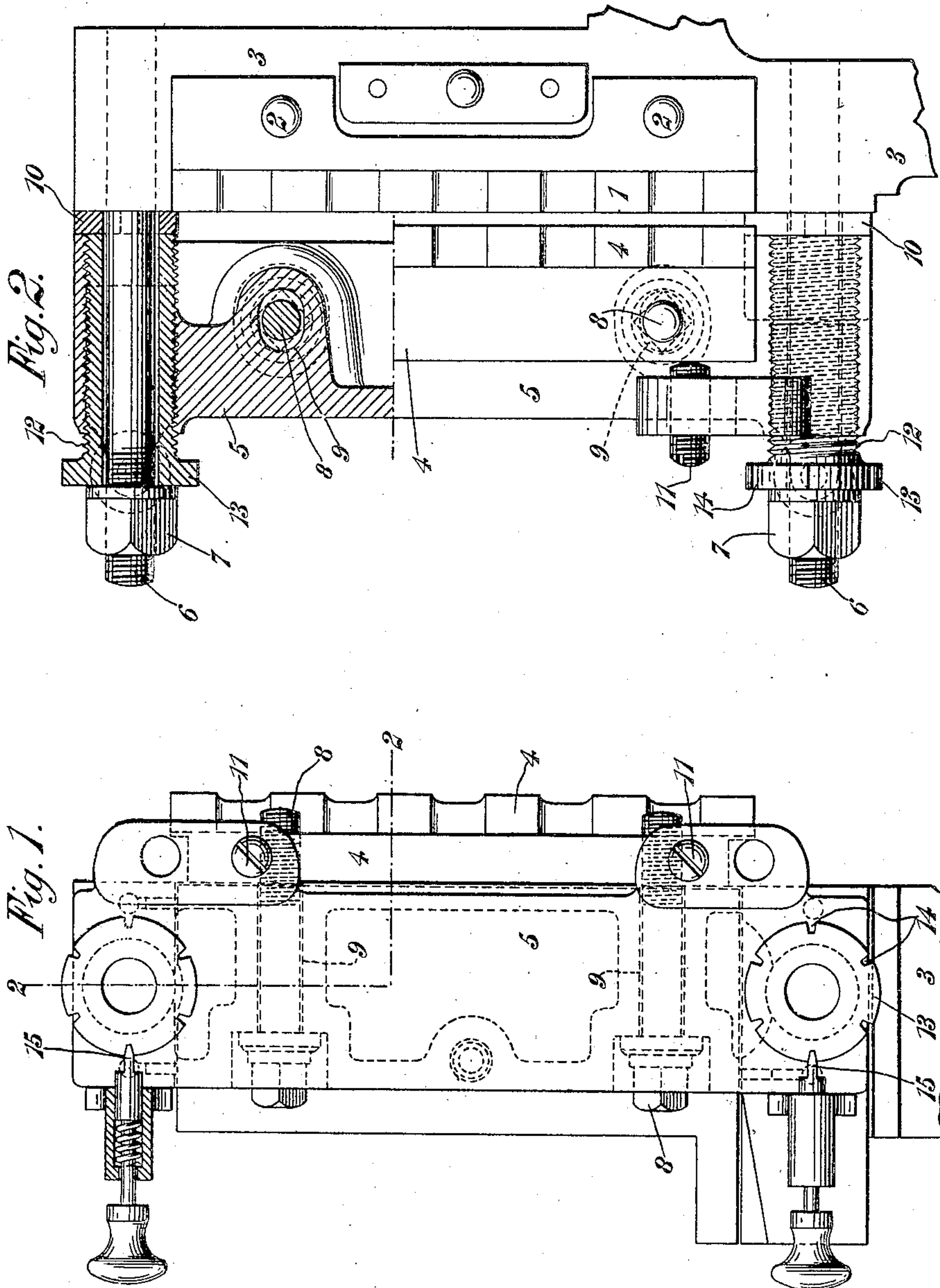


No. 876,524.

PATENTED JAN. 14, 1908.

F. J. CAINE & G. H. MITTON.
ADJUSTABLE TRIMMING KNIFE FOR LINOTYPE MACHINES.
APPLICATION FILED JUNE 11, 1906.



Witnesses
Warwick H. Williams.
W. Sutherland Lindsay

James John Caine
George Henry Mitton
Inventors

per Jas. S. Woodroffe,
Attorney

UNITED STATES PATENT OFFICE.

FRANCIS J. CAINE, OF HOUNSLOW, AND GEORGE H. MITTON, OF WIMBLEDON, ENGLAND,
ASSIGNORS TO LINOTYPE & MACHINERY LIMITED, OF LONDON, ENGLAND.

ADJUSTABLE TRIMMING-KNIFE FOR LINOTYPE-MACHINES.

No. 876,524.

Specification of Letters Patent.

Patented Jan. 14, 1908.

Application filed June 11, 1906. Serial No. 321,285.

To all whom it may concern:

Be it known that we, FRANCIS JOHN CAINE, of The Lawn, St. Stephen's Road, Hounslow, Middlesex, England, and GEORGE HENRY MITTON, of 60 Effra road, Wimbledon, Surrey, England, have invented new and useful Improvements in the Adjustable Trimming - Knives of Linotype - Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to improvements in the adjustable trimming knives of the well-known Mergenthaler linotype machine described in the specification of Letters Patent No. 436532 and it consists in the means hereinafter described, illustrated in the accompanying drawings, and the novel features of which are more particularly pointed out in the claims.

In the said drawings which are to be taken as part of this specification and read therein with:—Figure 1 is an elevation, partly in section of sufficient of a linotype machine to illustrate the present invention, this view being a representation as seen from the right hand side of the machine, and Fig. 2 is a view representing partly an elevation of the right-hand side of Fig. 1, and partly a vertical section on the line 2—2 of that figure, the said figure as a whole being given as viewed from the rear of the machine so that what are actually the right and left hand knives appear respectively at the left and right of the figure.

The before-mentioned knives are two in number, parallel and vertical, and carried by the vise frame with their cutting edges towards the untrimmed linotype, at a distance apart corresponding with the thickness to which the linotype is to be trimmed, the act of trimming consisting in pushing the linotype, printing edge on, between the knives into the galley. The left hand knife 1 is screwed as by bolts 2 directly to the vise frame 3 and is not adjustable thereon. The right hand knife 4 is screwed to a knife block 5. This knife block is a separate part from the vise frame 3 and is held thereto by being threaded on to two studs 6 which project laterally from the vise frame 3 and pass through the top and bottom respectively of the block 5, the latter fitting up to the vise

frame and being locked in position by a nut 7 on the outer end of each stud 6. The knife 4 is held to the rear face of the block 5 by bolts or screws 8 passed through the block from the front and screwed into itself near the top and bottom respectively. The holes 9 in the block 5, through which the screws 8 pass, are horizontal slots to admit of the lateral adjustment of the right hand knife 4 to and from its fellow knife 1.

The proper distance at which the knife 4 is to be set from its fellow knife 1, in the above named Mergenthaler machine is settled by slackening the two holding screws 8, and the nuts 7, inserting two U-shaped liners between the knives (these liners are dispensed with in the present invention), each liner straddling the respective stud 6, moving up the adjustable knife 4 by turning the nuts 7 till it pinches the two liners between it and its fellow, or between it and the usual washer plate 10, and tightening the holding screws 8. Supplementary set screws 11 are provided to bear against the top and bottom respectively of the right side of the knife 4 to effect any small adjustment of either top or bottom of the knife, or even to adjust the knife altogether for the thinnest sizes of linotypes. All the foregoing arrangements are the same as those provided in existing linotype machines.

The present invention offers an economical means by which the adjustable knife 4 may be made readily adjustable at a slight cost, and it lends itself to the very easy and inexpensive adaptation of existing linotype machines for attaining this same object. In carrying it into effect, each stud hole in the knife block 5 is enlarged and screw-threaded to receive a nipple 12 which fits over the stud 6 as shown clearly in Fig. 2. One end of each nipple 12 bears against the usual washer plate 10 which, in turn, bears against the left-hand knife 1, or rather the vise frame 3 to which the knife 1 is rigidly attached, and the opposite end bears against the before mentioned nut 7 on the stud 6, so that turning the nipples 12 (which is possible after the slackening of the said nuts) travels the knife block 5 to or from the left-hand knife 1. The right-hand end of each nipple 12 has a flange 13 provided with a scale of holes or recesses 14 in its periphery, for the different thicknesses of linotypes, and there coöperates with each scale, a spring detent 15. As the position on the two nipple ends of any pair of

holes or recesses 14 corresponds with the proper position of the adjustable knife 4, it follows that when the detents 15 are engaged with the said pair, the knife is properly adjusted and can then be tightened up by the holding screws 8.

As there are always slight differences in the way the knives of any two machines are mounted, it is preferred that the holes or recesses 14 should not be made in the nipples 12 by the makers of the machine, but should be done by the customer's engineer in order that each nipple may be true to its working circumstances, therefore, for convenience, each detent as shown is chisel nosed.

We claim:

1. In linotype trimming apparatus the combination with the adjustable and non-adjustable knives, the knife block to which the adjustable knife is secured, the vise frame to which the non-adjustable knife is secured, and the studs with nuts thereon, tying the knife block and vise frame together, of a nipple screwed into the knife block and concentric with each of the studs, and bearing at one end against the vise frame.

2. In a linotype machine the combination with the adjustable and non-adjustable knives, the knife block to which the adjust-

able knife is secured, the vise frame to which the non-adjustable knife is secured, and the studs with nuts thereon, tying the knife block and vise frame together, of a flanged nipple screwed into the knife block and concentric with each of the studs and bearing at one end against the vise frame, recesses in the flange of the nipples and a spring detent adapted to engage the said recesses.

3. In linotype trimming apparatus the combination with the adjustable and non-adjustable knives, the knife block to which the adjustable knife is secured, and the studs with nuts thereon, tying the knife block and vise frame together, of a flanged nipple screwed into the knife block and concentric with each of the studs and adapted to bear at its opposite ends against respectively the vise frame, and the nut on the respective stud, recesses in the flange of the nipple, and a spring detent adapted to engage the said recesses.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

FRANCIS J. CAINE.
GEORGE H. MITTON.

Witnesses:

HENRY HART,
WARWICK HY. WILLIAMS.