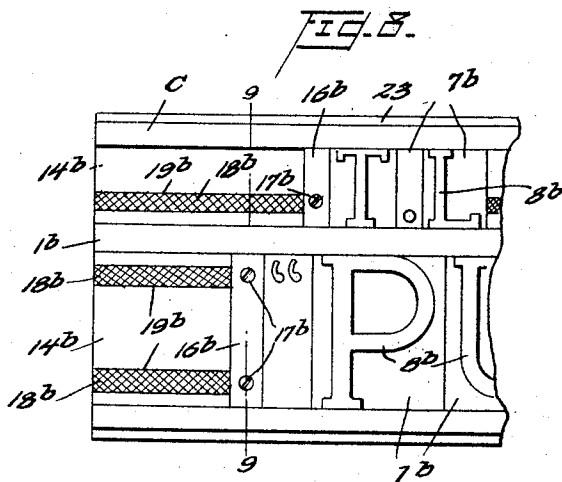
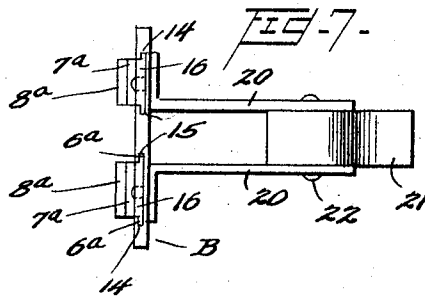
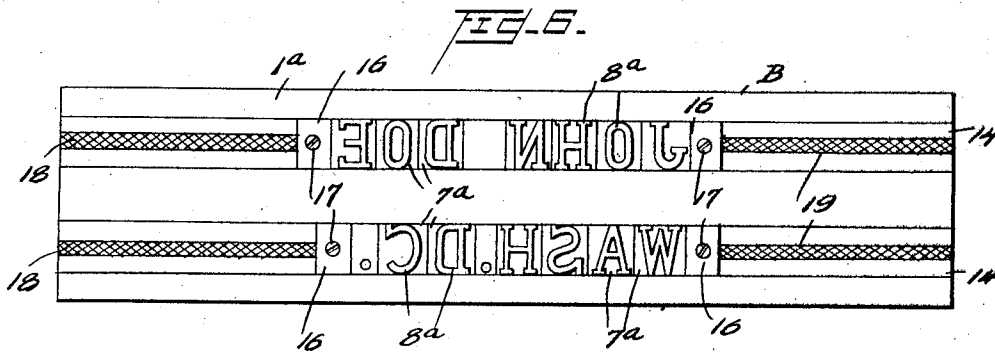
J. SCHMÜTZ

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2 Sheets-Sheet 2



By

Inventor
Julius Schmutz
Shreve, Cross & Gordon

Attorneys

UNITED STATES PATENT OFFICE

JULIUS SCHMUTZ, OF LOUISVILLE, KENTUCKY

PRINTING PLATE HOLDING MEANS

Application filed September 3, 1929. Serial No. 390,086.

Generically this invention relates to printing plate holding means for expeditiously securing printing plates on printing cylinders and flat bed presses for printing on coarse fabrics and type characters on hand stamps or markers for printing on sheet steel, galvanized iron, wood fiber and the like, and is especially adapted for use in conjunction with the type of flanged printing plate forming the subject matter of a companion application filed concurrently herewith and constituting an improvement on my Patent No. 1,589,665.

An important object of this invention is the provision of a holding means for engagement with complemental means carried by a printing plate or a plurality of plates and means for adjustably locking said plates therein so that said plate or plates may be expeditiously attached or removed without being affected by the action of oil, grease, or printer's ink on the composition of the material from which the plate or printing characters are formed, during the printing operation.

A further important object is the provision of plate holding and attaching means of the above character for holding individual type letters, figures and printing plates, on printing press cylinders, flat bed presses, hand stamps or markers, whereby for reasons above stated, individual type characters, type strips of any desired length and type plates may be expeditiously inserted, clamped and removed as desired without regard to the swelling action of printer's ink on the rubber design bearing material with respect to the contact surfaces of the plates and holding means.

A still further object of this invention is the provision of a holding plate formed with a channel or channels, the side walls of said channel or channels being grooved to receive the flanged edges of a printing plate or plates, said plates being secured therein by similarly flanged keepers, the bottom wall of said channel being longitudinally grooved to receive an adjustable screw carried by the keeper, so that the contact surfaces of the channel plate and keepers will not be marred or injured by continuous usage, and irrespective of the ac-

cumulation of a certain amount of extraneous matter, may be expeditiously inserted and removed as desired.

Another object of this invention is the provision of holding means for rocker arm and hand stamp markers having means to adjustably accommodate and secure in position printing plate units or a plurality of printing characters of varying dimensions, in the manner and for purposes as above outlined.

With these and other objects in view, which will become apparent as the description proceeds, the invention resides in the construction, combination and arrangement of parts, hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which like characters of reference indicate like parts throughout the several figures, of which:

Fig. 1 is a bottom plan or face view of my improved rocker arm or hand stamp marker with printing characters secured in operative position.

Fig. 2 is a side elevational view of Fig. 1.

Fig. 3 is a detailed fragmentary cross section taken on line 3—3 of Fig. 1.

Fig. 4 is a similar detailed section taken on line 4—4 of Fig. 1.

Fig. 5 is a detailed sectional view taken on line 5—5 of Fig. 4.

Fig. 6 is a bottom plan or face view of another form of my invention.

Fig. 7 is an edge view of Fig. 6.

Fig. 8 is a fragmentary bottom plan or face view of Fig. 6 showing printing characters of varying sizes and especially adapted for cylinder or flat bed presses; and

Fig. 9 is a transverse cross section taken on line 9—9 of Fig. 8.

The holders for type plates, individual type characters, and the like, and means of operatively securing them in the holders in the types of devices of this character with which I am familiar have proven deficient for many reasons; for instance, the holders of printing plates, type characters, and so forth, not being susceptible of ready adjustment, and further, being deficient by reason of the swelling action of ink on the rubber printing characters and the accu-

mulation of extraneous matter, such as particles of the type plate composition, ink, oil, and the like, adhering to the contact surfaces, not only preventing the ready insertion and removal of the characters or plates, but preventing accurate registry in color printing, and it was to overcome the deficiencies of such devices and to provide a holding means adapted to hold a printing plate, a plurality of lines of individual type characters or type strips, and comprising means for engaging the edges or flanges of such plates or printing characters, and adjustable to accommodate different sized printing elements, slidable keepers adapted to engage said printing characters to lock them in position and so designed as to prevent marring of either the contact surfaces of the characters or plates or the contact surfaces of the holder proper, the principle of the invention being applicable with equal facility to hand stamp or rocker arm markers, and cylinder or flat bed presses, said holding means eliminating the usual chase and constituting a form when the usual printing elements are operatively positioned, that I designed the holding means forming the subject matter of this invention.

In the utilization of my holding means slight variations in form are, of course, necessary as applied to hand markers, and cylinder or flat bed presses, but without departing from the principle of the invention, and in the form illustrated in Figs. 1, 2, 3, 4 and 5, there is shown a hand or rocker arm marker A; a slightly modified form of marker B shown in Figs. 6 and 7, and which without the handle is equally applicable to cylinder presses, and flat bed presses, when formed with a plane surface; and a similar form C, primarily for flat bed presses, where the use of different sized printing characters is desirable, as shown in Figs. 8 and 9.

The hand stamp or rocker arm marker A is formed with a base or plate holding member 1 curved from end to end as shown in Fig. 2 and formed with a series of spaced longitudinal slots 2 adjacent each end, and a plurality of plate engaging T-shaped bars 3 adapted to extend transversely of member 1 and in spaced parallelism with each other, each of said bars being formed with a series of countersunk apertures 3' adapted to register with slots 2 and receive screw bolt 4, the opposite surface of plate 1 may be countersunk along each edge of the slot to accommodate nut 5 to hold the same against turning while bolt 4 is threaded therein or nut 5' may be formed with a T-head as shown in Fig. 5 for a similar purpose.

The bars 3 are adapted to engage the flanges 6 of a printing plate 7 having suitably formed thereon printing characters 8 to maintain said printing elements or plate in operative position on holder 1, and are

adjustable longitudinally with respect to said slots to accommodate printing plates or elements of different sizes and to properly position such elements with respect to the holder 1, for printing on or marking coarse fabrics, wooden containers, corrugated paper, galvanized iron and the like. Each of the intermediate bars 3 is adapted to engage the flange of a printing plate on each side of the bar, as indicated at 9 and 10, respectively, and it is obvious that a series of plates 7 of varying sizes may be suitably mounted on the holder 1 and when the bars are brought into engagement with the flanges 6 of said plates and secured in position by tightening bolts or screws 4, the holder 1 then constitutes in effect a form.

Suitably secured to the back of said holder 1 by welding or other suitable fastening means is a frame 11, in the present instance, terminating at each end in upstanding spaced ears 12, in which are suitably mounted transversely extending handles 13 by means of which the marker A is operated, as will be understood without further description. However, for reasons hereinafter more fully appearing, the frame 11 may be detachably secured to the holder 1, if desired.

From the above it is clear that said printing characters may be expeditiously removed by loosening the bolts 4 and disengaging bars 3 from the respective flanges of the printing plates or printing elements, as desired.

In Figs. 6 and 7 there is shown another form of marker B in which the face of holder 1a is formed with a plurality of parallelly extending longitudinal channels 14, the side walls of each of the channels being grooved as at 15 to slidably receive the flanges 6a of the printing plate or individual printing elements 7a formed with printing characters or indicia 8a, and it is evident that the printing characters may be formed individually and assembled in said channels or they may be formed on an integral plate or strip similarly mounted therein, in either case such plate or characters being locked in position by keepers 16 formed with similar slidable flanges 6a, each of said keepers when brought into engagement with its respective printing element or strip adapted to be locked in position by actuation of screw 17 extending through said keeper and into binding contact with the roughened surface 18 of the longitudinally extending groove 19 formed in the bottom wall of channel 14, as will be clear without further discussion.

Holder 1a may be curved similar to holder 1, as shown in Fig. 2, and provided adjacent each end with brackets 20 secured to member 1 similar to frame 11, and said brackets are interconnected by handle 21 secured therein by bolts 22 or other suitable fastening elements. The form B as above described is also adaptable, when minus brackets 20 and han-

dle 21, to be mounted on a cylinder press, and of course, may be provided with additional channels 14 as desired when so applied. This type, when formed flat instead of grooved, is likewise adaptable for flat bed presses and may have its channel arrangement slightly modified to accommodate different sized printing elements as shown in Fig. 8, now to be described.

The form illustrated in Fig. 8 and indicated by reference character C is substantially similar to form B except that its longitudinal edges may be formed with flanges 23 to be more readily secured in position on a flat bed press, the face of holder 1b is formed with channels 14b and with grooves 15b and longitudinal grooves 19b having roughened bottom surfaces 18b, the printing elements 7b formed with characters 8b and keepers 16b with locking screw 17b being assembled and mounted in said channels in the same manner as the similar elements above described in connection with form B. One of the channels 14b in form C is formed wider than the other channel and is entirely similar in all respects except adapted to accommodate printing element or elements 7b and printing characters 8b of larger dimensions than the similar elements of the other channel, and in order to securely lock said elements therein, the bottom wall is formed with two grooves 19b instead of one and the keeper 16b is provided with a corresponding number of locking screws 17b.

In view of the above, it is evident that the width of the channels 14b may be varied according to the particular requirements without departing from the spirit of my invention.

From the foregoing it is apparent that I have designed a printing plate holding means, more especially adapted to accommodate printing plates or elements comprising a solid metallic backing and a superimposed rubber or other resilient design bearing material secured to one surface thereof, such as described and claimed in an application filed concurrently herewith and forming an improvement on my prior Patent No. 1,589,665. Also, that the forms above described are similar, being only modified in the way of providing handles and to accommodate printing plates for different types of work, and for utilization in connection with different printing mechanisms, for different types of printing, such as hand stamps or rocker arm markers, cylinder presses and flat bed presses. Likewise, I have provided printing plate holding means, in some instances, obviating the necessity of the chase and constituting when operatively assembled a printing form, so designed that the printing elements may be expeditiously inserted and removed from the holders and without deleterious effect on the coating contact surfaces of holders and

plates by the attaching means, and throughout long and continued usage, yet simple in construction, versatile in use, manufacturable at a negligible cost and efficient for the purposes intended.

Although in practice I have found the form of my invention illustrated in the accompanying drawings and referred to in the above description as the preferred embodiment is the most efficient and practical; yet realizing that conditions concurrent with the adoption of my device will necessarily vary, I desire to emphasize that various minor changes in details of construction, proportion and arrangement of parts, may be resorted to within the scope of the appended claims without departing from or sacrificing any of the principles of this invention.

Having thus described my invention, what I desire protected by Letters Patent is as set forth in the following claims:

1. In a structure as above described, the combination with a holder, including a plurality of channels, each of said channels formed with guides and a groove in the bottom wall thereof, of a plurality of printing elements adapted to engage said channels and including lateral flanges adapted to seat in said guides; keepers formed with similar flanges adapted to seat in said guides and engage the free ends of the respective printing elements, and adjustable means carried by the keepers and engageable in said longitudinal grooves to lock said printing elements in said holder without affecting the contact surfaces of said channels and printing elements, whereby said elements are readily slidable in said channels irrespective of continued usage.
2. In a structure as above described, the combination with a holder including a plurality of channels formed with guideways and with a groove in the bottom wall thereof, certain of said channels being of greater width than the others and formed with a plurality of grooves in its bottom wall, of a plurality of printing elements corresponding in width to the respective channels and formed with lateral flanges adapted to slidably engage said guideways, keepers formed with lateral flanges adapted to slidably seat in said guides and engage the free ends of said printing elements and corresponding in configuration to the respective channels, and means carried by the respective keepers and adjustable to engage the respective grooves to lock said printing elements in said holder whereby the bottom walls of said channels are not marred by said adjustable means and the printing elements are readily slidable in the channels irrespective of extraneous matter therein.

3. In a structure above described, the combination with a holder including a plurality of channels, each of said channels formed with guides and a groove in the bottom wall

thereof having a roughened bottom surface, a plurality of printing elements seating in the channels and engaging said guides, keepers engagable with the free ends of said printing elements, and means carried by the keepers and engagable with the roughened surface to lock the printing elements in said channels, whereby the bottom walls of the channels are prevented from being damaged by said means, thereby permitting the ready removal of said elements irrespective of continued use and the accumulation of extraneous matter in the channels.

4. In a structure as above described, the combination with holder including a plurality of channels, each of said channels formed with guides and a groove in the bottom wall thereof formed with a roughened surface, a plurality of printing elements seating in the respective channels and engaging said guides, keepers slidable in the channels and engagable with said elements and guides, and an adjustable member carried by the respective keepers and engagable with the roughened surface of a respective groove, whereby the printing elements are locked in the channels, marring of the bottom walls thereof prevented, and ready removal of said elements effected, irrespective of continued use and the accumulation of extraneous matter in the channels.

This specification signed this 29th day of August A. D. 1929.

JULIUS SCHMUTZ.