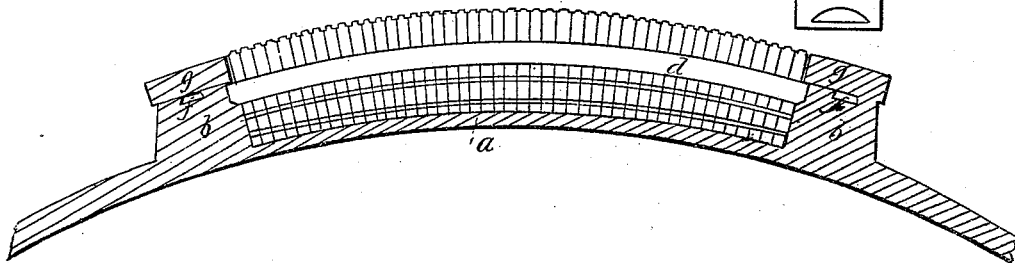
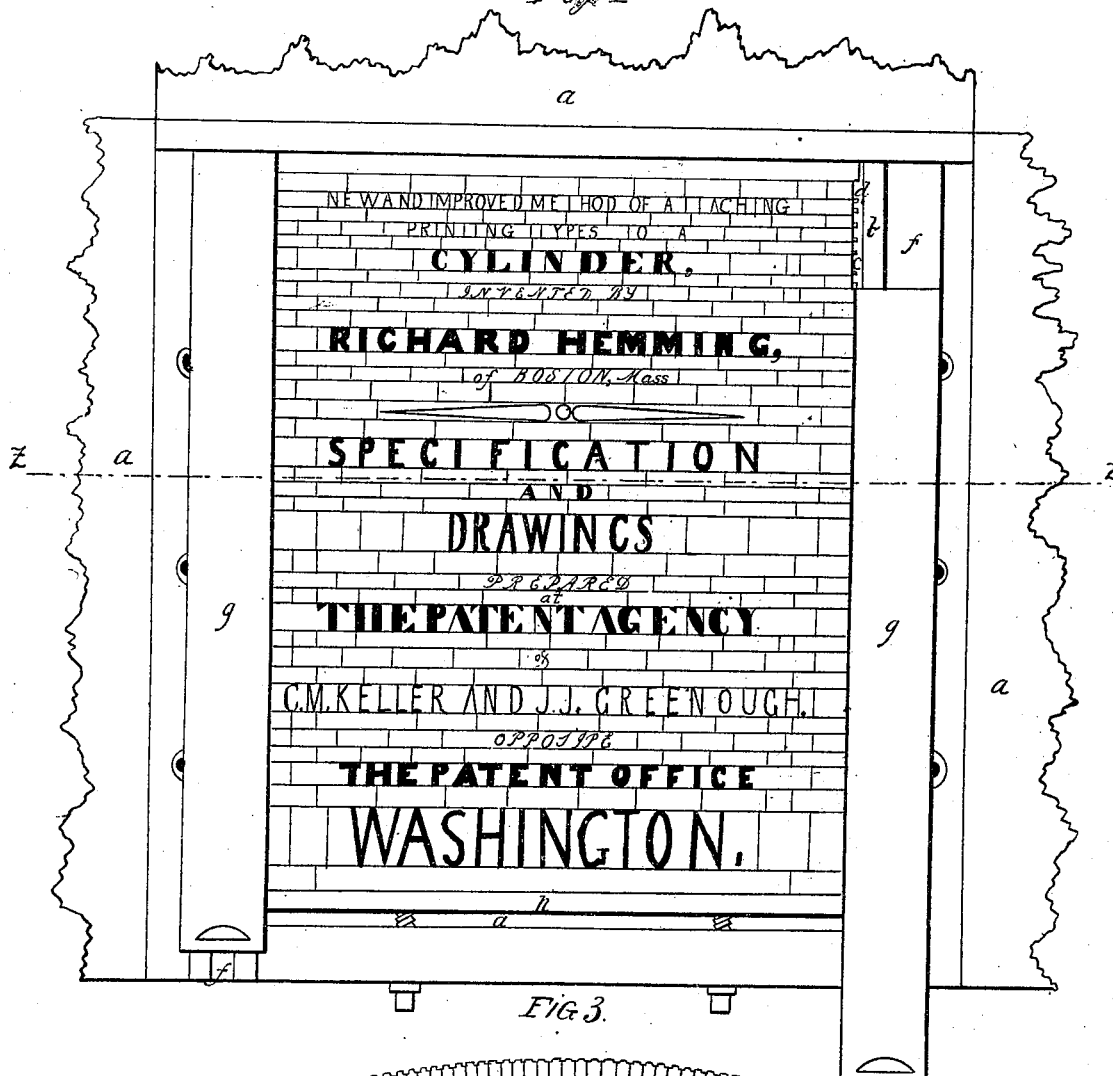


R. Hemming Sheet 1. 2 Sheets.
Type Bed.

N^o 4,315.

Patented Dec. 16, 1845.

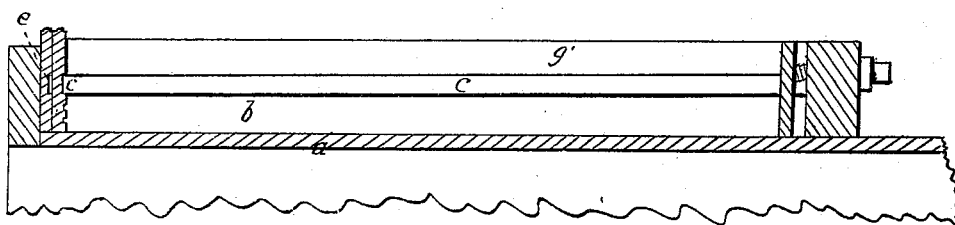
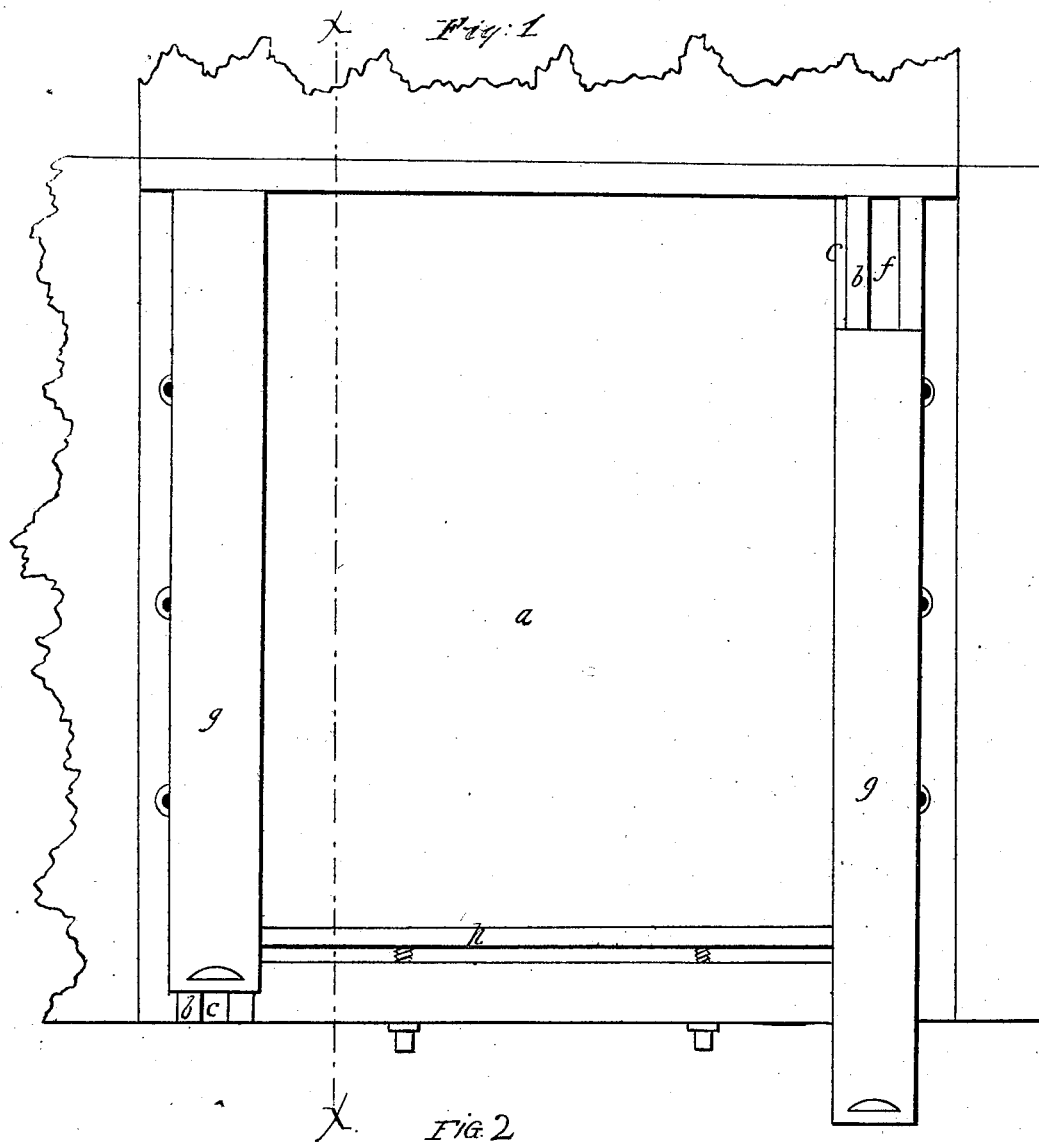
Fig. 1



R. Hemming. Sheet 2. of 2 Sheets
Type Bed.

N^o 4,315.

Patented Dec. 16, 1845.



UNITED STATES PATENT OFFICE.

RICHARD HEMMING, OF BOSTON, MASSACHUSETTS.

CYLINDRICAL TYPE-SETTING.

Specification of Letters Patent No. 4,315, dated December 16, 1845.

To all whom it may concern:

Be it known that I, RICHARD HEMMING, of the city of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Method of Attaching Printing Types to Cylinders for the Purpose of Taking Impressions from Cylindrical Instead of Flat Surfaces, and that the following is a full, clear, and exact description of the principle or character thereof, which distinguishes it from all other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a top view of a segment of the cylinder of a printing press with a page of types set, and secured in place, and the space for the types for another page; Fig. 2, a longitudinal vertical section taken at the line (X X) of Fig. 1; and Fig. 3, a transverse section taken at the line (Z Z).

The same letters indicate like parts in all the figures.

It has long been admitted that the steam press would be greatly improved in the rapidity and facility of its operations, particularly for printing on endless sheets of paper, if the types could be so formed and secured on the cylinder as to retain their proper position under the operations of the press, particularly as the motion of the cylinder tends to incline them always in the same direction. When used on a flat form the types are square prisms and therefore all that becomes necessary to retain them in place, is to press them all together, the friction of their faces being sufficient to retain them in place; but when applied to a cylinder two of the faces alone can be parallel, while the other two are inclined to each other so as to converge to the center of the cylinder on which they are to be set, so that any pressure applied to the outside of types, set to form a page, will tend in one direction to force them from their bed. To avoid this tendency it has been suggested to make the types with a projection on one side and a corresponding recess on the other, so that one will lock into the other; but this it is believed will not effectually remedy the evil as the middle of a range would still have a tendency to rise from the bed, but my improvement it is believed will effectually remove this difficulty.

It consists simply in making the types with a recess in one face of the body or shank to receive a rule or strip of metal which is laid in after a whole range of types have been set up; the ends of the rule projecting beyond the range sufficiently to be secured by a slide or cap plate attached to the cylinder. From this it will be obvious that no one type can rise above the range without cutting off the rule, a number of them cannot rise in a curve without bending the rule, and the whole range cannot rise because the ends of the rule for each range are held down by the slides or cap plates.

In the accompanying drawings (*a*), is the bed or face of the cylinder, on which the types are placed, and (*b b*) flanches projecting therefrom (corresponding with the margin), provided with rabbets (*c, c*) to receive the ends of the rules or strips of metal (*d*), that fit in the recesses (*e*) made in one face of the body or shank of the types, with its ends resting in the rabbets (*c, c*); and (*f, f*) are dovetail grooves made in the upper faces of the flanches (*b, b*) to receive a dovetail tongue on the sliding plates (*g, g*) which extend over the ends of the rules and prevent them from rising.

The galleys, furniture, &c. (*h, h*) are provided with projecting tongues on each end to fit into the rabbets (*c, c*), so that they are also held down by the sliding or cap plates in like manner as the rules. In this manner the types are effectually held together and to the bed in the direction of the circumference of the cylinder, while in the direction of its length they are held in the manner usually practised. The cap plates may be secured by screws, keys, or other known devices instead of the dovetail groove and tongue.

What I claim as my invention and desire to secure by Letters Patent, is—

The method of retaining types in their proper relative positions on a cylindrical bed by means of rules or strips of metal, or other appropriate substance, fitting into recesses made for that purpose in the body or stem of types, substantially in the manner described.

RICHARD HEMMING.

Witnesses:

C. W. M. KELLER,
J. J. GREENOUGH.