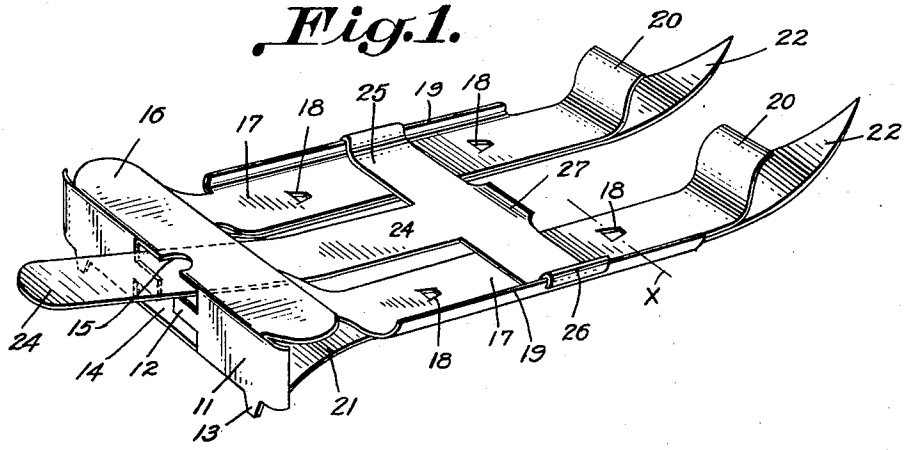
Oct. 20, 1942. C. D. WINDERS 2,299,289

PRINTING PRESS GAUGE PIN

Filed March 25, 1940

Fig. 1.



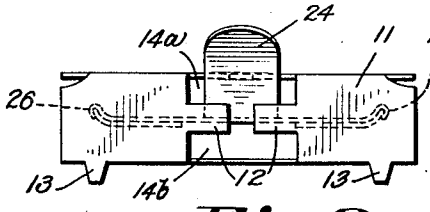


Fig. 2.

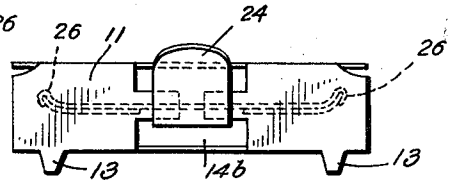


Fig. 3.

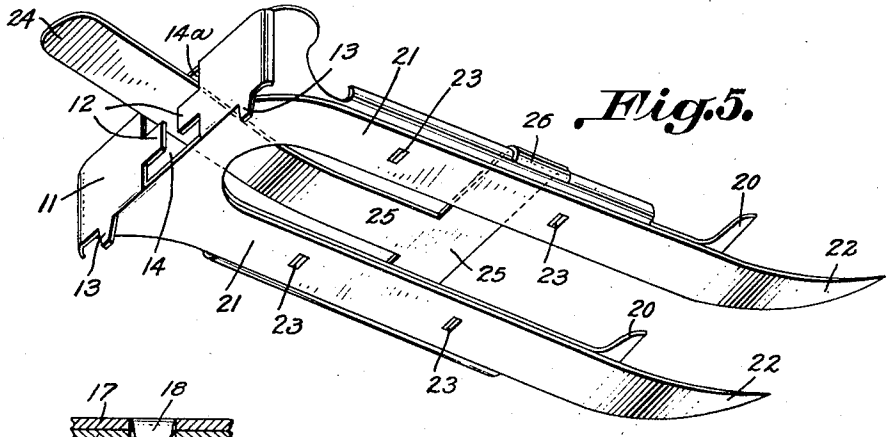


Fig. 5.

Fig. 4.

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2,299,289

PRINTING PRESS GAUGE PIN

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Application March 25, 1940, Serial No. 325,825

4 Claims. (Cl. 101—415)

This invention relates to improvements in printing press gauge pins which are fixed to the tympan sheets or top sheets of the impression packing of the platens of printing presses by the means of metal prongs which perforate said tympan sheets and which are held in position by said perforation and by friction contact and which are used for the purpose of holding printing paper stock in proper position on the tympan sheets during the process of printing.

One of the principal objects of this invention is to eliminate the loss of time and waste of extra materials often necessary in setting gauge pins of other design and to prevent the slipping of gauge pins during the process of printing by providing gauge pins which will quickly, easily, and unfailingly grip the tympan sheet by means, first, of lock-cleats which are die-cut and stamped in the pin stock as a part of a single arm unit, secondly, of pressure created between parallel arms and prongs, and thirdly, by metal teeth sufficiently tight and in such manner as to remain in position without the use of glue, sealing wax, screw-clamps, or other separate devices commonly employed to hold gauge pins rigid.

A further object of this invention is to provide a gauge pin with an adjustable tongue which will hold either light weight or heavy weight paper stock in close proximity to the tympan sheet, thereby preventing curling of the edges of the paper stock and the resulting changes in position of the paper stock which is to receive the impression during the process of printing without the use of separate and distinct devices for altering the position of the tongue, and without the use of separate, distinct, or especially designed tongues.

Other objects and advantages of this invention will appear throughout the following specification and claims.

In the drawing:—(Figures 1, 2, 3, and 5 are enlarged 4 times.)

Figure 1 is an oblique view of the Sure-Grip gauge pin showing pictorially the top construction.

Figure 2 is a left side view of the face of the Sure-Grip gauge pin showing the tongue positioning feature with the tongue in the upper position.

Figure 3 is a left side view of the face of the Sure-Grip gauge pin showing the tongue positioning feature with the tongue in the lower position.

Figure 4 is an enlarged sectional view of the Sure-Grip gauge pin lock-cleat taken from cutting line x in Figure 1.

Figure 5 is a reverse oblique view of the Sure-Grip gauge pin showing the construction of the bottom side of said gauge pin.

By reference to the drawing, it will be seen that 17 designates the arms of the Sure-Grip gauge pin, and 21 designates the prongs of the Sure-Grip gauge pin. The grip on the tympan sheet by said gauge pin is secured in part by the pressure upon said tympan sheet as it is held between the arms 17 and the prongs 21, which pressure is caused by the parallel relation of arms 17 to prongs 21 and the fact that said arms and prongs are held firmly together by the spring tension of the spring steel metal used in their construction. Further hold on the tympan sheet by this gauge pin is effected by lock-cleats 18 which are die-cut and stamped in the arm stock as a part of the single unit and are approximately perpendicular to the arms and which perforate the tympan sheet and fit into the cleat holes provided at points 23 in the prongs 21. These cleats 18 after passing through the tympan sheet at four points and locking themselves in the holes 23 provided in the prongs 21, because of the spring tension of the metal, strengthen the hold of the Sure-Grip gauge pin on the tympan sheet to a sufficient degree that any paper stock, regardless of weight, fed to said gauges on a platen printing press will not affect the original pin set. Moreover, the grip of the Sure-Grip gauge pin is further strengthened and the possibility of it slipping from its original set is further eliminated by the penetration of the front teeth 13 into the tympan sheet after they have been pressed or tapped in such a manner as to cause such said penetration. These front teeth 13 are small downward extensions of the face 11.

Further reference to the drawing, shows that on the face 11 at exactly the center position on each side of tongue slot 14 are tongue positioning guides 12 which project into the tongue slot 14 approximately $\frac{3}{64}$''. The tongue positioning guides 12 permit tongue 24 to be placed in either of two positions, one the lower position 14b which holds the tongue approximately $\frac{3}{64}$'' from the tympan sheet, and the other, or upper position 14a which holds the tongue approximately $\frac{1}{8}$'' from the tympan sheet. This arrangement permits a lower tongue adjustment 14b which is particularly desirable on thin paper stocks and which assures close registry of any light weight

paper stock with the printing form as the edge of the paper stock cannot therefore curl away from the tympan sheet a sufficient distance to allow said paper stock to slip from its originally intended position on the tympan sheet and thereby change the relative position of the paper to be printed and the printing form, regardless of the number of impressions required to complete a job of color process printing or other forms requiring intricate registry.

Figure 1 and the hidden lines in Figures 2 and 3 show the method employed to provide a tongue which is easily adjustable after the Sure-Grip gauge pin is set in the tympan sheet. Since the arms **17** have friction contact with the tympan sheet the tongue support **25** rides on arm rails **19**. The arm rails **19** are approximately 3/64" metal extensions on the outer edges of the arms **17** running approximately 5/8" of the length of said arms as shown in Figure 1 and which are turned up away from the tympan sheet at approximately a 45° angle. The tongue **24** is held in position on the gauge pin arms **17** by the grip of the tongue support clamps **26** on the outside of the arm rails **19** which is sufficiently tight to retain said tongue in the desired position. The tongue support clamps **26** are produced as a part of the tongue support **25** itself by die-stamping the tongue support metal with an upward curvature of approximately 45° at the outer portion followed by a short reverse flange at the end. The arrangement permits the tongue **24** and tongue support **25** to set in a position below the upper edge of the arm rails **19** and in close proximity, but not in immediate contact, with the arms **17**.

The Sure-Grip gauge pin tongue **24** is made of brass or any other suitable metal with a slight spring characteristic and is approximately 3/4" in length and 3/16" in width and is quickly set in either the upper or lower positions **14***a* or **14***b* without removing it from the gauge pin. The tongue **24** and tongue support **25** are die-stamped as one unit. The tongue **24** is slid back by aid of the tongue adjustment bar **27**, which is a short upward extension of tongue support **25**, just far enough for the point of the tongue **24** to clear the back of the tongue positioning guides **12**. The natural spring in the tongue metal will position the tongue **24** in the upper tongue slot **14***a*. The tongue **24** is positioned in the lower tongue slot **14***b* by injecting any of several small devices commonly a part of the pressman's ready equipment through the opening **15** provided in head **16** and pressing the tongue **24** down far enough to slide the tongue **24** forward until the point of the tongue **24** enters the lower tongue slot **14***b* far enough to be held in position by the tongue positioning guides **12**. From this point the desired projection of tongue **24**, through the tongue slot **14***b*, can easily be adjusted.

The Sure-Grip gauge pin is set by inserting the prongs **21** into the tympan sheet approximately 1/8" below or to the outside of the feed-line (the desired position usually marked on the tympan sheet indicating where the paper stock is to be held while printing) and pushing said prongs under and back through the tympan sheet causing a second penetration of the tympan sheet by said prongs at approximately 1/2" from the point where they were first inserted. In order to accomplish this process of setting the Sure-Grip gauge pin is held in an inclined position with the prong points **22** piercing the tympan sheet at the same time. After the tympan sheet has been passed through the first time by the prong points **22** the Sure-Grip gauge pin is held nearly parallel to the tympan sheet to prevent the prong points **22** from piercing the tympan packing. The arm lifts **20** which are produced by an upper compound curvature of the arm ends are so designed that when the said gauge pin is inserted to the first set of lock-cleats **18** arms **17** can easily be raised slightly with the tip of the finger and held up until the said gauge pin has been inserted far enough that the first set of lock-cleats **18** will clear the first perforations in the tympan sheet made by prong points **22**. At this point the arms **17** may be lowered for the remainder of the pin set as the points of the lock-cleats **18** and teeth **13** are sufficiently blunt so as not to tear or pierce the tympan sheet. The prong points **22** are easily made to pierce the tympan sheet the second time because of the slight upward curvature of the ends of the prongs. After the desired gauge pin set is effected so that the face of said pin rests on the feed-line where it will stop the paper stock at this point, the arms **17** and the head **16** are to be tapped lightly so that teeth **13** and lock-cleats **18** will pierce the tympan sheet so as to assure the retention of the desired position of the Sure-Grip gauge pin.

It should be understood that it is not desired to limit the present invention to any particular type of material and that other metals may be used in its construction without departing from the spirit of the invention, nor is it desired to limit this invention to any particular dimensions as the dimensions referred to herein are only suggestive.

Be it further understood that certain detailed changes in the mechanical construction, combination, and arrangement of parts may be employed without departing from the spirit of the invention so long as such changes fall within the scope of the appended claims.

I am aware that prior to my invention, printing press gauge pins have been made with a prong which penetrates the tympan sheet of platen printing presses and with arms which rest on top of the tympan sheet and which support the gauge pin tongues. I therefore do not claim such a combination broadly, but I claim:

1. A device of the class described comprising two prongs and two arms, one arm placed directly above each prong and in parallel relation thereto and in friction contact for approximately their entire length; the prongs of which device are to be inserted through the tympan sheet of platen printing press packings and thereby grip the tympan sheet by the pressure caused by a spring contact relation between almost the entire length of said arms and prongs and said arms being curved upward on their outer edges in such manner as to create an arm rail and to permit the tongue itself, supported thereon, to set in a position above the main body of the arms and not in immediate contact with the tympan sheet.

2. A device of the class described comprising two prongs and two arms, one arm placed directly above each prong and in parallel relation thereto and in friction contact for approximately their entire length; the prongs of which device are to be inserted through the tympan sheet of platen printing press packings and thereby grip the tympan sheet by the pressure caused by a spring contact relation between almost the entire length of said arms and prongs, and the two arms of the gauge pin described each containing two cleats, each of which is die-cut and stamped

in the arms and which perforate the tympan sheet and fit into holes stamped out of the prongs.

3. A device of the character described comprising a body portion, a head secured to said body portion, a single tongue slot in the face of said head into which project a short distance from each side tongue positioning guides leaving an opening in the center of said slot between said guides, and a tongue adjustably secured to said body portion and extendable through said slot in either of two positions in said slot.

4. A device of the class described comprising a body portion, a tongue adjustably secured to said body portion, and a head secured to said body portion with a single tongue slot in the face of said head into which project a short distance from each side tongue positioning guides leaving an opening in the center of said slot between said guides, and with an opening at the center front of the top portion of said head directly above the space between the said tongue positioning guides in the tongue slot.

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