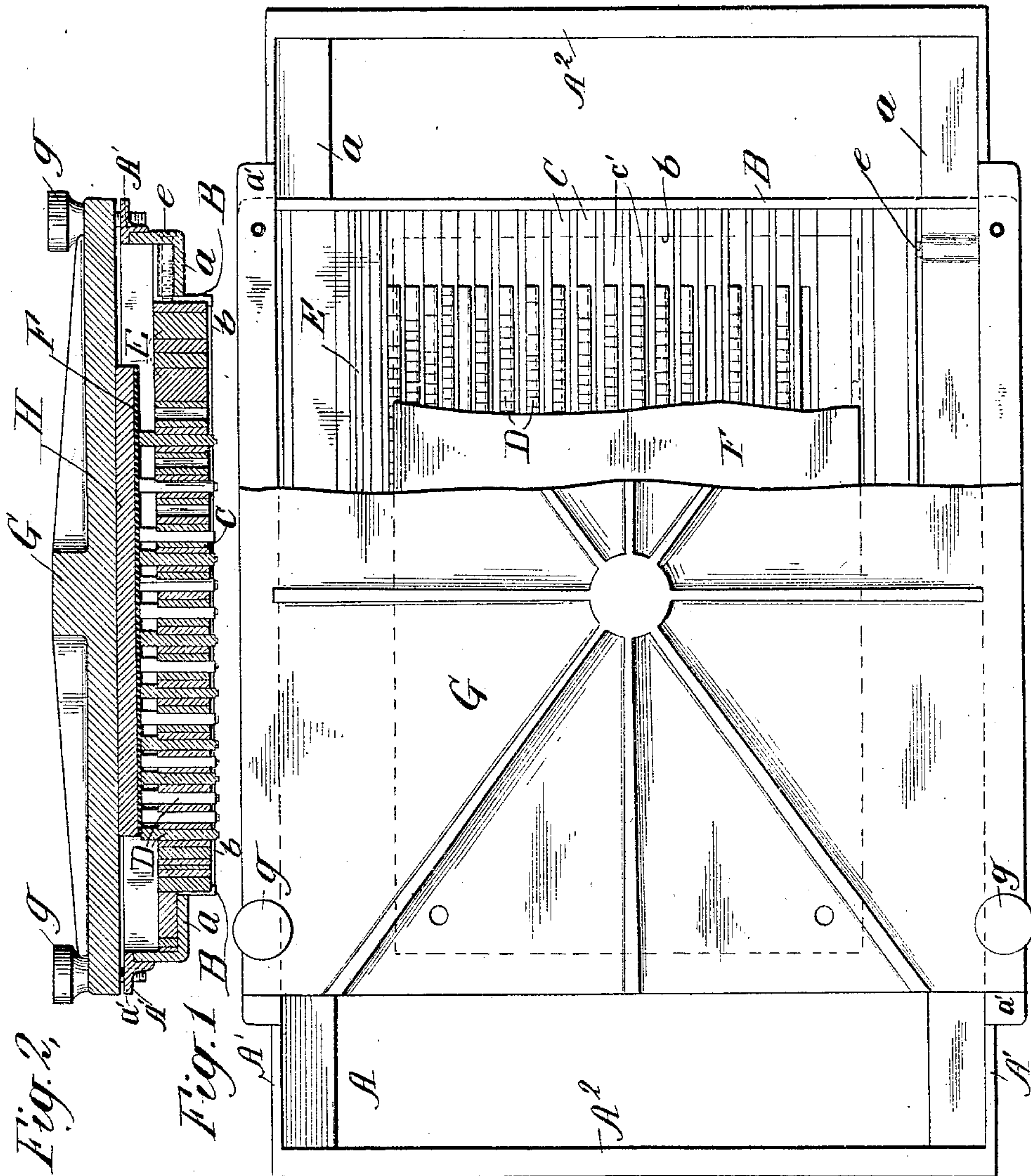


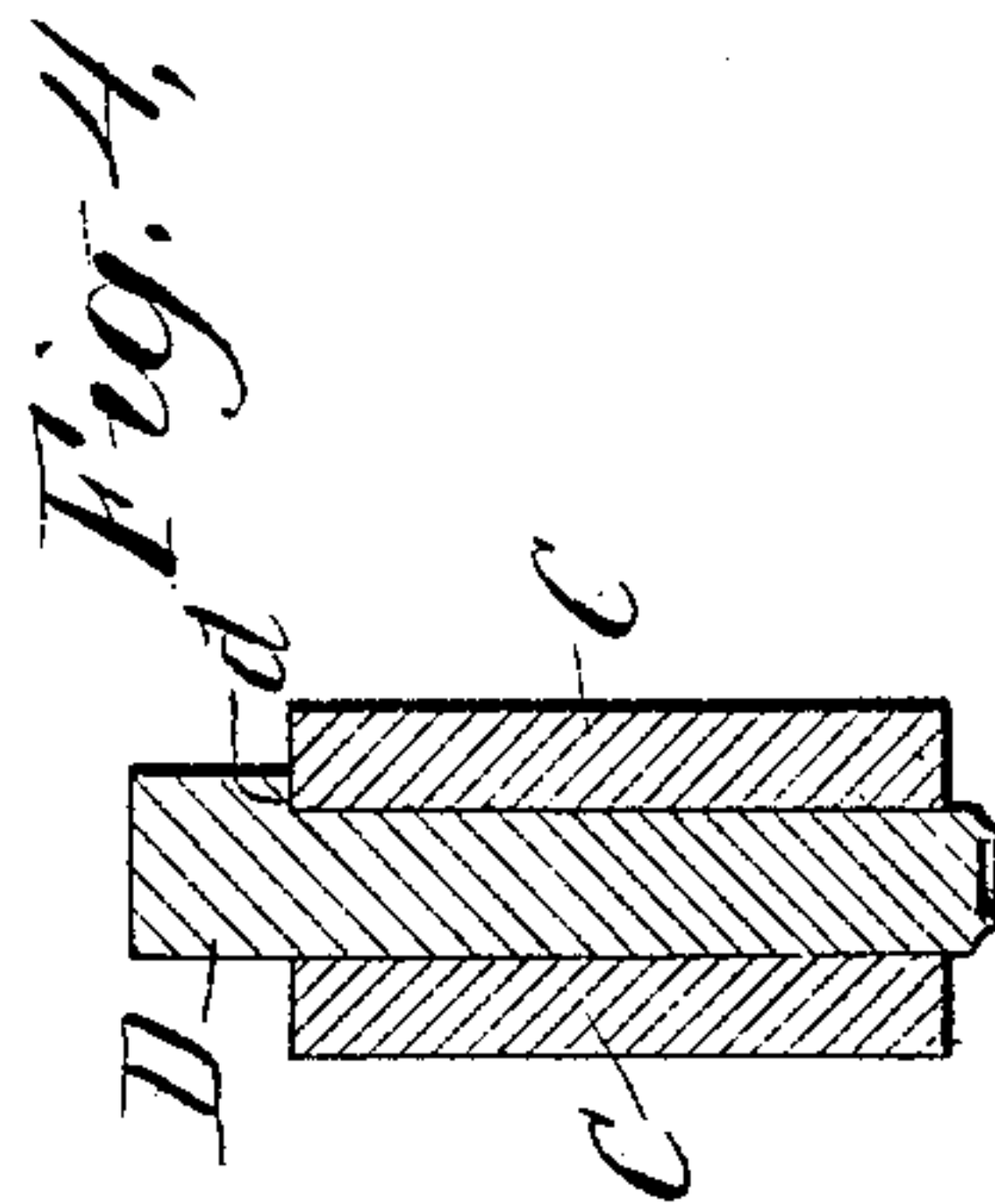
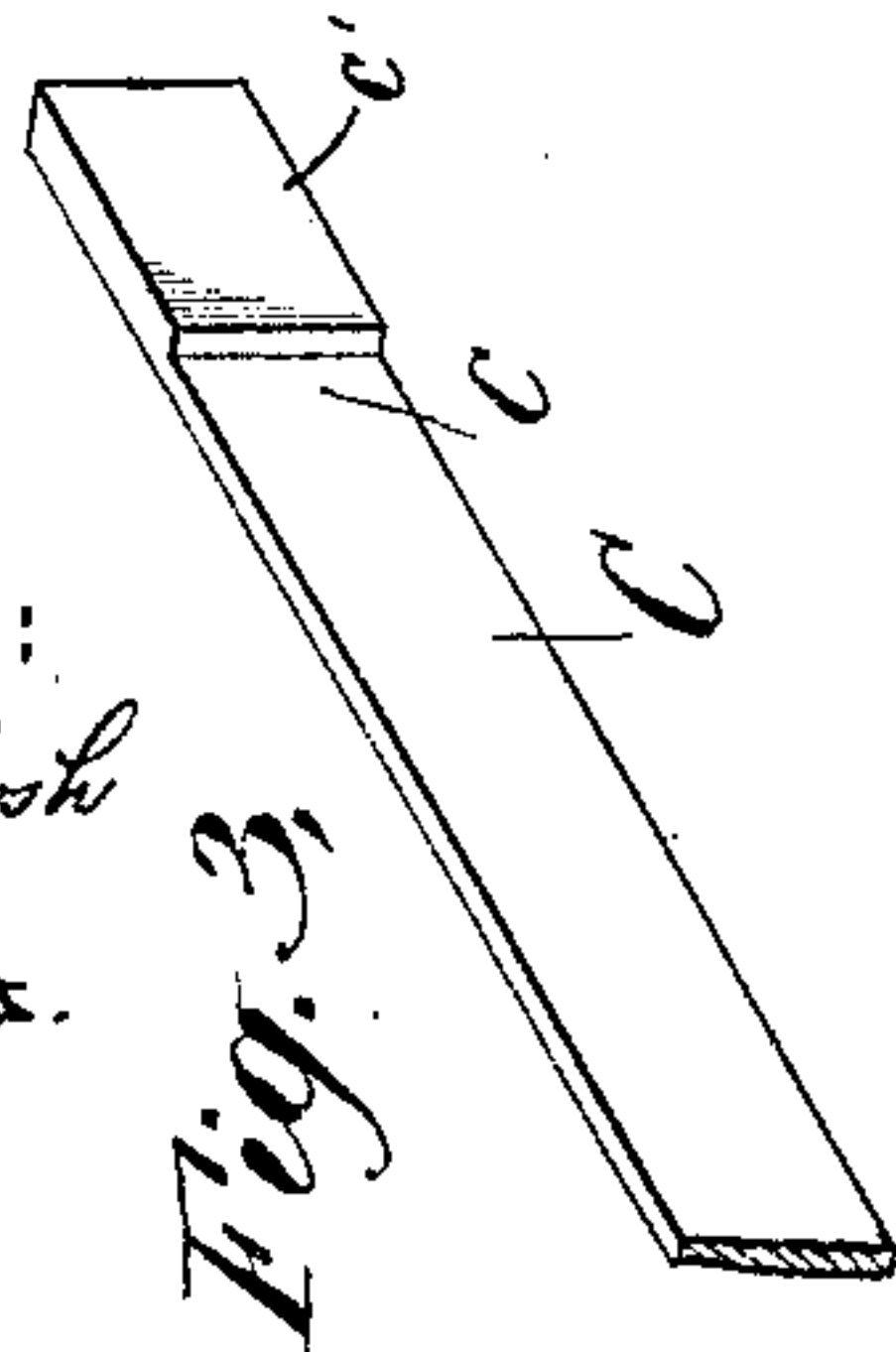
A. B. DICK,  
PRINTING APPARATUS.  
APPLICATION FILED JAN. 10, 1906.

898,446.

Patented Sept. 15, 1908.



WITNESSES:  
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J. Edwards.



INVENTOR  
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# UNITED STATES PATENT OFFICE.

ALBERT B. DICK, OF LAKE FOREST, ILLINOIS, ASSIGNOR TO A. B. DICK COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## PRINTING APPARATUS.

No. 898,446.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed January 10, 1906. Serial No. 295,424.

*To all whom it may concern:*

Be it known that I, ALBERT B. DICK, a citizen of the United States, residing at Lake Forest, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Printing Apparatus, of which the following is a specification.

The invention relates particularly to that part of printing apparatus in which the type are set up, either preliminary to, or for the purpose of, the printing operation.

The object of the invention is to produce a device of this character which shall be simple and durable in construction and which shall be efficient in operation.

In carrying out the invention in an approved form I employ type having stops, such as shoulders, intermediate of their ends and preferably adjacent to that end distant from the printing faces. These are placed, preferably somewhat loosely, between channel bars, suitably spaced and mounted in a frame or holder of suitable character and form. Over the ends of the type distant from the printing faces I apply a sheet or pad of compressible material, such as rubber, forming a yielding backing against which such type may abut, and over such sheet or pad I provide a suitable plate whereby said sheet or pad and said type are maintained in position. In the printing operation, therefore, the type faces are brought into contact with the impression sheet, or with an intervening ink ribbon, if desired, with a yielding pressure producing results not otherwise obtainable.

I have illustrated in the drawings a preferred form in which the invention may be employed.

In these Figure 1 is a plan view, Fig. 2 a central section, Fig. 3 a perspective view of a portion of one of the channel bars and Fig. 4 an enlarged section through two such channel bars and a type supported therein.

Referring to these drawings A designates a suitable frame comprising the side members A' A' and connecting end members A<sup>2</sup> A<sup>2</sup>. The side members are angular in cross-sections, having the inturned webs *a a*. They are also here shown as provided with flanges *a' a'*. Extending between said side members are cross-bars B B also angular in cross-section, the inturned webs *b* thereof forming seats for the channel bars in which the type are supported.

C C designate channel bars here shown as supported, as above stated, upon the webs *b* of cross-bars B B. These are preferably of metal (such as aluminum) and are cut away intermediate of their ends, as at *c*, to receive the type D which, as shown in Fig. 4, are provided with shoulders *d* whereby they are prevented from passing entirely through the channels formed by such cut-away portions. The forming of channels in said bars leaves the ends *c' c'* thereof of greater thickness, so that when two or more of said bars are placed together as shown in the drawings the thicker portions *c' c'* may be brought into contact thereby at once determining the width of the channel or channels in which the type D are to be placed. After a suitable number of channel bars C have been placed in position and the type D set up therein blocks or rules E may be added in order to fill the remaining space within the cross-bars B B and side members A' A' of the frame. Also, or in place of such block or rules, I may employ set screws *e* carried by the side members A' A' and co-acting either with the channel bars or with other device adjacent thereto, although great pressure upon said channel bars is considered unnecessary, the best results having been obtained by merely securing the same firmly but not rigidly (and under pressure,) in place. Extending over the channel-bars and therefore over the ends of the type D set up therein I employ a sheet or pad F of rubber, felt or other impressible material, thereby permitting said type, loosely held in the channels, to operate upon the impression sheets with yielding pressure. Said sheet or pad may be held in position in any suitable manner. I have shown for this purpose a plate G, secured by means of set-screws *g* upon the flanges *a' a'* of the side members A' A' of the frame. If desired a sheet or sheets, or a block, of other material H may be interposed between the plate G and the pad F. Said plate G may, of course, be hinged to the frame instead of screwed thereto as shown in the drawings.

The apparatus, thus constructed and arranged, is adapted for use in printing machines varying widely in character. I prefer to employ it in a machine of the type described in application Serial Number 295,423, filed by me January 10, 1906, in which the type-carrying frame is mounted in a reciprocating carriage with the printing faces of the



type downward. As the carriage of this machine is reciprocated, a pressure-roller underlying the carriage is moved to carry it into and out of position for effecting an impression on a sheet lying between it and the type.

5 What I claim and desire to secure by Letters Patent is:—

10 The combination of a rectangular frame having inwardly extending flanges on opposite sides thereof, a plurality of disconnected bars each cut away on one side intermediate its ends to form channels, said bars being supported within said frame upon said flanges with their ends beyond said cut away portions abutting, type having shoulders inter-

mediate their ends adapted to be passed into said channels until arrested by the engagement of said shoulders with said bars, means for locking said bars in the frame, a detachable cover-plate for the frame, and a yielding 20 backing between the plate and type for holding the type yieldingly in position, substantially as set forth.

This specification signed and witnessed this 6th day of January, 1906.

ALBERT B. DICK.

Witnesses:

W. G. ARNOLD,  
M. J. BENDER.