

July 6, 1937.

I. H. GILBERTSON

2,086,075

DOCTOR FOR USE IN PRINTING MACHINES

Filed July 3, 1936

2 Sheets-Sheet 1

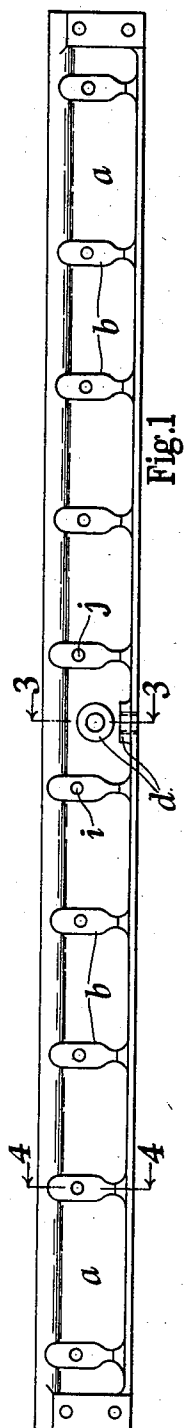


Fig. 1

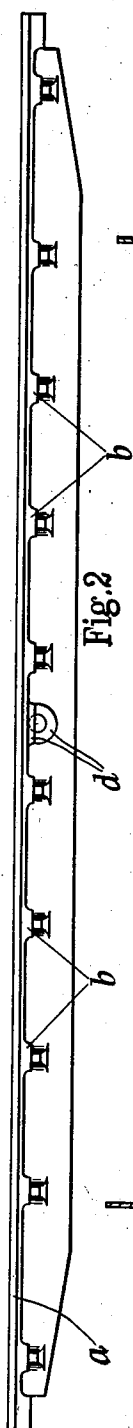


Fig. 2

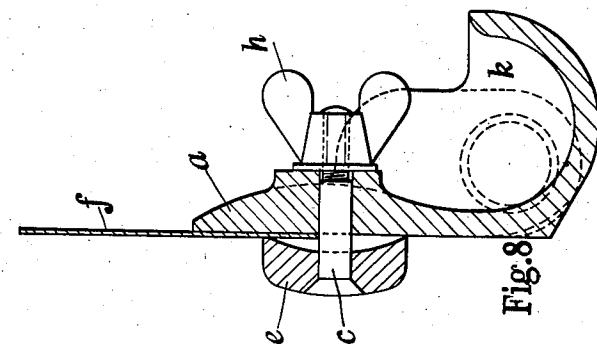


Fig. 3

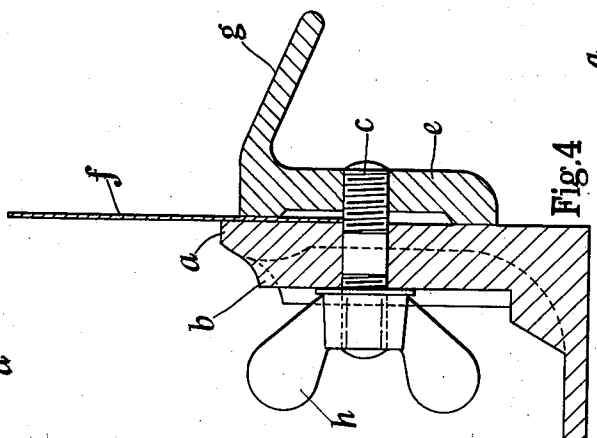


Fig. 4

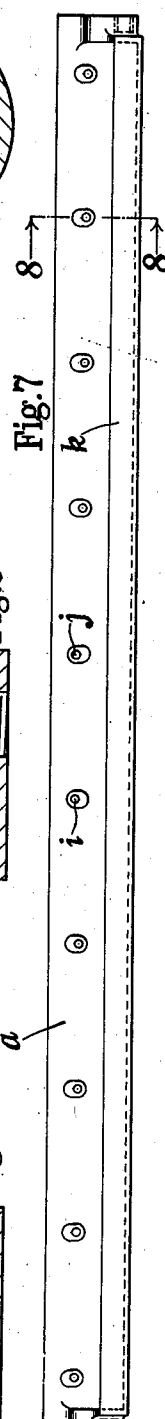


Fig. 7

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ATTORNEYS

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2 Sheets-Sheet 2

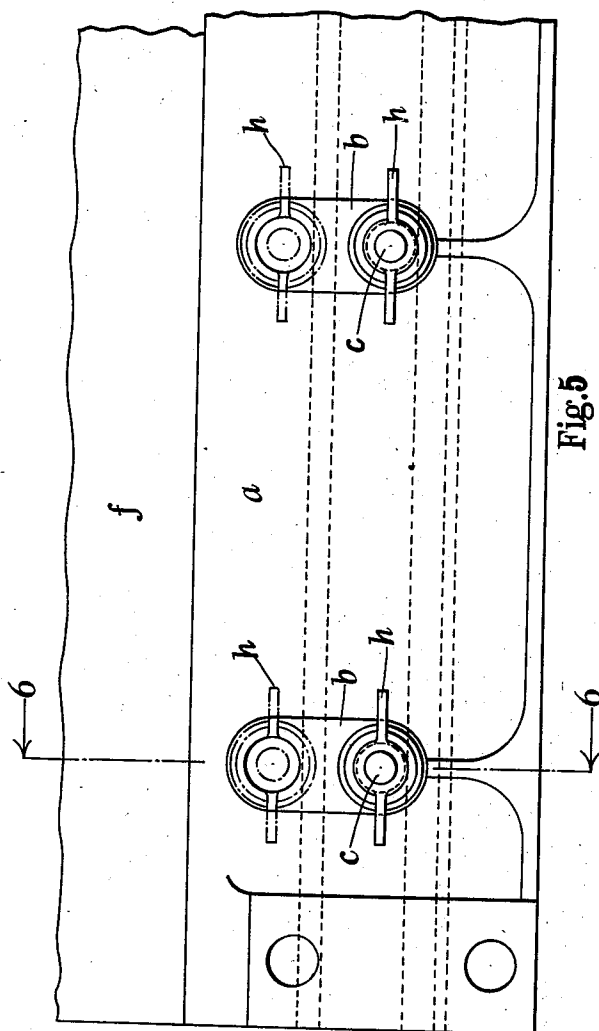


Fig. 5

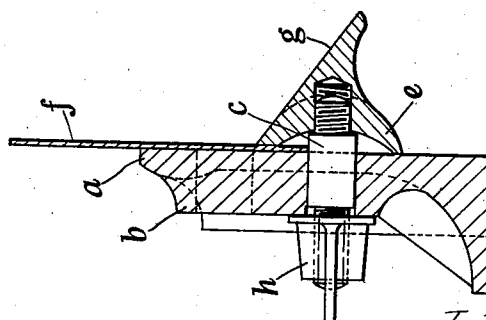


Fig. 6

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UNITED STATES PATENT OFFICE

2,086,075

DOCTOR FOR USE IN PRINTING MACHINES

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 pany

Application July 3, 1936, Serial No. 88,852
 In Great Britain July 11, 1935

8 Claims. (Cl. 101-169)

This invention relates to doctors for use with the printing rollers of printing machines and has for its object to provide an improved doctor shear and means for securing the doctor thereto which shall give several advantages as hereinafter more particularly specified.

The invention comprises the formation of the doctor shear of angle or substantially L section with bolt holes therethrough which are higher at the centre portion of the shear than towards the ends to permit of springing the doctor when clamping it upon the bolts passing through the bolt holes.

The invention further comprises ribbing the shear to provide bosses at the bolt holes and for the doctor traversing rod connections.

The invention further comprises the provision of two sets of bolt holes at different heights in the shear to permit a worn doctor to be used with bolts in the holes nearer to the shear edge.

The invention further comprises a doctor clamping plate which bears at one side or edge upon the doctor and at its other side or edge upon the shear, the plate having a sloping surface or lip to direct colour from the doctor clear of the shear.

The invention further comprises a shear having a trough at its base to form a part of the angle or L section.

Referring to the accompanying explanatory drawings:—

Figure 1 is an elevation and Figure 2 a plan view of a doctor shear constructed in one convenient form in accordance with this invention.

Figure 3 is a cross section on the line 3-3 of Figure 1.

Figure 4 is a cross section on the line 4-4 of Figure 1 but showing the doctor blade and its clamping means in position.

Figure 5 is an elevation of one end of a doctor shear showing clamping means which can be placed at one or other of two levels to suit the doctor blade.

Figure 6 is a sectional view on the line 6-6 of Figure 5.

Figure 7 is an elevation of a lint doctor constructed in accordance with my invention.

Figure 8 is a sectional view on the line 8-8 of Figure 7.

In Figures 1-6, the doctor shear *a* is made of angle or substantially L section, and is thickened and ribbed to provide bosses *b* for the clamping bolts *c* and provided with bosses *d* for the usual doctor traversing rod connections (not shown). The clamping bolts *c* screw into a clamping plate

e extending longitudinally of the doctor shear *a* and bearing at its upper side or edge upon the doctor *f* and at its lower side or edge upon the shear *a*. The upper face of the clamping plate is provided with an inclined or sloping surface *g* which directs any colour flowing off the doctor, clear of the shear and back to the colour box. The bolts *c* are tightened upon the shear by means of wing nuts *h* upon the bolts, which bear upon the bosses before referred to.

The bolt holes are fixed at the correct levels so that the doctor *f* can be placed or caused to rest upon the bolts and the wing nuts *h* turned to effect the desired clamping. In order however to permit of springing the doctor so that it has the necessary rigidity in service, some of the bolt holes (in the illustrated example two, namely *i* and *j*) at the centre portion of the shear are placed slightly higher than the other bolt holes at either side. The doctor *f* rests upon the centre bolts at the higher level and is stressed downwards at the opposite sides of the said centre bolts and clamped in the stressed or stretched condition which gives the desired rigidity to the doctor edge.

The doctor shear *a* may have two sets of bolt holes therein at different heights as shown in Figures 5 and 6 so that after the doctor has worn to a predetermined extent, the bolts *c* may be placed in the holes nearer to the upper edge of the shear to permit of further use of the doctor. The wing nuts *h* are shown in their two positions by full and dotted lines in Figure 5.

Figures 7 and 8 show a lint doctor in which the trough *k* constitutes a part of the angle or substantially L section shear *a*. The centre bolt holes *i* and *j* are disposed at a higher level than the other bolt holes and the clamping plate bears partly upon the doctor and partly upon the shear. The latter has bosses around the bolt holes.

What I claim is:—

1. A shear for a doctor for a printing machine comprising an angle section, bolt holes extending through one flange of said angle section shear and so positioned therein that the bolt holes in the centre portion of the shear are less distant from the edge of the said shear over which the doctor is to extend than the bolt holes in the end portions of the shear.

2. A shear as claimed in claim 1 in which ribs are formed upon the surface of the shear at one side thereof, the bolt holes specified extending through the said ribs.

3. A shear as claimed in claim 1 in which there are two sets of bolt holes, each set fulfilling the

conditions specified, the said sets being differently spaced from the specified edge of the shear.

4. A shear as claimed in claim 1 in which the flange of the angle section other than the one in which the bolt holes are located is formed as a trough.

5. A doctor assembly for a printing machine comprising a shear, bolt holes through one flange of said angle section shear and so positioned therein that the bolt holes in the centre portion of the shear are spaced less distant from the edge of the shear over which the doctor extends than the bolt holes in the end portions of the shear, bolts passing through said bolt holes, the doctor blade having its edge resting against said bolts, and a doctor clamping plate held by said bolts to said shear and bearing at one side upon said doctor and at the other side upon said shear.

6. A doctor assembly as claimed in claim 5

wherein the doctor clamping plate is formed with a sloping projecting lip extending in the direction away from the shear.

7. A doctor assembly for a printing machine comprising a shear, bolt holes through said shear so positioned therein that those in the centre portion of the shear are closer to the edge of the shear which is to be towards the printing roller than those in the end portions of the shear, bolts passing through said bolt holes, a doctor blade having its edge resting against said bolts and a doctor clamping plate held by said bolts to said shear and bearing at one side upon said doctor and at the other side upon said shear.

8. A doctor assembly as claimed in claim 7 wherein the doctor clamping plate is formed with a sloping projecting lip extending in the direction away from the shear.

ISAAC HAROLD GILBERTSON.