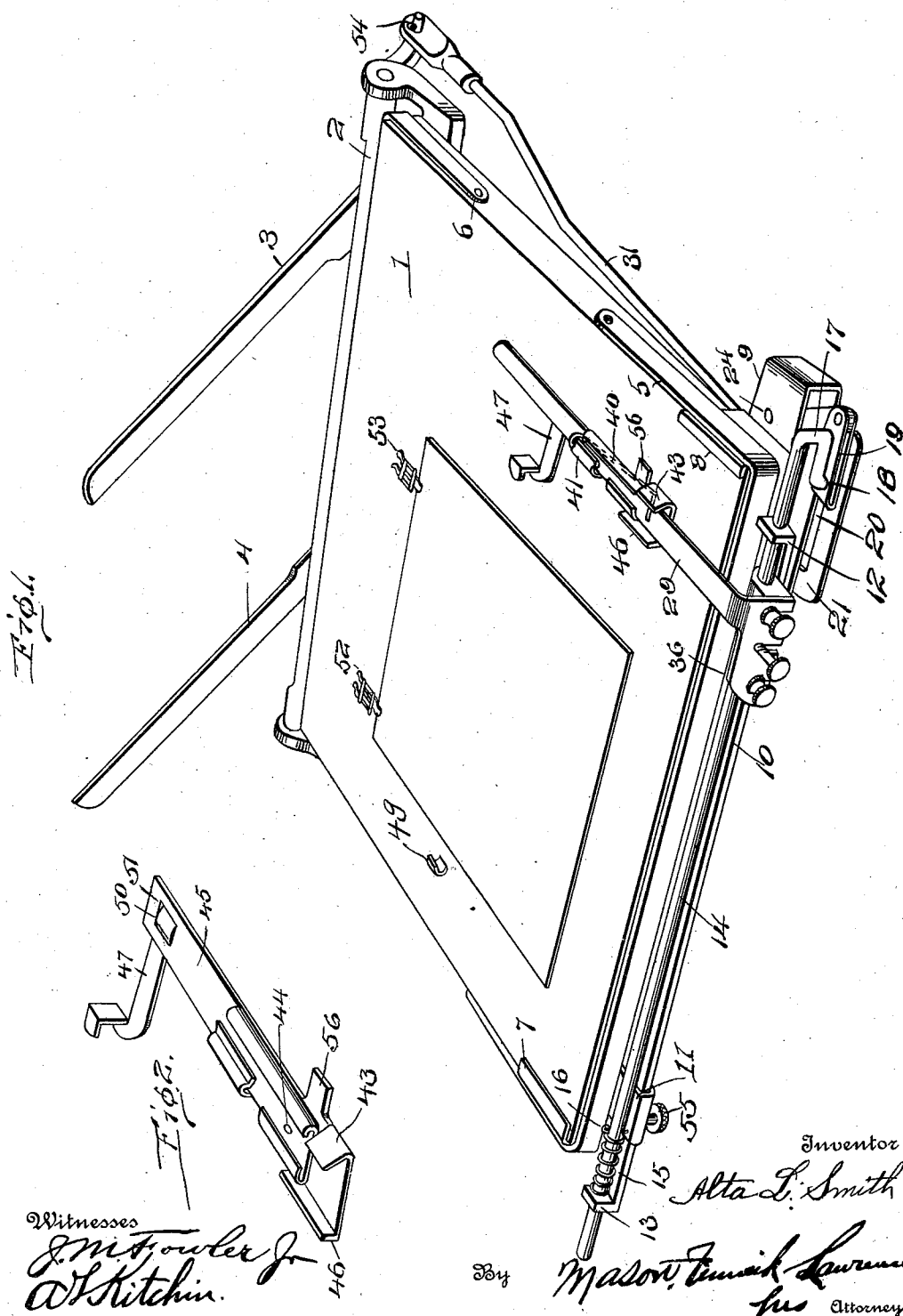


A. L. SMITH.
ATTACHMENT FOR PRINTING PRESSES.
APPLICATION FILED FEB. 21, 1911.

1,010,193.

Patented Nov. 28, 1911.

3 SHEETS-SHEET 1.

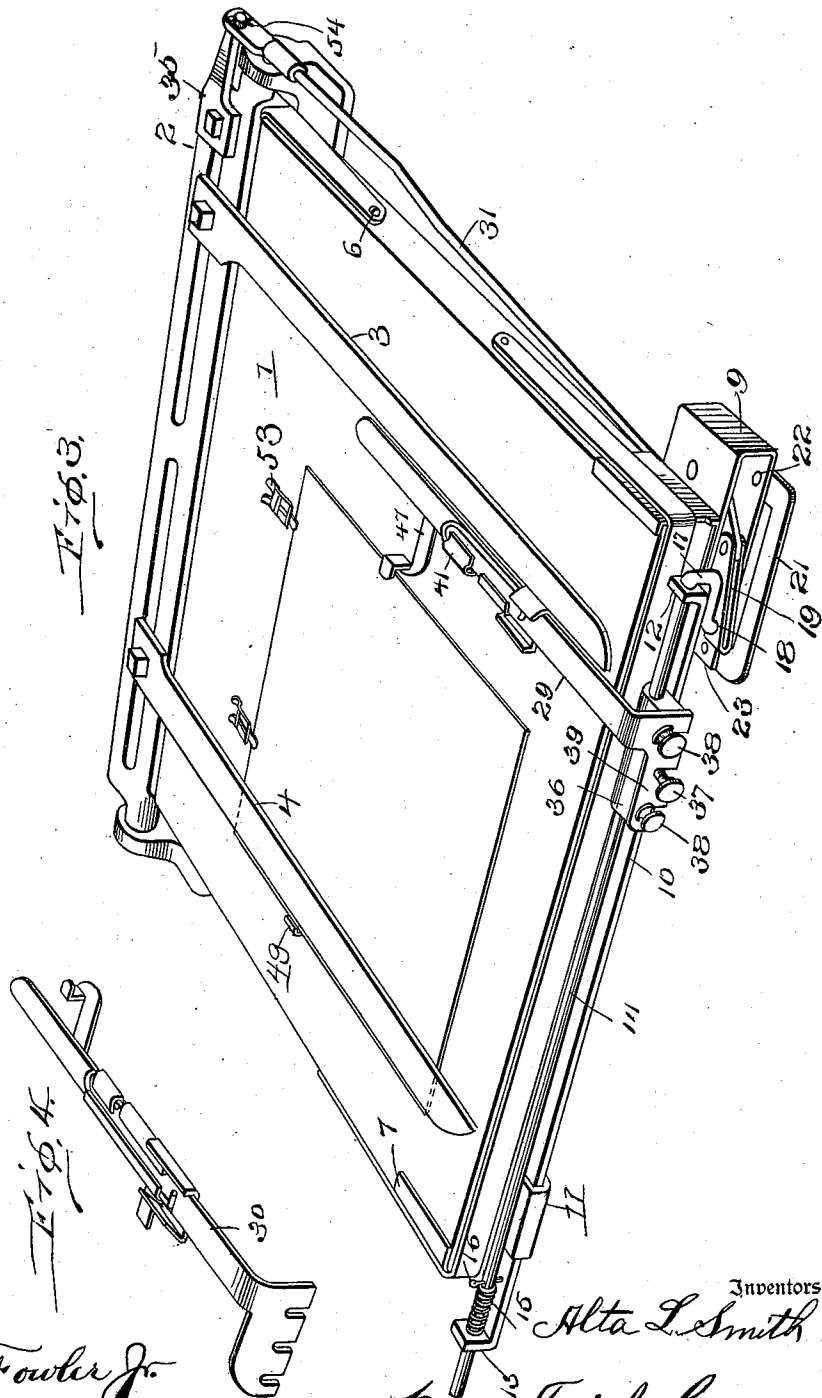


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3 SHEETS—SHEET 2.



Witnesses

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A. Kitchen.

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By

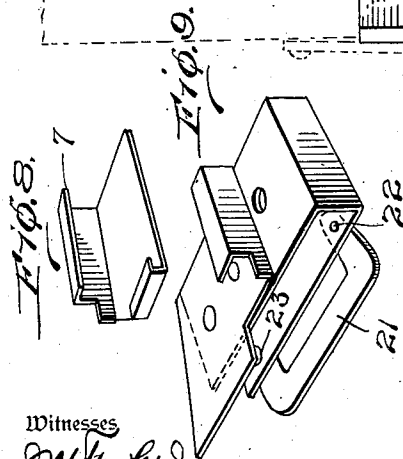
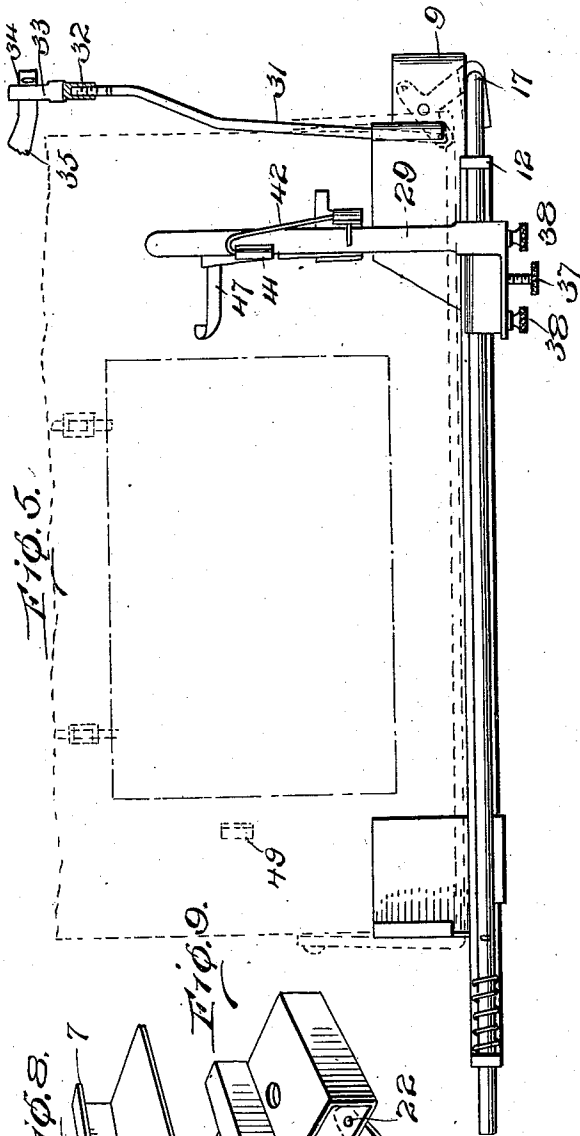
Mason Farnick Lawrence
his Attorneys

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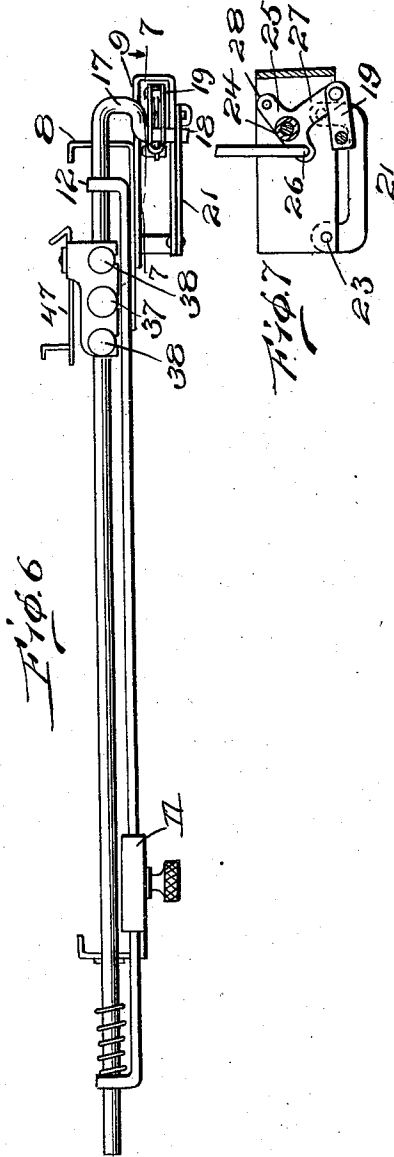
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3 SHEETS—SHEET 3.



Witnesses
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UNITED STATES PATENT OFFICE.

ALTA L. SMITH, OF RICHMOND, VIRGINIA.

ATTACHMENT FOR PRINTING-PRESSES.

1,010,193.

Specification of Letters Patent. Patented Nov. 28, 1911.

Application filed February 21, 1911. Serial No. 609,926.

To all whom it may concern:

Be it known that I, ALTA L. SMITH, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Attachments for Printing-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in attachments for printing presses, and particularly to improved means for automatically adjusting or registering the paper that is to be printed, and has for an object the arrangement of improved means for adjusting paper of varying sizes without buckling the same.

Another object of the invention is the arrangement of a movable arm for automatically shifting the paper fed into the machine to a correct position, and then moving away from the paper.

A further object of the invention is the arrangement of an arm and a pin or stop for engaging paper fed into the press, together with a reciprocating bar operated by the gripper bar of the press, the reciprocating bar being connected to the gripper bar of the press in such a manner as to cause the arm and stop to be moved so that the paper will be brought over in its proper position previous to the time of impression.

Another object of the invention is the arrangement of an improved stop and laterally moving arm, together with yielding members mounted thereon acting on the stop so that when the stop is moved over a certain distance for causing the paper to be positioned properly for an impression, the same being arranged to co-act with one of the grippers for causing the stop to move back from the paper after having moved the paper over to its correct position, whereby any buckling or folding of the paper is prevented.

A still further object of the invention is the arrangement in a printing press of improved means automatically operated by parts of the press for adjusting paper fed into the press to a proper position, and then moving back away from the paper.

With these and other objects in view the invention comprises certain novel construc-

tions, combinations, and arrangement of parts as will be hereinafter more fully described and claimed.

In the accompanying drawings: Figure 1 is a perspective view of the platen of a printing press, showing an embodiment of the invention applied thereto. Fig. 2 is an enlarged detail perspective view of the movable stop and associated parts. Fig. 3 is a perspective view similar to Fig. 1, except that the same is shown with the grippers down and the various parts in the position taken when the press is closed. Fig. 4 is a detail perspective view of a left hand movable stop mechanism. Fig. 5 is a top plan view of the invention on a slightly reduced scale, certain parts being broken away for better illustrating the device. Fig. 6 is a front edge view of Fig. 5. Fig. 7 is a section through Fig. 6 approximately on line 7-7. Fig. 8 is a detail perspective view of one of the retaining supports. Fig. 9 is a detail perspective view of another retaining support.

In constructing a device embodying the invention an ordinary platen is employed, which is used on the usual press in use at present, and the device arranged thereon so as to co-act therewith without changing any of the parts of the press. The device is formed with a pair of supporting or retaining brackets or members which engage the platen, and which are held in place by the ordinary tympan bail. These retaining brackets support a bar which extends longitudinally in front of the platen, which in turn carries a reciprocating rod operated by a bell crank lever and link construction, which in turn is operated by a reciprocating rod connected with the gripper bar of the press for receiving motion from the press. The reciprocating bar has connected therewith an arm extending over the platen and moved laterally over the platen when the press is in operation. Connected with the arm is a yielding stop which is moved with the arm as the same is moved laterally over the platen, and which is automatically moved a short distance back by one of the gripper arms when the press is closed. By this arrangement the paper fed into the press is moved to a correct position for the impression, and then the stop or moving member is moved back out of the way so that if the paper is slightly larger than in-

tended there will be no buckling by reason of the pressure of the movable stop against the same.

In order that the invention may be more clearly understood an embodiment of the same is shown in the accompanying drawings in which 1 indicates the ordinary platen having associated therewith a gripper bar 2 and gripper arms 3 and 4. The platen 1 is provided with the usual tympan bails 5 and 6 for holding the tympan in place. Slidingly fitting over two outer corners of the platen 1 are retaining brackets 7 and 8 which are held in place by the tympan bail 5, and which in turn hold rigidly in place the remaining parts of the device. Retaining bracket 8 supports a bell crank housing 9, and also supports one end of a stationary bar 10. An extension 11 of bracket 7 supports the end of bar 10 opposite to that supported by bracket 8. Bar 10 is provided with turned up portions 12 and 13 having apertures therein which accommodate a reciprocating rod 14. Rod 14 has surrounding the same near turned up portion 13 a spring 15 which is held on rod 14 near turned up portion 13 by pin 16. This spring is designed to take up any lost motion of rod 14. Rod 14 is bent at point 17 upon itself, and then bent so as to point at right angles to the general direction of rod 14, and form a journal shaft 18 which extends through a U-shaped link 19, and through slot 20. Slot 20 is formed by bell crank housing 9 and an extension 21. Preferably extension 21 is secured at 22 to housing 9 by a rivet and to housing 9 at point 23 by a removable bolt or screw so that bar 10 may be pivotally removed readily whenever desired. The housing 9 is a substantially U-shaped strip of metal to which is secured extension 21, and to which is secured retaining bracket 8. Passing through the housing 9 is a shaft 24 which also passes through a bell crank lever 25. Bell crank lever 25 is formed with levers or extensions 26, 27 and 28, levers 26 and 27 being used when the arm 29 is used on the right side of the platen, and levers 27 and 28 being used when the arm 30 is used on the left side of the platen. By this arrangement a right hand and left hand feed is provided. Pivotally connected with lever 26 is a reciprocating pitman rod 31 which is threaded at the opposite end into a sleeve 32 which merges into an apertured connecting member 33. Passing through the aperture in member 33 is a wrist pin 34 which extends upward and merges into a supporting plate 35. Plate 35 is bolted or otherwise rigidly secured to gripper bar 2, so as to convey motion to the pitman rod 31, and the connected parts in proper timed relationship to the movement of the press. The threading of rod 31 into sleeve 32 permits an adjustment or regulation of the length of the rod

31, and the consequent throw or movement of the rod and the parts connected therewith.

Slidingly mounted upon rod 14 is a supporting block 36 which is provided with a plurality of threaded apertures into one of which set screw 37 is fitted, and into the other of which are fitted clamping screws 38. The end of set screw 37 is designed to engage rod 14 and to firmly clamp supporting block 36 to the rod in any adjusted position so that as the rod is reciprocated the supporting block will be moved. Arm 29 is formed with a base 39 which is formed with a plurality of slots designed to permit the base to slide over the set screw 37 and clamping screws 38 for permitting the clamping screws to clamp or bind the base rigidly against supporting block 36, so that the supporting arm 29 will be moved as rod 14 is moved. Slidingly mounted on arm 29 is a sleeve structure 40 having a raised portion 41 which accommodates the end of spring 42, while the opposite end of spring 42 presses against the under side of a cam 43 so as to normally hold the cam as far from arm 29 as possible. Pivotally connected with sleeve 40 by bolt or rivet 44 is a pivotally mounted arm 45 having formed thereon cam 43 and stop 46. Stop 46 limits the movement of arm 45 in one direction, and consequently limits the distance that spring 42 may force cam 43 from arm 29. Rivet or bolt 44 is sufficiently loose for permitting a free pivotal movement of arm 45 independent of sleeve 40, so that whenever the press is closed gripper arm 3 will engage cam 43 and move the same toward arm 29, and consequently move the opposite end of the arm 45 in an opposite direction so that stop 47 will be moved away from the paper 48. By reason of the action of the bell crank lever 25, and the consequent reciprocation of rod 14, arm 29 will be moved toward stop 49, and will consequently move paper 48 against said stop. Ordinarily the arm 29 is adjusted so that the movement of the same will cease as soon as stop 47 has forced the edge of paper 48 against stop 49, but in order to insure against any buckling of the paper 48 by stop 47, stop 47 is moved back by the action of cam 43 and gripper arm 3 as just described without affecting the position of arm 29. Pivotally mounted arm 45 is provided with apertures 50 and 51 through which the end of stop 47 is passed, and by the resilient nature of stop 47 the same is held against any movement independent of arm 45. If it is found desirable a lug may be struck up from stop 47 or a slight indentation thereof may be made.

In Fig. 4 will be seen a left hand arm and automatically movable stop which is of similar construction, and operates similar to arm 29 and associated parts, except that

the same moves from the left side of the platen toward the right and then back again so as to feed from the left to the right. The arm 30 is designed to fit the supporting block 36 in a similar manner to the way arm 29 fits block 36. Arm 30 and associated parts are similar to arm 29 and associated parts, and will therefore need no additional description, the same reference numerals applying, the only difference being that one operates from the left and the other from the right.

In applying the device the platen is prepared with the proper tympan and the tympan bails are moved to their correct position for holding the tympan in proper position, and the stops 49, 52 and 53 are adjusted in the usual manner. After the press has been prepared in this manner the tympan bail 5 is raised and the retaining brackets 7 and 8 are slid or telescoped over the opposite edges of the platen, as shown in Figs. 1 and 3, and then the tympan bail 5 replaced. This will firmly clamp the device in position on the platen, after which the pitman rod 31 is properly connected up by having member 33 slid over journal member 34 and pin 54 placed in position. After the device has been applied as just described the arm 29 is then adjusted so as to properly feed the paper 48 against stop 49, and then move back a short distance, gripper arm 3 being also adjusted to properly engage cam 43.

It will be, of course, evident that gripper arm 4 may be adjusted to any desired position, or may be eliminated if desired, or if preferred additional gripper arms may be provided, the use or non-use of the gripper arms except gripper arm 3 being no part of the present invention.

In applying the device to a press the retaining bracket 7 may be adjusted to properly fit the particular platen by loosening set screw 55 which is placed in extension 11, and then tightening the same again after the extension 11 has been moved to the proper place on bar 10.

It will be noted that in the operation of the press gripper arm 3 will engage cam 43 but the same can not accidentally slip beneath the same as lug 56 will prevent any such action.

What I claim is:—

1. In an attachment for printing presses formed with a gripper bar and gripper arms, a guide for moving the paper fed into the press to a correct position for receiving the impression, a rod for moving said guide, means for moving said rod, a fitting connected with the gripper bar of the press for operating said means, whereby said guide is moved automatically by the press, and means associated with said guide and operable by one of said gripper arms for caus-

ing said guide to make a reverse movement after the paper has been fed to its correct position, and before the gripper bar actuates the means for moving the rod connected with said guide.

2. In an attachment for printing presses formed with a gripper bar, and a gripper arm, a guide for moving the paper fed into the press for causing the same to register for correctly receiving an impression, an arm for supporting said guide, a reciprocating rod connected with said arm for moving the same, means for automatically moving said reciprocating rod, means for connecting said last mentioned means with the gripper bar of said press, whereby said rod, arm and guide are moved in timed relationship to the movement of the press, and a pivotally mounted cam member associated with said guide arranged in line of movement of said gripper arm for being actuated thereby for causing a slight reverse movement of said guide previous to the closing of the press.

3. In an attachment for printing presses formed with a gripper bar, and a gripper arm, a guide for moving the paper fed into the press to a proper position for receiving an impression just previous to said impression, a pivotally mounted member for supporting said guide, a cam projecting from said pivotally mounted member and arranged in the path of movement of said gripper arm for being moved by said gripper arm as the press closes, whereby said guide is moved in a reverse direction during the last part of the movement of the press when closing, and a plurality of means associated with the pivotally mounted member for supporting the guide and for moving the same in timed relationship to the movement of the press.

4. In an attachment for printing presses formed with a gripper bar and gripper arms, a stationary stop for regulating the position of paper fed into the press, a movable stop for causing the paper fed into the press to be forced against said stationary stop, an arm for moving said movable stop, a reciprocating bar for moving said arm, means for reciprocating said bar, a reciprocating pitman rod connected to the gripper bar of the press for moving said means and means associated with said movable stop designed to be engaged by one of the gripper arms of the press for causing a reverse movement of said movable stop during the last part of the movement of the press when closing.

5. In an attachment for printing presses formed with a gripper bar and a gripper arm, a stationary stop, a movable stop, a pivotally mounted member supporting said movable stop, a cam projecting from said pivotally mounted member and arranged in the path of movement of said gripper arm,

- a reciprocating slide member for supporting said pivotally mounted member, an arm for supporting said slide member, a reciprocating rod for actuating said arm, and a plurality of means for connecting said reciprocating rod with said gripper bar for conveying movement from the gripper bar to the movable stop, the movement of said rod being adapted to move the movable stop back and forth across part of the platen of the press, and said cam being adapted to move said movable stop in a reverse direction before the regular reverse movement of said rod.
6. In an attachment for printing presses formed with a gripper bar and a gripper arm, a stationary stop, a movable stop, a cam associated with the movable stop for moving the same in a reverse direction, said cam being arranged in the path of movement of said gripper arm, whereby each time that the press is closed the cam will be operated and the movable stop will be moved in a reverse direction during the last part of the movement of the press when closing, an arm for carrying said movable stop, means for clamping said movable stop at any desired point on said arm, a reciprocating rod, means for clamping said arm at any desired point along said reciprocating rod, and means operated by the gripper bar of said press for reciprocating said rod.
7. In an attachment for printing presses, a stationary stop, a movable stop, means for moving said movable stop toward and from said stationary stop and auxiliary means for moving said movable stop in a reverse direction after the same has traveled its full distance toward the stationary stop and before the regular reverse movement of the stop begins.
8. In a printing press formed with a gripper bar and a gripper arm, a stationary stop, a movable stop, means for automatically moving said movable stop for causing the same to force the paper fed into the machine against said stationary stop, automatically operable means for moving said movable stop out of contact with the paper without causing a complete reverse movement of the movable stop, an arm for supporting said movable stop, means for giving said arm a back and forth movement, a bell crank lever connected with said means for operating the same, and means connecting the bell crank lever with the gripper bar of the press for actuating said bell crank lever.
9. In a printing press formed with a gripper bar and a gripper arm, a stationary stop, a movable stop for forcing paper fed into the press against said stationary stop, a pivotally mounted member for supporting said movable stop, a cam extending from said pivotally mounted member in the path of movement of said gripper arm, a slide member for supporting said pivotally mounted member, an arm for supporting said slide member, a transversely reciprocating rod, means for clamping said arm to said transversely reciprocating rod, a bell crank lever, means for connecting said bell crank lever with said rod for conveying movement from the bell crank lever to the reciprocating rod, an adjustable pitman connected with said bell crank lever, and means for connecting said adjustable pitman with the gripper bar of said press, whereby movement will be conveyed from the gripper bar of the press to said movable stop for moving the same in timed relationship to the press.
10. In a printing press formed with a gripper bar, a platen, and tympan bails, a stationary stop, a reciprocating stop for forcing paper against such stationary stop, a movable arm for supporting and moving said reciprocating stop, a reciprocating rod for moving said arm, means operated by the gripper bar of said press for reciprocating said rod, a supporting bar for supporting said reciprocating rod, said arm and the means for operating said rod, and a plurality of retaining brackets fitting over the edge of the platen of said press and held against removal by one of the tympan bails of the press.
11. In a printing press formed with a gripper bar and gripper arms, means for centering paper fed thereto, means secured to the gripper bar of said press for operating said means and means operable by one of the gripper arms for moving in a reverse direction said paper centering means immediately previous to the impression.
12. In an attachment for printing presses formed with a gripper bar and gripper arms, a stationary stop, a movable stop, a pivotally mounted bar rigidly connected with the said movable stop, a supporting clamping member pivotally connected with said bar, an arm passing through said supporting clamping member, means operable by the gripper bar of said press for moving said arm transversely across the platen of said press and means operated by one of the gripper arms of said press for moving said pivotally mounted stop supporting bar in such direction as to give a reverse movement to said movable stop without moving said arm.
13. In an attachment for a printing press formed with a gripper bar and gripper arms, a stationary stop, a movable stop, a supporting bar for said movable stop, a cam projecting from said supporting bar, a supporting member formed with clamping portions pivotally connected with said supporting bar for pivotally supporting said bar, an arm extending through the clamping portions of said supporting member, a spring for normally holding said pivotally

mounted supporting member in one position and means operable by the gripper bar of said press for moving said arm transversely over the platen of said press for moving
5 said movable stop toward said stationary stop whereby paper fed into said press will be moved against said stationary stop and one of the gripper arms of said press will be caused to engage said cam for moving
10 said movable stop in a reverse direction just previous to the impression and while said arm is stationary

14. In an attachment for printing presses formed with a gripper arm, a stationary
15 stop, a movable stop, means for moving said movable stop toward and from said stationary stop, means operable by the gripper arm of said press for giving a slight reverse movement to said movable stop just
20 before the impression is made and means for removably holding said movable stop

and the means for operating the same on the platen of said press.

15. In an attachment for a printing press formed with a gripper bar and gripper
25 arms, a stationary stop, a movable stop, an arm for giving a principal movement to said movable stop, means connected with the gripper bar of the said press for moving
30 said arm, means operated by one of the gripper arms of said press for giving a reverse movement to said movable stop while said arm is held stationary in its innermost position and means for taking up any lost
35 motion of said arm.

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

ALTA L. SMITH.

Witnesses:

ROBT. T. LANG,
A. L. KITCHIN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."