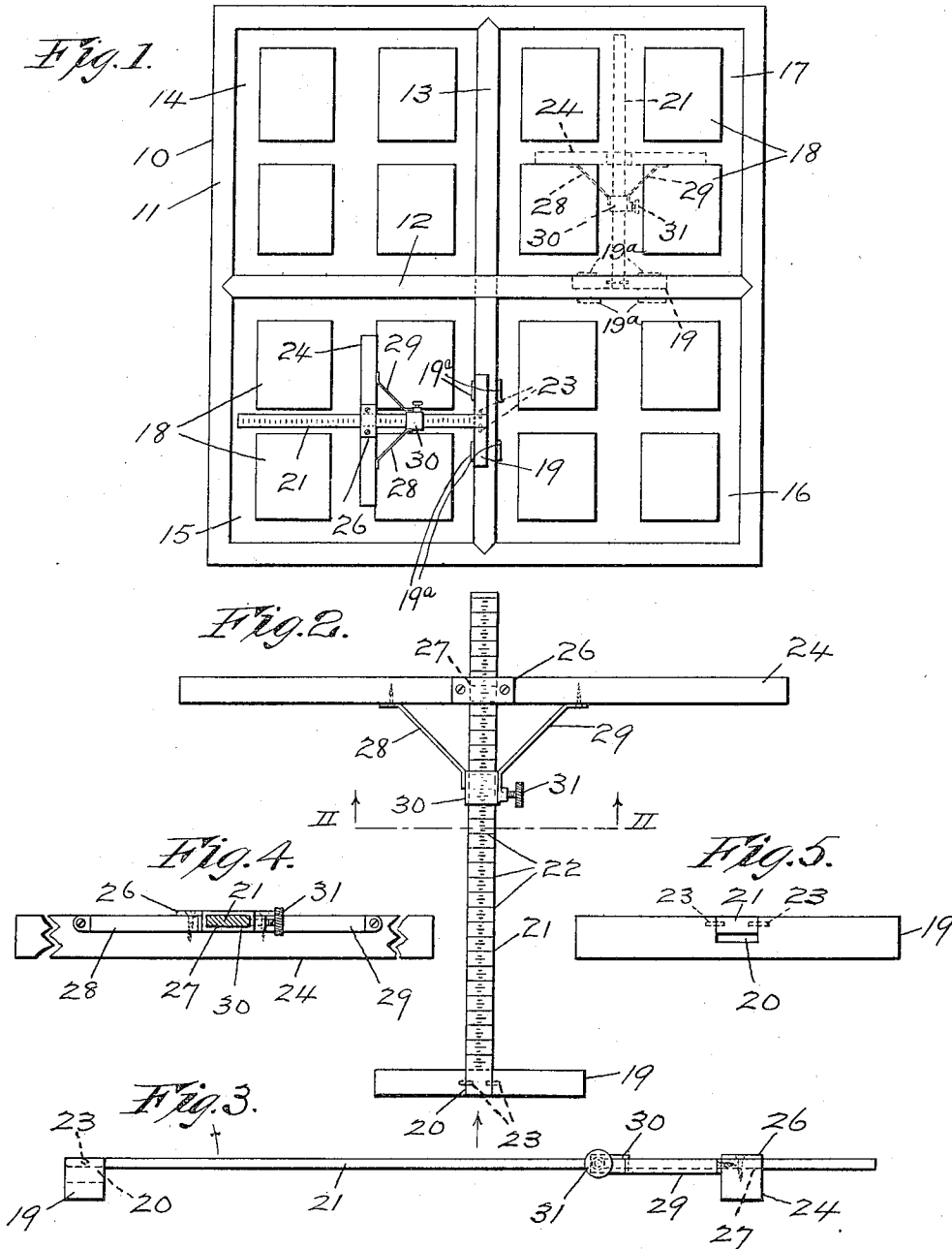


J. C. DITTRICH.
 LINE-UP REGISTER GAGE,
 APPLICATION FILED NOV. 19, 1913.

1,153,896.

Patented Sept. 21, 1915.



Witnesses:
 Charles C. Abbe
 M. D. Moody.

Joseph C. Dittrich, Inventor
 By his Attorney
 W. T. Criswell.

UNITED STATES PATENT OFFICE.

JOSEPH C. DITTRICH, OF NEW YORK, N. Y.

LINE-UP REGISTER-GAGE.

1,153,896.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH C. DITTRICH, a citizen of the United States, and a resident of New York, borough of Brooklyn, county of Kings, and State of New York, have invented a certain new and useful Improvement in Line-Up Register-Gages, of which the following is a full, clear, and exact specification.

This invention relates to a class of devices adapted to be used in the art of printing.

In accordance with the present methods in practice when a book, or like publication is printed it is customary to arrange the forms of the type composition in a chase so that a number of the pages of the publication may be printed in unison by a press, and frequently a similar number of the forms are arranged in separate chases. In order to permit the printing of the pages of the publication on one side of the sheet to be executed so that the printing of the pages on the second side of the sheet will be in accurate register therewith, it is necessary that the forms in one chase be positioned to exactly correspond with the positions of the forms in the other chases, and in making-up the sets of forms in the chases a variation in the alinement thereof invariably occurs.

My invention has for its object primarily to overcome these objections by providing a device or register gage designed to be employed for permitting the forms of the type composition in each chase to be readily made-up so that the forms in one chase will precisely conform with the positions of the forms in the other chases, whereby the pages of the publication when printed on both sides of the sheet will be in accurate register. This is accomplished mainly by providing a retaining member adapted to be movably positioned upon the chase against guides, and to the retaining member is pivoted one end of a bar provided with a scale, or register. On the other end of the registering bar is adjustably held a transversely disposed guide bar which serves to indicate the accuracy of the alinement of the forms in the chase as well as being adapted to indicate the positions of the forms relatively to the chase.

A further object of the invention is to provide a register gage of a simple, efficient, and durable construction, and which is sus-

ceptible of being made in various sizes and shapes.

A practical embodiment of the invention is represented in the accompanying drawing forming a part of this specification in which similar characters of reference indicate corresponding parts in all the views, the said invention being more fully described hereinafter, and then pointed out in the claims at the end of the description.

In the drawing, Figure 1 is a top plan of a number of forms of type composition arranged in the chase of a printing press, and showing one form of register gage embodying my invention as used in conjunction therewith. Fig. 2 is a top plan of the register gage. Fig. 3 is an enlarged side view thereof. Fig. 4 is a sectional view, partly in detail, taken on the line II—II of Fig. 2, and Fig. 5 is an enlarged side view of the retaining member of the device.

The device, or line-up register gage is adapted to be employed in conjunction with the usual, or any preferred type of chase, as having an outer-frame 11, inner cross-bars 12 and 13 to provide a number of spaces 14, 15, 16, 17 of corresponding dimensions, and in one or more of these spaces are arranged a suitable number of spaced forms of type composition, as 18, from which the pages of a publication are printed. The cross-bars 12 and 13 are formed so that each of the edges thereof is absolutely true to a straight line, and said bars are relatively arranged so that their extending portions are disposed at exactly right angles with each other.

The register gage has an elongated retaining member, or bar 19, the side edges of which are formed so as to be exactly parallel, and the central part of the top surface of this bar is cut-out to provide a transversely disposed recess 20. In the recess 20 is movably disposed one end of a bar 21 on the top surface of which is a scale, or register 22 which may be indicated by lines or graduations representing inches and fractions thereof. The end of the registering bar 21 disposed in the recess 20 is pivoted, at 23, to the retaining-bar 19 so as to be adapted to be hingedly swung over the retaining bar from one side thereof to its other side.

Upon the registering bar 21 is provided a guide 24 which is also in the form of a bar

having straight parallel side edges lengthwise thereof, and this guide bar is adapted to be adjusted in suitable spaced parallel distances from the retaining bar 19. The central part of the guide bar 24 is cut-out to provide a recess transversely therethrough. Bridging the mouth of the recess is a plate 26 which is fastened upon the top surface of the guide bar whereby a passage 27 is provided therethrough, and in said passage is freely movable the guide bar 24.

Serving as means to hold the guide bar 24 against movement when adjusted upon the registering bar 21 relatively to the retaining bar 19, to opposite parts of the guide bar at spaced distances from its passage 27 are fastened one of the corresponding ends of each of two rods 28 and 29. The rods 28 and 29 are disposed so that the other ends thereof converge toward each other, and between the converging ends of the rods is provided a sleeve 30 through which the guide bar is movably disposed. Through one of the side walls of the sleeve 30 is a threaded opening in which is screwed a thumb screw 31 adapted to engage the registering bar 21. When the guide bar 24 and the sleeve 30 are properly adjusted upon the registering bar 21 by rotating the thumb screw 31 accordingly it will engage the registering bar, and the sleeve and the guide bar will then be tightly held against movement on the guide bar.

In using the device to line-up the forms of type composition in a chase, as shown in Fig. 1, a set of members, as 19^a, preferably in the forms of spacing leads are introduced between the furniture of the form and the side edges of each of the inner cross-bars 12 and 13 of the chase so as to extend some distance above the cross-bars. The device is disposed so that the registering bar 21 and the guide bar 24 will be between one of the sets of the forms 18 and the registering bar will rest on the top surface of one of the cross-bars of the chase 10. The retaining bar is afterward positioned so that its longitudinal edge in opposed relation to the guide bar 24 will abut against the set of the members 19^a of the type form which is to lined-up, and this retaining bar as well as the guide bar will thereby be trued with the side edges of the cross-bar of the chase. The guide-bar 24 is then adjusted on the registering bar 21 so that its edge opposed to the retaining bar will abut against one of the corresponding edges of one of the pairs of type forms. Any variation in the alinement of the forms and the type thereof may be corrected by shifting or adjusting the forms and the type to conform with the adjacent edge of the guide-bar, and the exact positions of the forms is also noted on the scale of the registering bar. When more than one set of type forms are used in a chase,

and should it be desired to register as well as to line-up each form to correspond with the first lined-up form, the device is shifted on the cross-bar of the chase so that the opposite edge of the retaining bar 19 will rest against the set of members 19^a projecting upwardly from the other edge of the cross-bar, and the registering bar 21 together with the guide bar 24 is then swung on the pivots 23 transversely over the retaining bar to the next adjacent set of the type forms which are lined-up by using the device in the manner described. The device may then be similarly employed on various parts of the cross-bars of the chase for lining-up the other forms, and by using the device correspondingly to line-up the forms of type composition in other chases a perfect registration of the pages of the publication will be obtained when printed by a press.

In the foregoing description, I have embodied the preferred form of my invention, but I do not wish to be understood as limiting myself thereto, as I am aware that modifications may be made therein without departing from the principle, or sacrificing any of the advantages of this invention, therefore I reserve to myself the right to make such changes as fairly fall within the scope of the appended claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. In a line-up register gage, a retaining bar adapted to rest upon the frame of a chase, a register bar pivotally secured to the retaining bar whereby the gage bar may be disposed upon either side of the retaining bar by a hinge movement and a guide adjustably secured upon the registering bar, said guide having extended arms at either side of the registering gage whereby the position of type forms in the chase may be adjusted by the guide, substantially as shown and described.

2. In a line-up register gage, the combination of a retaining bar adapted to rest upon the frame of a printer's chase, with a registering bar pivotally hinged to the retaining bar so that the gage is reversibly secured to the central portion of the retaining bar, and a guide bar slidably and removably mounted upon the register bar, and arranged in parallel relation with the retaining bar, means for rigidly securing the guide bar at any desired point upon the register bar, whereby the positions of the type-forms in the chase may be adjusted by adjusting the form relatively to the guide bar, and means for disposing the retaining bar in alinement with the frame of the chase, substantially as shown and described.

3. In a line-up register gage, the combination with a retaining bar adapted to rest upon the frame of a printer's chase, of a

register bar pivotally hinged at the central
portion of the retaining bar, and on the
upper side portion thereof, whereby the reg-
ister bar may be reversibly disposed upon
5 either side of the retaining bar, and a guide
bar removably and adjustably disposed upon
the register bar, and arranged in parallel
relation to the retaining bar, and means for
securing the guide bar at any desired posi-
10 tion upon the register bar whereby forms

of type or plates for printing may be lined
up and gaged, substantially as shown and
described.

This specification signed and witnessed
this eighteenth day of November, A. D. 15
1913.

JOSEPH C. DITTRICH.

Witnesses:

ROBT. B. ABBOTT,
M. DERMODY.

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