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L. MARZOLI
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Filed May 22, 1941

Serial No. 394,670

2 Sheets-Sheet 1

Fig. 1

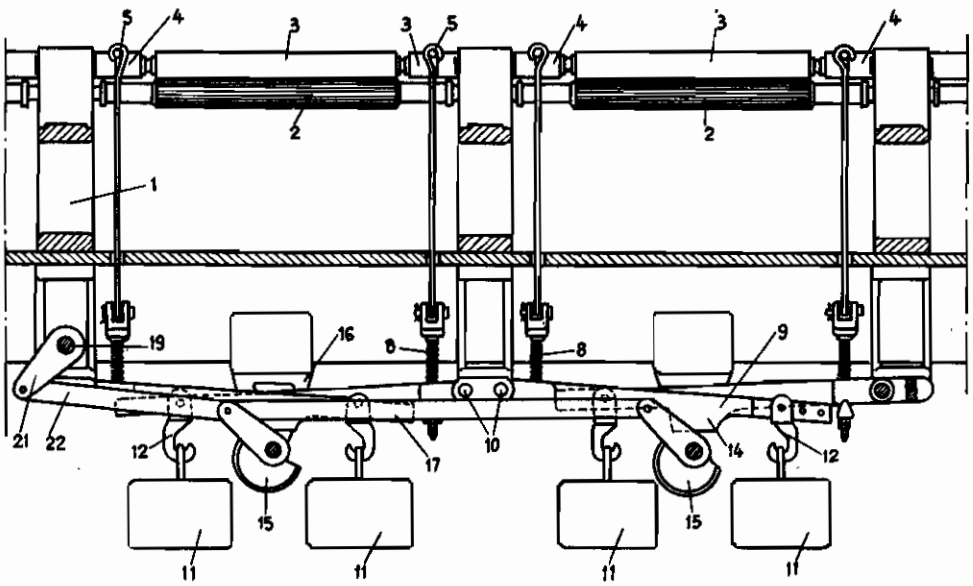

Fig. 2

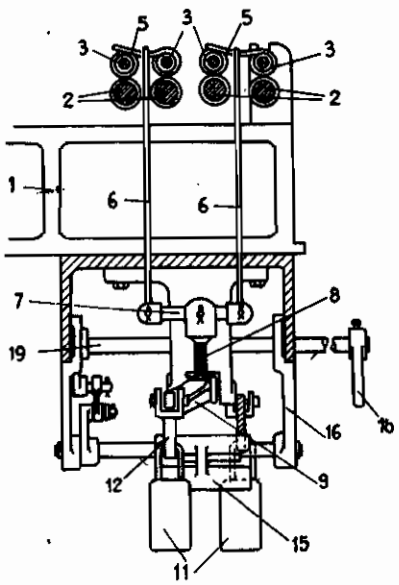

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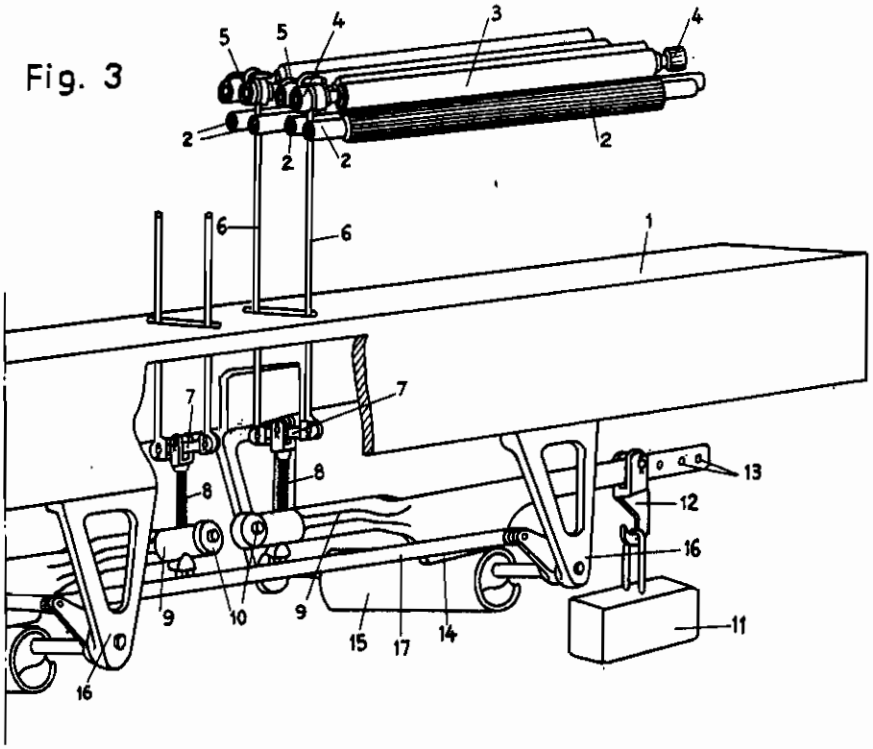
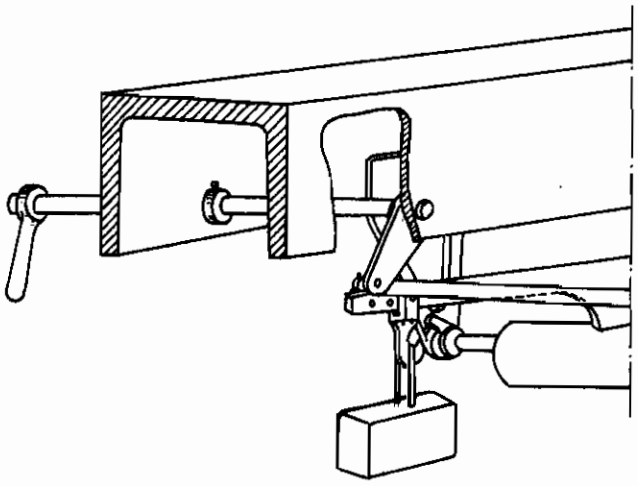
Fig. 3





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ALIEN PROPERTY CUSTODIAN

PRESSURE HINGED LEVER SYSTEM FOR CYLINDERS OF SLIVER OR LAP DRAWING FRAMES FOR USE IN SPINNING TEXTILE FIBRES OF VARIOUS KINDS

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Application filed May 22, 1941

In the drawing frames of various types heretofore known the top or pressure cylinders are pressed on the lower cylinders under a direct pressure produced by a weight carried by a hooked rod connected to the side bushes of each cylinder. In this arrangement a weight is required for each cylinder line and each cylinder head. This weight in the sliver drawing frame now in use is of about 9 kilos. Eight of these weights being required for each head, each head is weighted with about 72 kilos.

It has been proposed to reduce the weight by using a lever for each couple of cylinders and therefore four weights of considerable size for each cylinder group.

The object of this invention is to reduce substantially the weight of the pressure members in order to reduce the cost of manufacture and obtain an easier control of the pressure on the drawing cylinders.

According to this invention the pressure on each cylinder group is obtained by means of two small weights each of about 2,50 kilos acting on the top cylinders through a system of multiplying levers.

Each end of the groups of drawing cylinders is provided with crosspieces bearing on the supporting bushes of the couples of top cylinders. The crosspieces are connected with tie-rods swivelled on the ends of a rocker arm centrally pivoted to a fork connected to the lever fulcrumed at its ends, near to the fork attachment, to a fixed part of the machine and carrying at its other end a weight, the lever arm of which may be adjusted according to the desired pressure.

The weights can be raised at will by means of eccentrics connected together by means of a hinged lever system and operated by a central operating member; the sliver or lap is thus released from the pressure of the top cylinder through an easy and simple operation.

The annexed drawing shows by way of example an embodiment of the invention.

Fig. 1 is a side view partially sectioned,

Fig. 2 is a cross section,

Fig. 3 is a diagrammatic perspective view.

Referring to the drawing, 1 is the drawing frame, on which are fitted on fixed bearings the groups of couples of lower drawing cylinders 2. A top cylinder 3 rotatably mounted on vertically movable end bushes 4 cooperates with each of the lower cylinders. A crosspiece 5 carrying a tie rod 6 rests on the adjacent bushes of each couple of top cylinders. The lower end of the tie rod 6 is hinged to the end of a rocker arm 7 centrally pivoted on the forked head of a screw 8 anchored to a lever 9 of the second order near its fulcrum or pivot 10, by means of which the lever is hinged to the drawing frame.

A weight 11 is hung to the free end of the lever 9; the position of the weight may be adjusted by displacing the hook 12 along the lever 9, which is provided with a plurality of holes 13, in which may be fitted the pin receiving the hook. It is thus possible to adjust the pressure according to the nature of the fibre to be treated.

The lower side of each lever 9 is provided with a cam surface 14 cooperating with an eccentric drum 15 pivoted to brackets 16 fixed to the drawing frame. The eccentric drums are connected together by means of the hinged lever system 17, so that they move through the same angle of rotation and are operated simultaneously by means of a handle 18 keyed on a shaft 19 mounted at one end of the drawing frame and connected by means of an arm 21 and rods 22 to the hinged lever system 17.

In the example shown each group of drawing cylinders comprises two adjacent couples of lower cylinders coacting with two adjacent couples of top cylinders. The lever provided with a weight acting on one end of each couple of top cylinders is oppositely directed with respect to the lever acting on the other end of said couples and is arranged on one side of the latter, so that the same eccentric drum acts on both levers; the cylinders are thus displaced parallel to themselves.

LUIGI MARZOLI.