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LOOKING MEANS FOR PRINTERS' CHASES

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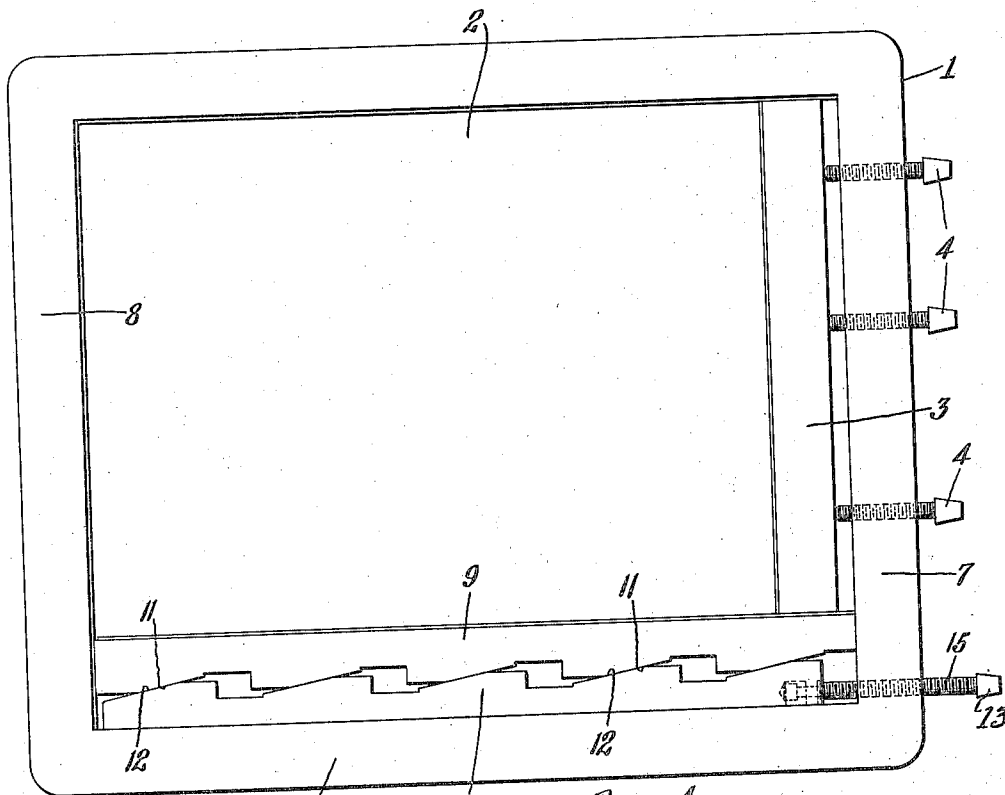


Fig. 1.

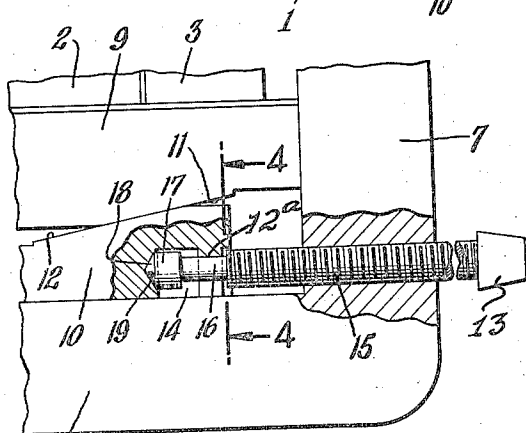


Fig. 2.

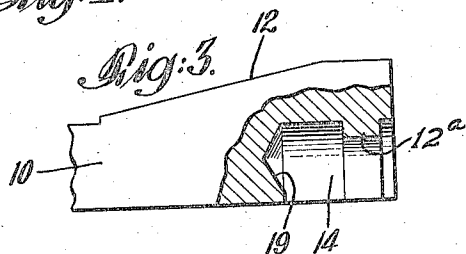


Fig. 3.

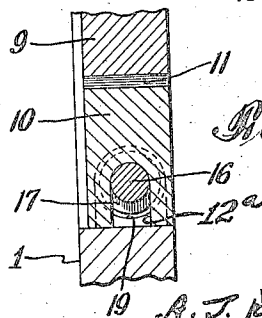


Fig. 4.



Fig. 5.

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LOCKING MEANS FOR PRINTERS' CHASES

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7 Claims. (Cl. 101—394)

The invention relates to new and useful improvements in printers' chases, and more particularly to such improvements in the lock-up means.

5 In the accompanying drawing an exemplary embodiment of the invention is shown; and in said drawing:

Fig. 1 is a plan of a chase embodying the invention;

10 Fig. 2 is a fragmentary, enlarged plan of the lower right-hand corner of the chase, with parts in section;

Fig. 3 is an enlarged, fragmentary view of the end of the lock-up bar;

15 Fig. 4 is an enlarged section on line 4—4 of Fig. 2; and

Fig. 5 is an enlarged detached showing of the lock-up screw.

Objects of the invention are to provide, in a printer's chase mechanism, powerful and reliable lock-up means and like means for breaking the lock-up; to provide means comprised in the chase structure for breaking the lock-up, and preferably screw-threaded lock-up breaking means comprised in the chase structure. The invention finds one of its desirable embodiments in chases of the sliding bar wedge or step bar type, in which the stated objects are likewise realized. Further objects are to provide in said last-named type powerful and reliable lock-up means of the sliding bar wedge, or step bar, type wherein the locking of the form is effected by relative longitudinal movement of the stepped or wedge-equipped bars due to screw action, and to provide such means wherein the screw pressure and turning action of the screw are caused to act solely lengthwise of the lock-up bar, and all tendency to lift the bar due to the turning action of the screw during the great pressure on the bar is avoided. More particularly, the invention is herein exemplarily applied to a chase of the step bar type with a novel construction and action of the lock-up screw, which also acts to break the lock-up.

45 In the previous lock-up mechanisms of this type the inner end of the screw by which the pressure is applied to the bar has a flat circular face bearing against the bar and the turning of the screw under great pressure caused this rotating flat pressure head to exert a turning or twisting action on the bar. This defect is obviated by the present invention through the provision of a locking screw having a long screw-threaded bearing in the chase frame and having 55 its inner end beveled and counter sunk into a

corresponding counter bore in the end of the lock bar with which it engages, whereby the screw holds the bar firmly against any lifting or turning movement while the screw is turning and applying the powerful lengthwise pressure to the lock bar. The screw-threaded lock-up breaking means as applied in this type is embodied in the same mechanism, and to this end the lock-up, or pressure-applying screw, is connected to the lock-bar so as to retract it as the screw is reversely turned and thus provide a powerful but easily operating lock-up breaking means.

Referring now in detail to the accompanying drawing, a chase 1 has a form 2 therein and a foot stick 3 abutting on the end of the form 2. The foot stick is pressed against the end of the form by a plurality of screws 4, screw-threaded into the chase, in a usual manner. The exemplified lock-up is of the step bar type. Along the side of the form 2, within the chase is a locking bar mechanism wherein two side-by-side bars 9 and 10 have a plurality of reversely-beveled, spaced-apart wedge portions 11 and 12 in contact with each other, and arranged so that relative movement of the two bars will move one bar transversely and thereby exert a powerful locking action upon the form. As embodied, the bar 9 extends the full length of the opening within the chase, with its inner side abutting on the end of the lines of type or of the linotype bars, and both ends of the bar abutting against the inner faces of the cross reaches 7 and 8 of the chase frame. The bar 10 is shorter and has its outer side abutting on the side frame of the chase, and it is moved longitudinally within the chase to move the bar 9 transversely to effect the locking action.

The lock-up screw 15 is screw-threaded into the cross reach 7 of the chase, and within the chase it has an intermediate reduced portion 16 which fits within a corresponding reduced portion 12a of rabbet 14 formed in the side of the bar 10. Screw 15 has a squared head 13 which takes a wrench to apply powerful pressure on the screw. The forward cylindrical end 17 of the screw is again of larger diameter and lies within an enlarged interior portion of the rabbet 14, which is proportioned to permit a certain amount of longitudinal movement of screw 15. Further retractive longitudinal movement of screw 15 causes the rear face of the enlarged end 17 of the screw to abut on the rear face of the part 16 for a purpose later explained. The inner end 18 of screw 15 is beveled and fits into a correspondingly beveled counter bore 19 formed in the inner end

of the rabbet and in the inner face of the bar 10 perpendicular to the line of thrust of screw 15.

Thus while the screw 15 exerts its powerful endwise thrust on the bar 10, the bevel fit of the inner end of the screw within the beveled counter bore in the bar 10 causes the screw 15, with its broad screw-thread bearing in the chase, to hold the bar 10 firmly against any tendency to lift due to the turning action of the screw. Thus by very simple means and without the addition of any parts or mechanism the objectionable tendency of the locking bar mechanism to lift or otherwise move under the screw pressure is eliminated, and other advantages as well are secured.

In the screw-threaded lock-up breaking means as here embodied, when it is desired to break the lock-up, screw 15 is unscrewed or turned backwardly by the engagement of a suitable wrench with the squared head 13 of the screw. As the screw moves backwardly the back of its enlarged head 17 engages the inner face of the reduced portion 16 of the bar 10 and draws the bar smoothly but powerfully rearwardly and breaks the lock-up. This forms a simple, strong and powerful break-up incorporated with the lock-up means, and avoids the difficulty and damage effected by the common break-up procedure, which is to strike the bar with a wrench or hammer, which damages the bar and causes it to stick more securely after the bar has become roughened.

The invention in its broader aspects is not limited to the specific mechanisms shown and described but departures may be made therefrom within the scope of the accompanying claims without departing from the principles of the invention and without sacrificing its chief advantages.

What we claim is:

1. A chase including in combination a frame, and lock-up means comprising two side-by-side bars relatively movable longitudinally having oppositely beveled contacting faces, and a lock-up screw adapted to move one of said bars longitudinally, and threaded into the frame with its inner part within a shouldered recess within an end of one of the side bars, said recess terminating in a beveled counter bore and the lock-up screw having a beveled end within the counter bore to prevent lifting of the lock-up bar as the lock-up screw is turned tight.

2. A chase including in combination a frame, and lock-up means comprising two side-by-side bars relatively movable longitudinally having oppositely beveled contacting faces, and a lock-up screw adapted to move one of said bars longitudinally, and threaded into the frame with its inner part within a shouldered recess within an end of one of the side bars, said bar being counter bored within said recess and the inner end of the lock-up screw fitting within said counter bore to prevent transverse movement of the lock bar as the lock-up screw is turned tight.

3. A chase including in combination a frame and lock-up means comprising two side-by-side, reversely beveled wedge members, and a lock-up screw adapted to move one of said wedge members longitudinally, said screw being threaded into the chase frame, one of said wedge members having a recess therein having a conical bottom, the inner end of the screw being conoidal to exert an end thrust against the inner end of

the recess to move the member longitudinally while preventing lifting of the member as the lock-up screw is turned tight.

4. A chase including in combination a frame and lock-up means comprising two side-by-side, reversely beveled wedge members, and a lock-up screw adapted to move one of said wedge members longitudinally, said screw being threaded into the chase frame, one of said wedge members having a recess therein comprising an external part of lesser bore and a shouldered inner part of larger bore, the inner end of the screw projecting into said recess, the screw having an enlarged shouldered end located within said internal large portion of the recess, whereby as the screw is turned retractively in the chase frame its shouldered end will engage said shoulder of the recess and will draw said wedge member backwardly with it.

5. A chase including in combination a frame, lock-up means within the frame comprising two side-by-side bars and means whereby longitudinal movement of one bar effects lateral locking movement of the other bar, and means for moving said bar longitudinally comprising a recess formed in the end portion of the bar and terminating in a conical counter bore and a lock-up screw threaded into the chase frame and extending within the recess and having a conical end adapted to thrust against the conical counter bore of the recess to prevent lifting of the lock-up bar as the screw is turned tight in locking up.

6. A chase including in combination a frame, lock-up means within the frame comprising two side-by-side bars and means whereby longitudinal movement of one bar effects lateral locking movement of the other bar, and means for moving said bar longitudinally comprising a screw having a shouldered end of enlarged diameter and being threaded into the chase frame and a recess formed in the side of the longitudinally movable lock-up bar whereby the bar may be slipped laterally over the screw, the recess having an enlarged inner portion to receive the enlarged shouldered end of the screw and a lesser outer portion against which the shouldered end of the screw abuts when the screw is retracted and the lock-up bar is thereby moved retractively.

7. A chase including in combination a frame, lock-up means within the frame comprising two side-by-side bars and means whereby longitudinal movement of one bar effects lateral locking movement on the other bar, and means for moving said bar longitudinally comprising a screw having a shouldered end of enlarged diameter and a conical point, and being threaded into the chase frame and a recess formed in the side of the longitudinally movable lock-up bar whereby the bar may be slipped laterally over the screw, the recess having an enlarged inner portion to receive the enlarged shouldered end of the screw and a lesser outer portion against which the shouldered end of the screw abuts when the screw is retracted and the lock-up bar is thereby moved retractively, the recess terminating in a conical portion against which the conical end of the screw thrusts to prevent lifting of the lock-up bar as the screw is turned tight in locking up.

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