L. BAKKE.

PAPER GUIDE FOR PRESSES.

APPLICATION FILED JAN. 25, 1912.

1,068,406. Patented July 29, 1913.

Fig. 1.

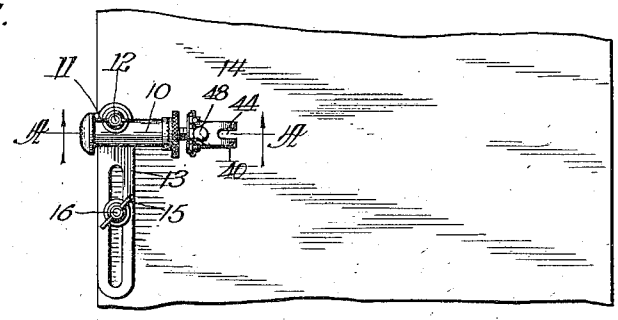


Fig. 2.

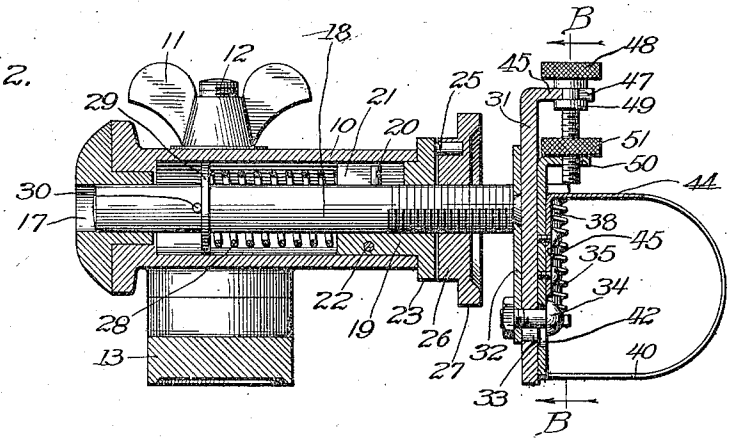


Fig. 3.

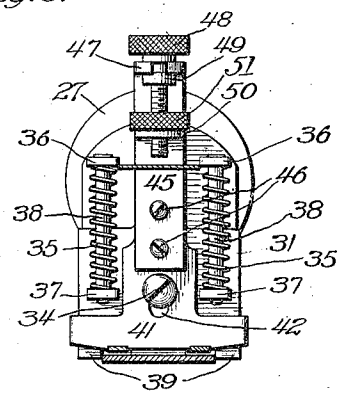


Fig. 4.

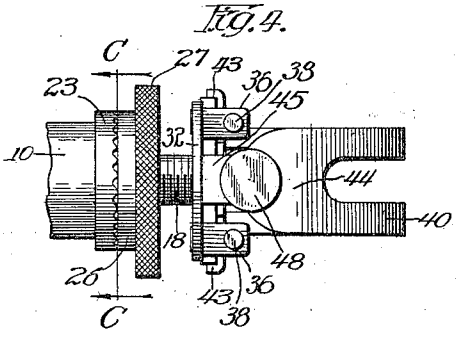
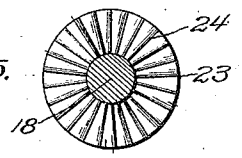


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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PAPER-GUIDE FOR PRESSES.

1,068,406. Specification of Letters Patent. Patented July 29, 1913.

Application filed January 25, 1912. Serial No. 673,475.

To all whom it may concern:

Be it known that I, LEOPOLD BAKKE, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Paper-Guides for Presses, of which the following is a full, clear, and exact specification.

My invention is concerned with paper guides for printing presses, and is concerned mainly with an improvement intended to be applied to side guides, although in part it is concerned with an improvement which is also applicable to front guides.

In side guides, as heretofore constructed, the stop plate has been so mounted when in position on the feed table that it did not necessarily rest at both corners squarely upon the feed table, especially if the latter happened to have an uneven surface where the stop plate rested, with the result that the paper being fed in might accidentally get under one corner of the stop plate, thereby producing an uneven feed, or possibly catching and tearing the sheet. To remedy this difficulty, I mount the stop plate so that its bottom is free to move to accommodate itself to any unevenness in the feed table, and thus insure both corners resting squarely thereon.

In another feature, my invention may be considered as an improvement on the invention covered by my Patent No. 1,011,009, dated December 5, 1911, as I have in the present construction changed the combination therein shown so that the stop plate can be moved against the resistance of the spring only toward the paper, and not in the direction of the feed, the movement in the latter direction being objectionable, as it might result in the accidental displacement of the stop plate.

Finally, my present invention is concerned with a novel combination of elements whereby the invention shown in my application No. 671,284, filed January 15, 1912, may be applied as well to a side guide as to the front guide shown in said application.

To illustrate my invention, I annex hereto a sheet of drawings, in which the same reference characters are used to designate identical parts in all the figures, of which,—

Figure 1 is a top plan view of a portion of a feed table showing a side guide containing my invention attached thereto; Fig. 2 is a sectional view, on an enlarged scale, on the line A—A of Fig. 1; Fig. 3 is a view in section on the same scale, on the line B—B of Fig. 2; Fig. 4 is a top plan view of the stop-guide end of the device; and Fig. 5 is a view in section on the line C—C of Fig. 4.

The sleeve 10, which carries the guide mechanism proper, may be adjustably secured in any desired manner, as by the wing nut 11 coöperating with the bolt 12 upon the slotted supporting bar 13, which can be secured upon the table 14 in any desired position of adjustment by the wing nut 15 coöperating with the customary bolt 16. The mechanism thus far described constitutes no part of my invention.

The sleeve 10, as best shown in Fig. 2, is provided at one end with the aperture or recess 17, in which the adjacent end of the rod 18 is adapted to be guided. The opposite end of the rod 18, which is threaded, as seen, slides freely through a guiding aperture formed in the collar 19 closing the other end of the sleeve 10; and to prevent any possible rotation of the rod 18, I employ some suitable means, such as the pin 20 projecting therefrom and adapted to slide in the longitudinal slot 21 formed in one side of the collar 19, which is held from rotation in the sleeve by the pin 22 passed through the sleeve 10 and into the collar, as shown. The outer end of the collar 19 preferably has the annular enlargement 23, which has on its outer face the series of equidistant grooves 24 which are adapted to be entered by the beveled end of the pin 25 secured in the adjusting nut 26, through which the end of the rod 18 is threaded. This nut 26 is preferably provided with the annular enlargement 27, the periphery of which is milled so that it can be readily turned in securing the desired adjustment of the stop plate, which it will be understood is secured on the outer end of the rod 18. To hold the nut 26 firmly, yet yieldingly, in any desired position of adjustment, I interpose the strong helically-coiled expanding-spring 28 between the inner end of the collar 19 and the washer 29 held in place on the rod 18 by the pin 30.

With the construction herein described, it will be obvious that the position of the rod 18 in the sleeve 10, and consequently the exact position of the stop plate carried by

the end of the rod, can be very accurately adjusted and secured in any desired position of adjustment by simply grasping the milled flange 27 and pulling the rod to the right far enough to disengage the pin 25 from the recess 24 which it happens to occupy. The nut can then be turned in the proper direction as much as may be necessary to secure the desired movement of the rod 18, and the accurate adjustment necessary may be readily obtained in the manner fully set out in my above-mentioned Patent No. 1,011,009.

The stop plate 31, instead of being directly connected to the end of the rod 18, is mounted to move vertically, and also to swing, upon the supporting plate 32 rigidly secured on the threaded end of the rod 18, and the vertical movement of the plate 31 is secured by reason of the slightly elongated slot 33 formed therein, through which passes the screw 34, the end of which is secured in the supporting plate 32. It is desired to hold this stop plate yieldingly downward, and also so that it can be swung slightly from side to side, and for this purpose I employ the pair of helically-coiled expanding-springs 35 interposed between the pair of lugs or studs 36 projecting forward from the supporting plate and the oppositely-disposed lugs 37, likewise projecting forward from the stop plate 31. It will be noted that the upper portion of the stop plate is reduced in width so that it can pass between the lugs 36. To enable me to employ finer springs 35 than would otherwise be possible, I preferably secure in the upper ends of the lugs 36 the small rods 38 which pass through the springs 35, and the lower ends of which extend into or pass through suitable apertures formed in the lugs 37.

With the construction heretofore described, it will be apparent that the stop plate 31 can not only yield upward, but it can swing slightly about the screw 34 as a center, so that the lower corners 39 of said stop plate can be made to rest on the feed table 14 at any point in spite of any unevenness that may happen to exist at said point.

With both the springs 35 under equal stress, the central longitudinal axis of the stop plate 31 is in alinement with or parallel to the similar axis of the supporting plate 32, and if the upper surface of the table 14 were horizontal, these axes would be vertical or perpendicular thereto.

In my application No. 671,284, filed January 15, 1912, I have shown an adjusting plate to regulate the height of the spring guides 40 above the coöperating feed-table surface as applied to a front guide in which the stop plate is rigidly secured to the supporting plate, and in the present application I have shown the same adjusting plate modified so as to be applicable to the swinging stop plate of this novel side guide. To this end, the adjusting plate 41 is likewise provided with the slot 42 corresponding with the slot 33, and through which the screw 34 passes. This adjusting plate 41 is provided at its lower corners with turned-over edges 43, which coöperate with the vertical edges of the stop plate 31, but need not embrace it, as in my prior patent, owing to the coaction of the head of the screw 34 with the narrower slot 42. The spring guides 40 in my novel construction are united in the body portion 44, which is reduced and turned down, as seen at 45, and secured to the upper portion of the adjusting plate 41 in any desired manner, as by the screws 46. To adjust the position of the plate 41. (the lower edge of which coöperates with the upper surfaces of the lower portions of the spring guides 40, as explained in my above-mentioned application), I provide the offset end 47 of the stop plate 31, in which is rotatably mounted the unthreaded portion of the screw 48, which is provided with the collar 49 to hold it from vertical movement. The threaded portion of the screw 48 coöperates with the threaded aperture in the offset upper end 50 of the adjusting plate 41, and when said plate has been moved to any desired position of adjustment, by manipulating the screw 48, it can be screwed in said position by turning down the lock nut 51 against the upper face of the offset 50.

With the spring guides secured at their outer ends to the adjusting plate 41, and with their lower ends pressed upward against its lower edge, it will be apparent that the spring guides in operation have no movement relative to the plate 41 (as they do in my above-mentioned application), but always move with it, and consequently they might be permanently secured to the plate where they engage its lower edge. In fact, there is no need for the guiding fingers to be springs at all, but they might be a rigid casting secured to or formed integrally with the plate 41.

While I have shown and described my invention as embodied in the form which I at present consider best adapted to carry out its purposes, it will be understood that it is capable of modifications, and that I do not desire to be limited in the interpretation of the following claims except as may be necessitated by the state of the prior art.

What I claim as new, and desire to secure by Letters Patent of the United States, is:

1. In a device of the class described, the combination with a supporting rod, of a supporting plate secured on the end thereof, a stop plate pivotally mounted on the

supporting plate, and springs tending to hold the stop plate in alinement with the supporting plate.

2. In a device of the class described, the combination with a supporting rod, of a supporting plate secured on the end thereof, a stop plate pivotally and slidingly mounted on the supporting plate, and springs interposed between said plates tending to hold the stop plate in alinement with the supporting plate and in its lowermost position.

3. In a device of the class described, the combination with a supporting rod, of a supporting plate secured on the end thereof and having a pair of lugs thereon, of a stop plate pivotally mounted on the supporting plate and having a pair of lugs thereon opposed to those on the supporting plate, and springs interposed between said lugs tending to hold the stop plate in alinement with the supporting plate.

4. In a device of the class described, the combination with a supporting rod, of a supporting plate also on one end thereof and having a pair of lugs projecting therefrom, a stop plate pivotally and slidingly mounted on the supporting plate and having a pair of lugs thereon opposed to those on the supporting plate, and a pair of helically-coiled expanding-springs interposed between the two sets of lugs.

5. In a device of the class described, the combination with a supporting rod, of a supporting plate secured on the end thereof and having a pair of lugs projecting therefrom, a stop plate pivotally mounted on the supporting plate and having a pair of lugs projecting therefrom opposed to the lugs on the supporting plate, a pair of rods secured to the lugs on one plate and passing through the lugs on the other, and helically-coiled expanding-springs surrounding the rods and abutting against the two sets of lugs.

6. In a device of the class described, the combination with a supporting rod, of a supporting plate secured on the end thereof, a stop plate pivotally mounted on the supporting plate, springs tending to hold the stop plate in alinement with the supporting plate, an adjusting plate mounted on the stop plate, means for moving said adjusting plate vertically on the stop plate and securing it in any desired position of adjustment, and a guide secured to the adjusting plate.

7. In a device of the class described, the combination with a supporting rod, of a supporting plate secured on the end thereof, a stop plate pivotally mounted on the supporting plate, springs tending to hold the stop plate in alinement with the supporting plate, an adjusting plate mounted on the stop plate, offsets at the upper ends of the stop and adjusting plates, a screw mounted to rotate in one offset and threaded through the other, a lock nut threaded on the screw and coöperating with the threaded offset, and a guide secured to the adjusting plate.

8. In a device of the class described, the combination with a supporting rod, of a supporting plate secured on the end thereof and having a pair of lugs extending therefrom, a stop plate pivotally mounted on the supporting plate and having a pair of lugs extending therefrom opposed to the lugs on the supporting plate and an offset upper end, helically-coiled expanding-springs interposed between the two sets of lugs tending to hold the stop plate in alinement with the supporting plate, an adjusting plate mounted to move vertically on the stop plate and having an offset upper end, a screw mounted to rotate in one offset and threaded through the other, a lock nut threaded on the screw and adapted to cooperate with the threaded offset, and a guide secured to the adjusting plate.

9. In a device of the class described, the combination with a supporting rod, of a supporting plate secured on the end thereof and having a pair of lugs projecting therefrom and an offset upper end, a stop plate pivotally and slidingly mounted on the supporting plate and having a pair of lugs extending therefrom opposed to the lugs on the supporting plate and having an offset upper end, a pair of rods secured to the lugs on one plate and passing through the lugs on the other plate, helically-coiled expanding-springs surrounding the rods between the lugs, an adjusting plate vertically movable on the stop plate, a screw mounted to rotate in one offset and threaded through the other, a lock nut on the threaded portion of the screw coöperating with the threaded offset, and a guide secured to the adjusting plate.

10. In a device of the class described, the combination with a sleeve, of a rod mounted to slide, but not rotate therein, and threaded at one end, a stop plate secured on the same end, a disk threaded on the rod outside of the sleeve, graduated engaging means on the coacting surfaces of the sleeve and disk to prevent any relative angular movement of said surfaces while they are engaged, and a spring in the sleeve abutting against one end thereof and against the rod to hold said engaging means in engagement against any accidental displacement.

11. In a device of the class described, the combination with a sleeve, of a collar secured in one end thereof and having a longitudinal slot therein, a rod mounted to slide freely through the sleeve and collar and threaded on that end, a disk threaded on the rod adjacent the collar, equidistant recesses in the exterior end of the collar, a pin on the disk coöperating with the re-

cesses, a pin carried by the rod coöperating with the longitudinal slot in the collar, and a spring in the sleeve surrounding the rod and contacting with the collar at one end and with the rod at the other end, substantially as and for the purpose described.

In witness whereof, I have hereunto set my hand and affixed my seal this 19th day of January, A. D. 1912.

LEOPOLD BAKKE. [L. S.]

Witnesses:
JOHN HOWARD MCELROY,
MILDRED ELSNER.

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