No. 630,832. Patented Aug. 8, 1899.

L. K. JOHNSON & A. A. LOW.

TYPE SETTING APPARATUS.

(Application filed Jan. 18, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 3.

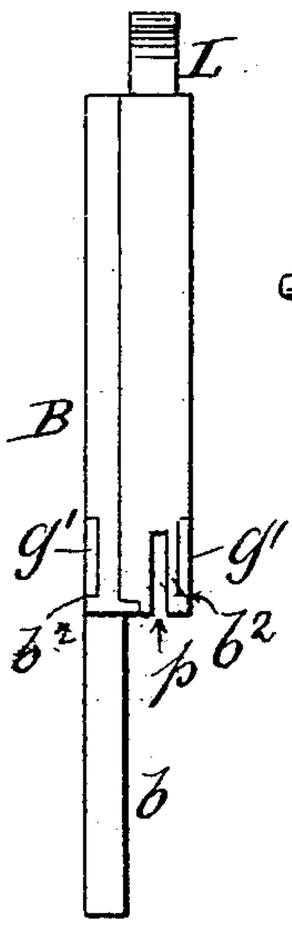


Fig. 2.

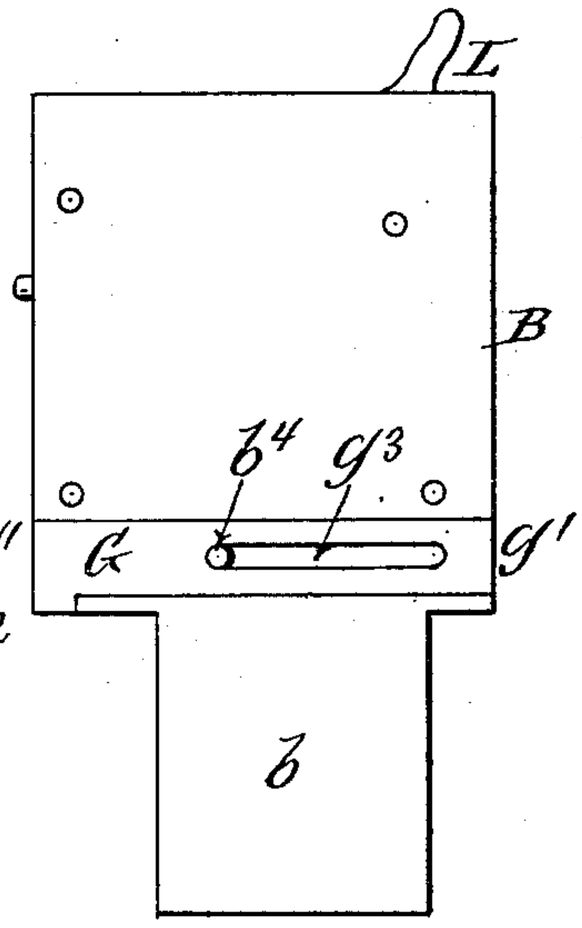


Fig. 1.

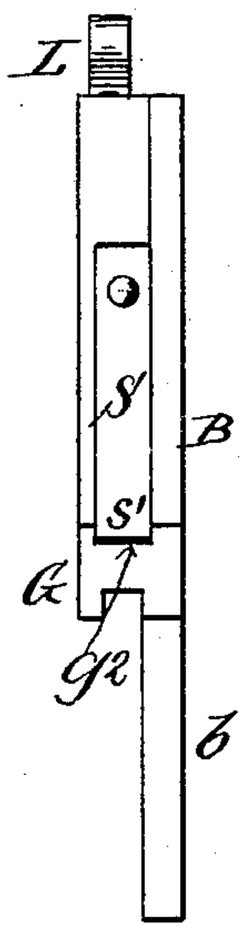


Fig. 5.

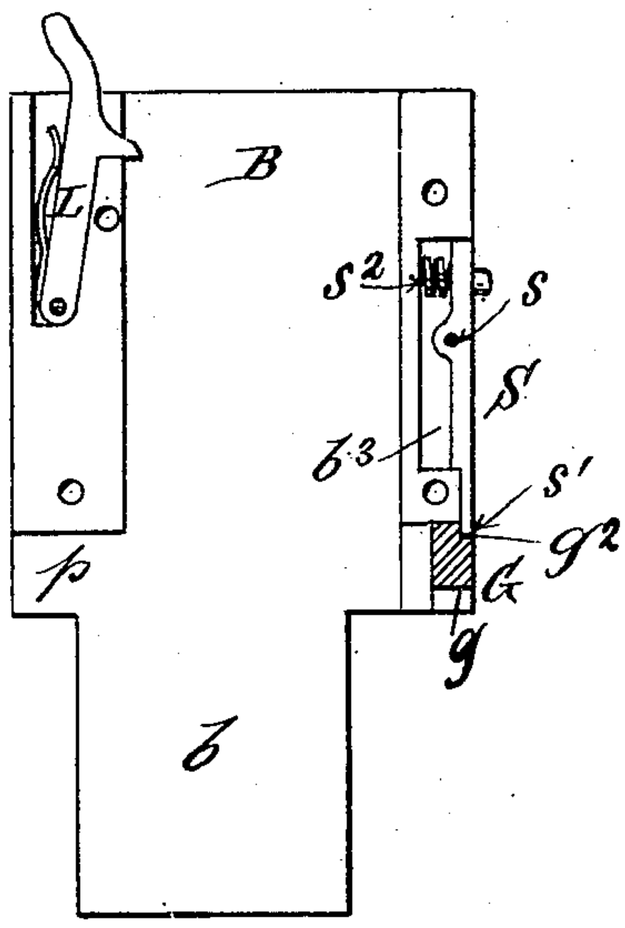


Fig. 4.

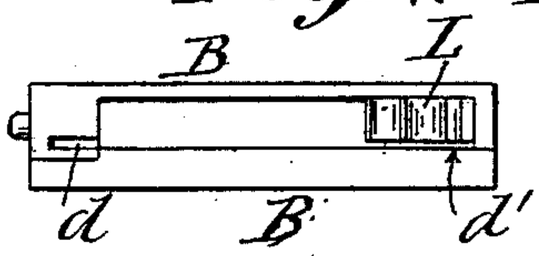
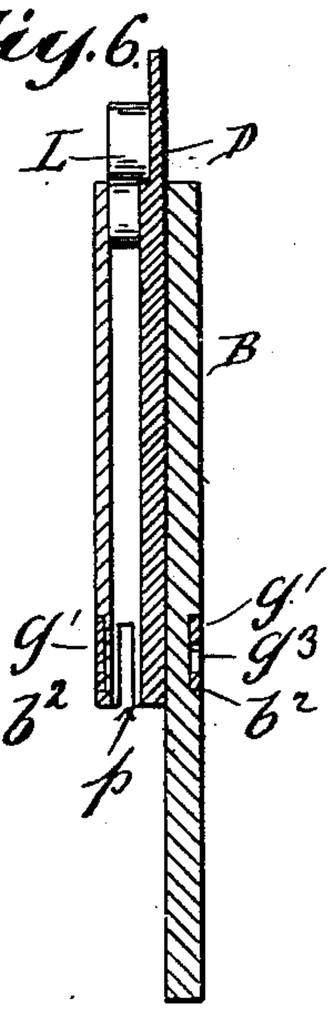


Fig. 6.



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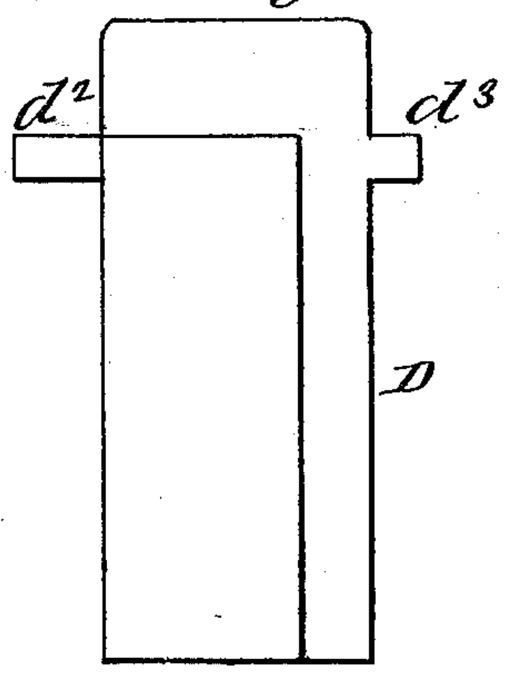

Fig. 7

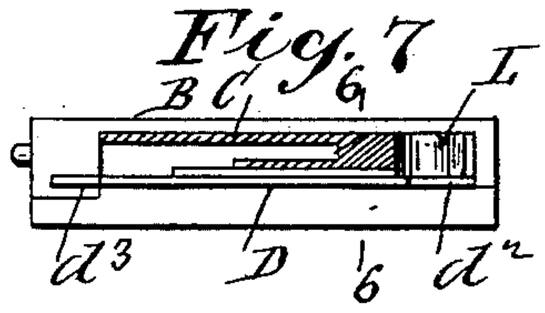

Fig. 9.

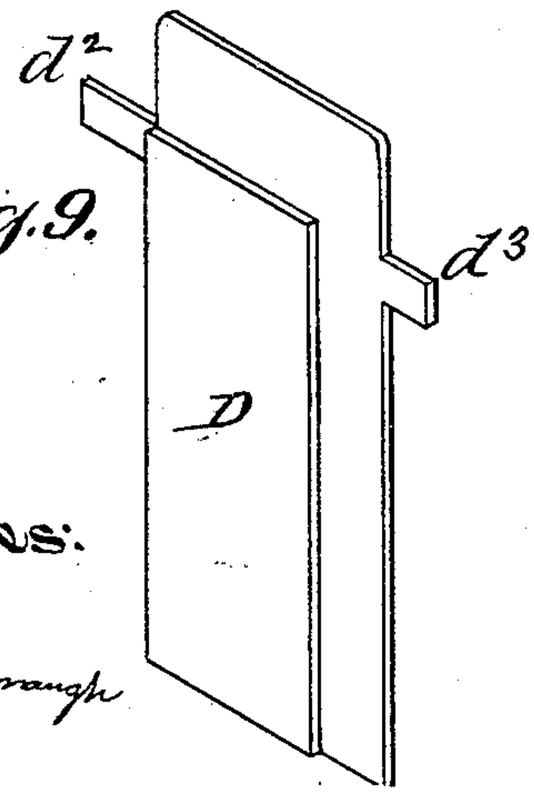

Fig. 10.

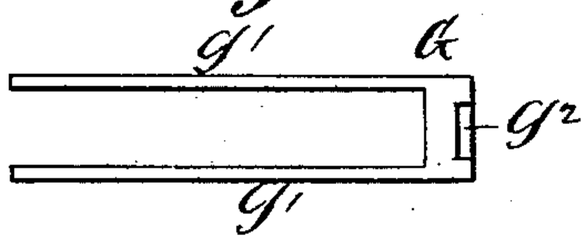

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Fig. 11.

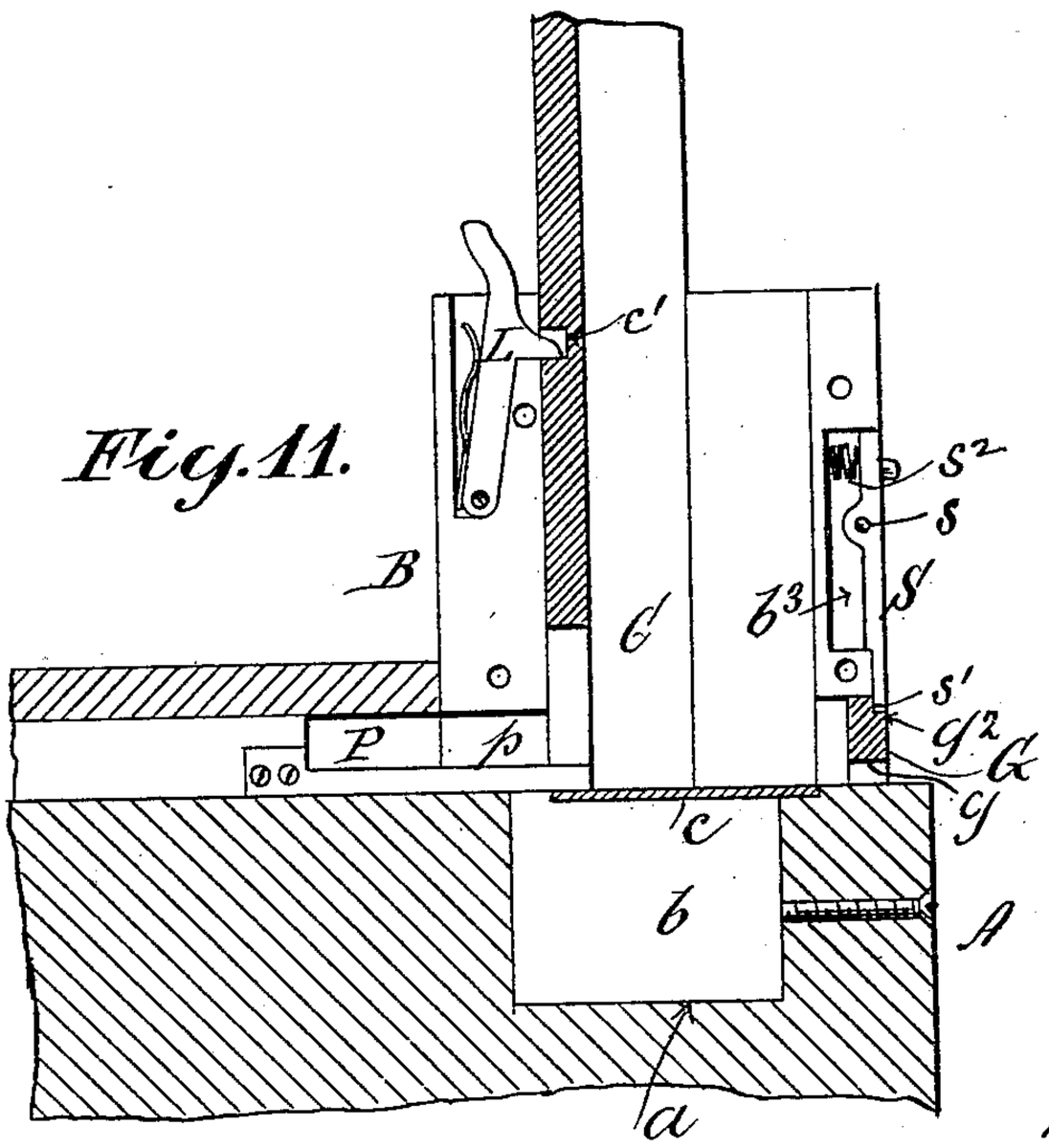


Fig. 12.

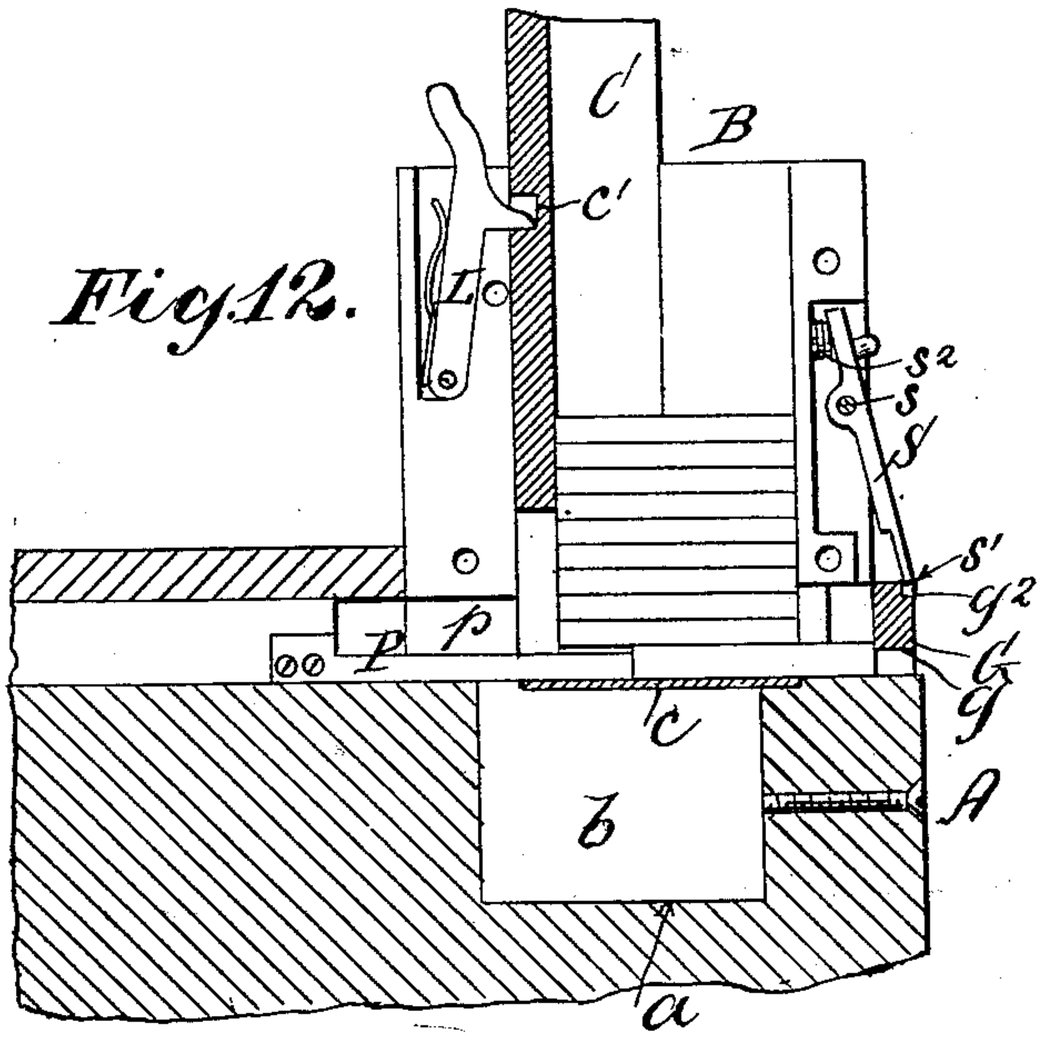


Fig. 13.

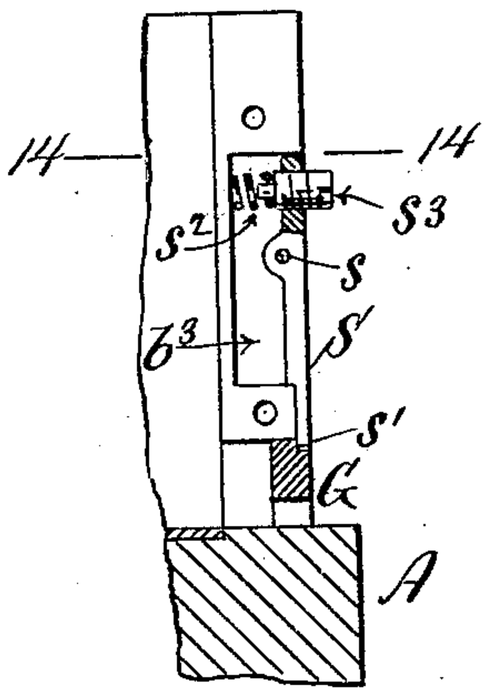
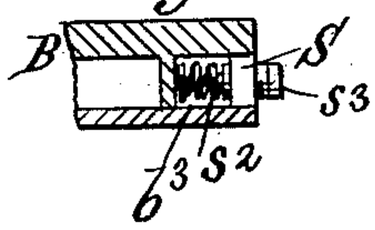


Fig. 14.



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UNITED STATES PATENT OFFICE.

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TYPE-SETTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 630,832, dated August 8, 1899.

Application filed January 18, 1899. Serial No. 702,520. (No model.)

To all whom it may concern:

Be it known that we, LOUIS KOSSUTH JOHNSON and ABBOT AUGUSTUS LOW, citizens of the United States, residing in the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Setting Apparatus, of which the following is a specification sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

Our improvements relate to the class of type-setter cases in which a prescribed number of types are forwarded automatically into position to be removed by hand, the withdrawal of the forwarded types releasing the type-forwarding mechanism, as set forth in our Patent No. 599,390, dated February 22, 1898. In this class of mechanism a positive pusher is used, so that if by accident or otherwise the wrong channel is inserted in the holder there is danger of derangement or breakage. In other words, each holder is set to receive and accommodate a channel in which a prescribed word or combination of types is accommodated. Since the types vary in thickness, it is obvious that if a channel containing another word or combination is inserted in the holder there is likely to be a variation in the total height in the word or combination, the upper member of which will overlap more or less the lower end of the front guard. Under these conditions the forward movement of the pusher will press the face of said type forcibly against the front guard, either stopping the operation of the mechanism or deranging the parts. We overcome this difficulty by forming the channel-holder with a sliding type-gage which yields before the action of the pusher if a type or types of greater thickness than those for which it is set are encountered at the bottom of the channel during the forwarding operation, substantially as set forth in our concurrent application, Serial No. 698,975, filed December 12, 1898. The invention in this respect consists in combining with the sliding type-gage a spring-latch which retains the slide in its normal position under ordinary conditions, but yields sufficiently to allow the slide to give way before extraordinary pressure, substantially as hereinafter set forth.

The invention also includes the combination, with the channel-holder, of the compensating plate of peculiar construction, whereby channels of less than the maximum width may be used in the holder.

In the accompanying drawings, Figure 1 is a front view of our improved holder. Fig. 2 is a side elevation of the same; Fig. 3, a rear elevation. Fig. 4 is a top view of the holder in the position shown in Fig. 2. Fig. 5 is a sectional elevation of the same. Fig. 6 is a vertical section upon plane of line 6 6, Fig. 7. Fig. 7 is a top view showing the compensating plate in position. Fig. 8 is a side view. Fig. 9 is an isometrical view of the compensating plate; Fig. 10, a detail view of the sliding type-gage. Fig. 11 is a sectional elevation of the lower part of a channel-holder and adjoining parts of the machine. Fig. 12 is a similar view illustrating the yielding of the sliding type-gage before a type of extra thickness; Fig. 13, a sectional elevation of the front of the holder, showing means for adjusting the tension of the latch-spring; and Fig. 14, a horizontal section upon plane of line 14 14, Fig. 13.

In general construction and operation our apparatus is essentially the same as that heretofore described and claimed by us, and it is unnecessary here to describe specifically the construction and operation of the parts in general, sufficient only of the apparatus being shown to illustrate the function of our improved construction of the supporting-table, &c.

A is the ordinary bed or support, formed, as heretofore, with the sockets *a* for the reception of the tenons *b* of the holders B.

C is the type-channel, formed with the lateral type-shoulder *c* at the bottom, projecting from one side wall of the channel and leaving a space for the passage of the type-pusher blade P between it and the opposed walls of the type-channel, as heretofore described by us. The spine of the channel C is formed with a notch *c'* a proper distance above its type-floor c^2 for engagement with the latch L in the rear wall of the channel-holder B, this

latch being substantially the same as that heretofore used by us. When in position, the floor c^2 of the channel is countersunk in the holder and table, so as to bring its upper surface in line with the path of the lower edge of the pusher P.

The holder B is made to accommodate a channel of the greatest width to be used If channels of less width are used, compensating plates D are inserted in one side of the holder, which is formed with recesses $d\ d'$ for the reception of tenons $d^2\ d^3$ upon the compensating plate D. These compensating plates D are used in the holder on the side opposite to that in which the pusher-slot p is formed.

The sliding gage G, the lower front edge g of which limits the passage of the type or types, is formed with rearwardly-projecting members $g'\ g'$, which fit into the grooves $b^2\ b^2$, formed in the exterior side walls of the holder B. In the drawings the gage is shown as limiting the passage of a single type of prescribed thickness, although it is obvious that the same result may be obtained in connection with word combinations of types.

In order to hold the gage G in position against accidental slipping or displacement, we employ a spring-latch S, mounted on the front of the holder and projecting into the path of the gage G. Thus the front wall of the holder may be recessed to form the chamber b^3, in which is pivoted at s the spring-bolt S, formed with the retaining-tip s', a spring s^2 being arranged in the recess b^3, so as to tend constantly to press said lower edge s' of the latch S inward. The upper front edge of the gage G is formed with a recess g^2 for the reception of the overlapping edge s' of the latch S, so that when all the parts are in their normal position the front of the gage and of the latch S will present an appearance uniform with the front of the holder, being in the same plane therewith.

The action of the yielding gage G and retaining-latch S will be readily understood by reference to Fig. 12, in which a type of abnormal thickness is represented as causing the gage and its latch S to yield under the action of the pusher P.

One of the lateral members $g'\ g'$ is formed with a longitudinal slot g^3, in which rests a stop b^4, projecting from the side of the holder B. This stop b^4 limits the forward movement of the gage G and retains it in the holder after the termination of the forward stroke of the pusher.

In order to adjust the tension of the spring s^2 accurately with relation to the work to be done, we use a screw or equivalent device s^3, of which the spring may be compressed more or less, as will be readily understood by reference to Figs. 13 and 14. Thus the resistance to be overcome by the pusher in case of any irregularity of the types may be gaged with accuracy and delicacy.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a compositor's type-case substantially such as described, the combination of a channel-holder B, formed with the grooves b^2, a type-gage G, formed with the members g', and a spring-latch S, arranged to retain the said gage G, in its normal position, substantially in the manner and for the purpose described.

2. In a compositor's type-case substantially as described the combination with a channel-holder B, formed with the grooves b^2, and with the recess b^3, in its front wall of the gage G, formed with the member g', fitting in the grooves b^2, and the spring-latch S, pivoted in the recess b^3, and operating substantially in the manner and for the purpose described.

3. In a compositor's type-case substantially such as described, the combination of the channel-holder B, formed with the grooves b^2, and recess b^3, the type-gage G, formed with the members g', fitting in the grooves b^2, and with the recess g^2, and the spring-latch S, formed with the overlapping tongue s', for the purpose described.

4. In a compositor's type-case substantially such as described, the combination with a type-channel holder formed with the recesses d, d', of a compensating plate D, formed with the tenons d^2, d^3, fitting into the said recesses d, d', for the purpose and substantially in the manner set forth.

5. In a compositor's type-case substantially such as described, the combination of the channel-holder B, formed with the grooves b^2, and the recess b^3, the type-gage G, formed with the members g', fitting in the grooves g^2, the spring-latch S, the spring s^2, and means for adjusting the tension of the said spring, substantially in the manner and for the purpose set forth.

6. In a compositor's type-case substantially such as described, the combination of the channel-holder B, formed with the grooves b^2, and recess b^3, the type-gage G, formed with the members g', fitting in the grooves g^2, the spring-latch S, the spring s^2, and the screw s^3, engaging with the latch S, arranged and operating substantially in the manner and for the purpose described.

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