Aug. 25, 1959 J. SCHWARTZ ET AL 2,900,901

COLUMNAR TYPE FORM AND REMOVABLE TYPE SLUGS FOR SUCH FORM

Filed June 10, 1957

FIG. 1

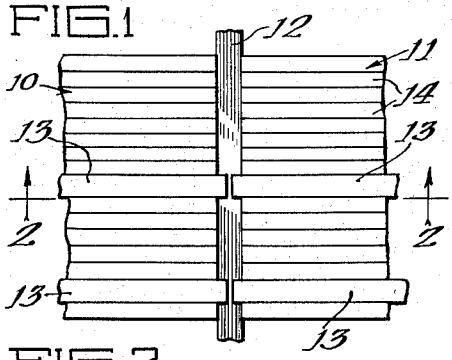


FIG. 3

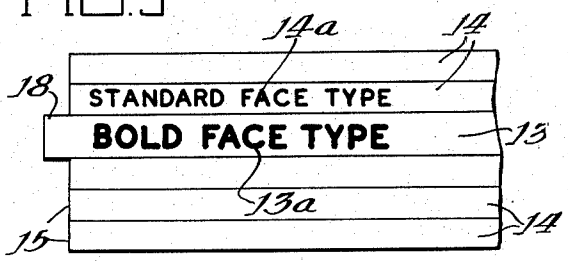


FIG. 2

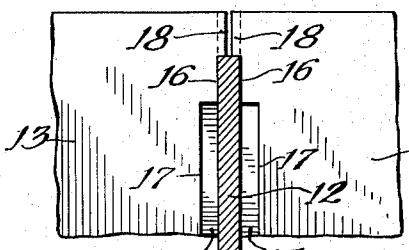


FIG. 4

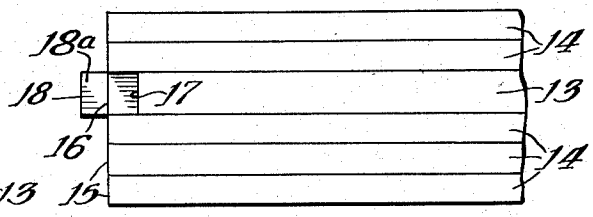


FIG. 5

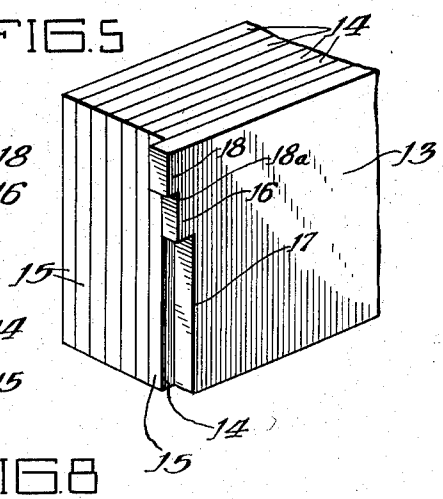


FIG. 6

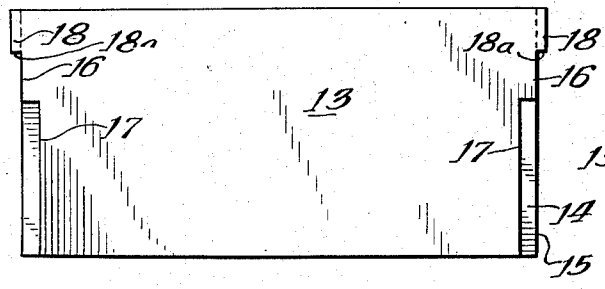


FIG. 7

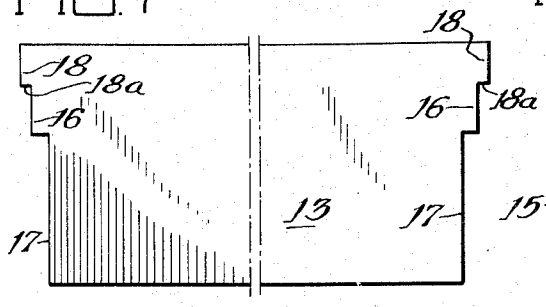
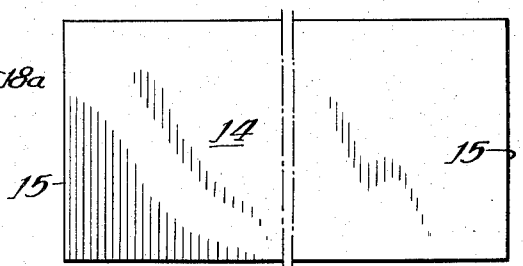


FIG. 8



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COLUMNAR TYPE FORM AND REMOVABLE TYPE SLUGS FOR SUCH FORM

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Application June 10, 1957, Serial No. 664,579

5 Claims. (Cl. 101—368)

This invention relates to a columnar type form which contains retainable lines and removable lines, and in particular it relates to a type slug which is adapted for use in a column of standard type slugs of predetermined length to permit ready removal of the removable slug from the column.

There are certain types of printing work in which type set in columnar form must be periodically revised by the removal or insertion of certain of the Linotype slugs which are included in the column. Such an operation naturally changes the length of each column where a line change is made and requires a reorganization of successive columns into new columns of equal length. In some cases material set in, for example five column pages, must be reset in four columns, or vice versa. The present invention contemplates the provision of specially constructed type slugs which cooperate with apparatus for changing the lines of type in a column.

A typical large scale printing operation in which such revision of set type must be performed is in the preparation for printing the subscriber's telephone directory. Columns of type for printing telephone directories are retained in made up form at all times, because a substantial part of the telephone directory must be reprinted every few days to provide the information operators with up to date listings. When a new or revised listing comes to the printer, the listing is set up on a Linotype machine and is either added to the existing material at the proper position or is substituted for a listing which it supersedes. Also, listings are frequently cancelled. Changes in listings are printed promptly and sent to the information operators of the telephone company.

To simplify the information operators' handling of the telephone directory, they are provided with books in which the pages contain more columns, and longer columns, than are found in the directory for public distribution. In addition, the information directories are provided at intervals in each column with "eye catchers," which are either bold face initials or a bold face name to break down the listings in each column into groups which may be readily scanned by the operator searching for a particular listing; and line rules are used beneath new or revised listings. To leave room for addition of listings, the foot of each column in the page form contains several blank slugs. When it is time to make up the subscriber's directory, the set type which has been held and revised throughout the year for printing the information operators' directories is reorganized—commonly from 5 columns per page to 4 columns per page—each column is shortened, and the "eye catchers," line rules and extra line spacers are removed from each column. For clarity of description, "eye catchers," line rules and extra line spacers are referred to collectively herein as "removable lines" or "removable slugs."

In order to simplify the elimination of the removable lines of type from a column, the present invention requires that each column be set with most of its lines consisting

of standard type slugs, but with the removable lines consisting of a specially shaped type slug.

The removable slugs have positioning surfaces at their two ends which are a short distance below the top surface of the slug (disregarding the type face), and when the removable slugs are set in a column with retainable slugs the positioning surfaces are coplanar with the ends of the retainable slugs. The ends of the removable slugs are cut away from the bottom surface of the slug to the lower margins of the positioning surfaces, so that the removable slugs have relief areas which are shorter than the retainable slugs with which they are to be used. At the extreme upper portion of each removable slug is a pair of ears which extend endwise beyond the ends of the retainable slugs so as to overhang a column spacer which is positioned between adjacent columns of type.

When the removable slugs are being used in individual page lock-up for the short-run direct printing of information operators' books, their positioning surfaces retain them against longitudinal shifting (laterally of the column) with respect to the retainable slugs. However, when it is necessary to pull the removable slugs, the column may be put into a machine which exerts endwise clamping pressure on the lower portions of the retainable slugs, but which does not clamp the removable slugs because of their recessed end portions. A lifting mechanism which flanks the coplanar ends of the retainable slugs above the clamping mechanism may then be elevated to engage the lifting ears on the removable slugs and lift them bodily to a position above and clear of the retainable slugs where they may be gathered for storage. Suitable apparatus for performing this operation is disclosed and claimed in our copending application Serial Number 683,338, filed September 11, 1957.

The invention is illustrated in a preferred embodiment in the accompanying drawings, in which:

Fig. 1 is a fragmentary plan view of two adjacent columns of type which include the removable slugs of the present invention;

Fig. 2 is a fragmentary section on an enlarged scale taken as indicated along the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary plan view of a single column containing the removable slug of the present invention;

Fig. 4 is a fragmentary bottom plan view of a column containing the removable slugs;

Fig. 5 is a fragmentary perspective view on an enlarged scale showing the relative positions of an end of a removable slug and the ends of the retainable slugs;

Fig. 6 is a front elevational view of a removable slug with the retainable slug in position behind it;

Fig. 7 is a fragmentary front elevational view of a removable slug; and

Fig. 8 is a fragmentary front elevational view of a retainable slug.

In the drawings, the type matter on the printing slugs is omitted to simplify the drawings, except in Fig. 3.

Referring to the drawings in greater detail and referring first to Figs. 1 and 2, a page form contains a first type column **10** and a second type column **11** which are separated by a longitudinal column spacer **12**. As seen in Fig. 2, the column spacer **12** does not extend to the tops of the type slugs in the columns **10** and **11**. Each column seen in Figs. **1** and **2**, and the single column seen in Figs. 3 and 4, consists predominantly of retainable slugs **14**, and in most cases the column would also contain several of the removable slugs **13**.

The retainable slugs **14** are standard Linotype slugs of predetermined length, so that their end surfaces **15** are coplanar to provide two upright plane surfaces at the two longitudinal margins of the column.

Each of the removable slugs **13** has a portion slightly below its top surface which is the same length as the

retainable slugs **14**, so as to provide retaining surfaces **16** coplanar with the end surfaces **15** of the retainable slugs. As seen in Fig. 2, the column spacers **12** have their upper ends between the positioning surfaces **16**, and when the columns of type are locked up for the preparation of a mold, the positioning surfaces **16**, being coplanar with the ends **15** of the retainable slugs, prevent endwise shifting of the removable slugs.

The lowermost portion of each removable slug **13** is shorter than the corresponding retainable slugs **14**, so that there are upright recessed surfaces **17** which extend upwardly from the bottom of the slug to the lower margins of the positioning surfaces **16**. Thus, if the removable slugs **13** are to be separated from the retainable slugs **14**, clamping pressure upon lower portions of the ends of the retainable slugs leaves the removable slugs free.

The extreme upper portion of the removable slug is longer than the corresponding retainable slug with which the removable slug is used, so that the removable slug has lifting ears **18** which project from both ends of the slug and overhang the column spacer **12** as seen in Fig. 2. Each lifting ear **18** is slightly shorter than ½ thickness of the column spacer **12**, so that if two removable slugs **13** are located in corresponding positions in adjacent columns, as seen in Figs. 1 and 2, the lifting ears will not interfere with one another.

When the removable slugs **13** are to be separated from the retainable slugs **14**, the entire column **10** or **11**, without a column spacer associated with it, has its lower portion clamped between bars which are entirely below the positioning surfaces **16** of the removable slugs, so that no clamping pressure is placed on said slugs. A pair of lifting bars or rails, which are positioned flanging the positioning surfaces **16**, may then be elevated to engage the undersides **18***a* of all the ears **18** in the column. This simultaneously lifts all the removable slugs **13** clear of the retainable slugs **14** so that they may be readily gathered, either manually or mechanically, for further disposition. The clamping pressure may then be released, and the retainable slugs pushed together to fill the gaps left by removal of the removable slugs.

As seen in Fig. 3, any removable slugs **13** having a type face are normally provided with type **13***a* which is bold face, and of a larger size than the type face **14***a* of the retainable slugs **14**. Thus, the removable slugs are suitable for the "eye catchers" used in the information operators' telephone directories, which "eye catchers" must be eliminated from the columns before the public telephone directory is printed.

The foregoing detailed description is given for clearness of understanding only to and no unnecessary limitations should be understood therefrom, as modifications will be obvious to those skilled in the art.

We claim:

1. A type form comprising: a plurality of columns of type positioned side-by-side, each of said columns consisting predominantly of a pluralaity of retainable slugs the ends of which form two upright plane surfaces; a column spacer between each pair of adjacent columns against which the adjacent plane surfaces abut; and at least one removable slug in one of said columns, said removable slug having positioning surfaces at its two ends which are coplanar with the ends of the retainable slugs, an upright recessed surface at each end of the removable slug which extends upwardly from the bottom of said slug to the lower margin of the positioning surface, and lifting ears above the positioning surfaces which overhang an adjacent column spacer.

2. A type form comprising: a plurality of columns of type positioned side-by-side, each of said columns consisting predominantly of a plurality of retainable slugs the ends of which form two upright plane surfaces; a column spacer between each pair of adjacent columns against which the adjacent plane surfaces abut; and a plurality of removable slugs in each of said columns, each of said removable slugs having positioning surfaces at its two ends which are coplanar with the ends of the retainable slugs, an upright recessed surface at each end of the removable slug which extends upwardly from the bottom of said slug to the lower margin of the positioning surface, and lifting ears above the positioning surfaces which overhang no more than one-half of the width of an adjacent column spacer.

3. A column of type comprising: a plurality of retainable slugs the ends of which form two upright plane surfaces; and at least one removable slug in said column, said removable slug having positioning surfaces at its two ends which are coplanar with the ends of the retainable slugs, an upright recessed surface at each end of the removable slug which extends upwardly from the bottom of said slug to the lower margin of the positioning surface, and lifting ears above the positioning surfaces which project outside the planes of said positioning surfaces.

4. A removable slug for setting in a column of retainable slugs of predetermined length, said removable slug comprising: an intermediate positioning portion the length of which is equal to said predetermined length; a lower relief portion which is shorter than said predetermined length to afford relief recesses extending upwardly from both ends of the bottom of the slug to the lower margin of the positioning portion; and an upper lifting portion of small height which is longer than said predetermined length to provide lifting ears which extend beyond the ends of said positioning portion.

5. The device of claim 4 in which the relief portion and the positioning portion have ends in parallel planes normal to the bottom of the slug, and the bottoms of the lifting ears are in a plane substantially parallel to the bottom of the slug.

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