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DRAW FRAME

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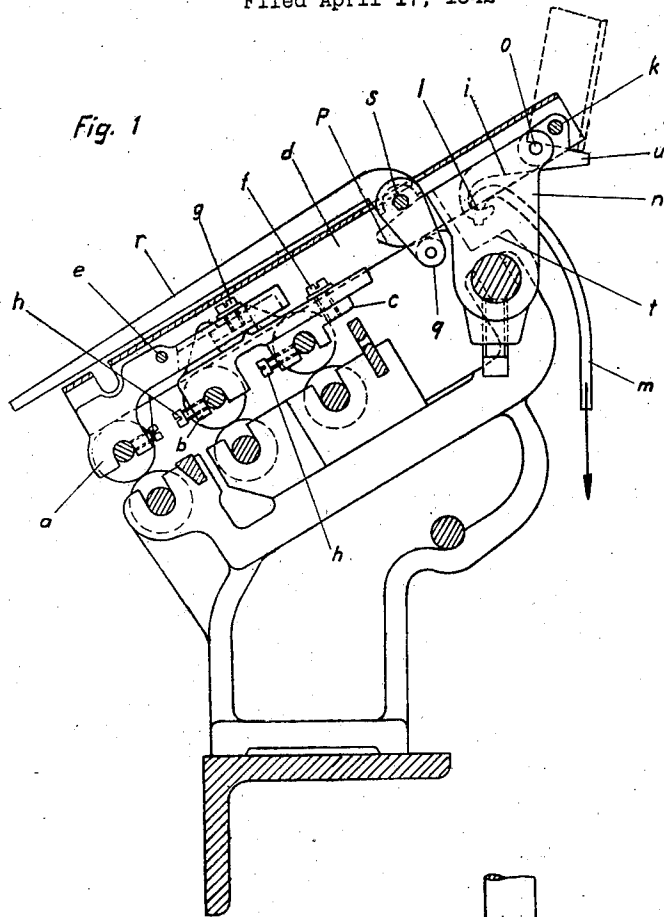


Fig. 2

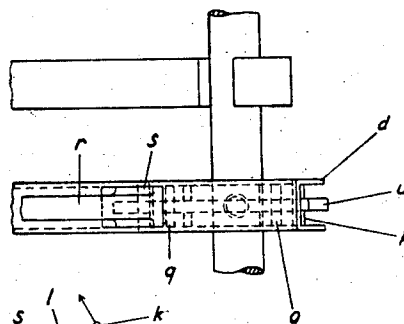
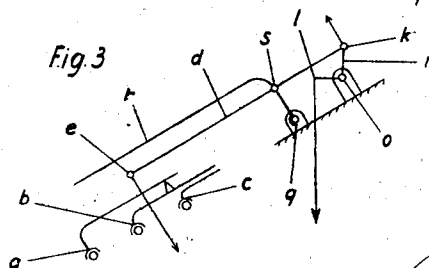


Fig. 3



Inventor:

Heinrich Otto Hess.

By *Glacock Downing & Seabell*
ATTY'S

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DRAW FRAME

Heinrich Otto Hess, Winterthur, Switzerland, assignor to Actiengesellschaft Joh. Jacob Rieter & Cie., Winterthur, Switzerland

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3 Claims. (Cl. 19—135)

This invention relates to a weighting device for draw frames.

Draw frames of known type in which weighting of the top rollers is effected by a compound lever arrangement are open to the objection that a relatively large number of levers of considerable dimensions are needed and, as weighting or relieving requires much power, operation becomes difficult. Furthermore, during relieving portions of the lever system have to be partly or wholly removed, so that starting involves additional work and, besides, the possible loss of some parts.

According to the invention, these disadvantages are overcome by providing the frame with a stationary supporting member having a double-armed lever articulated thereto one end of which is engaged by a weight hook and the other end flexibly fixed to a weighting rail, and by causing the weighting lever rotatably disposed on the weighting rail to be supported, with the aid of an extension piece, under a continuation of the supporting member when weight is applied.

In this simple manner the necessary pressure can be exerted upon the top rollers by means of a relatively small weight. The front side of the draw frame remains free and easily accessible for clearing, and there is also little chance for the accumulation of fly. After adjustment of the weighting lever the entire weighting device with the saddles articulated thereto can be readily lifted to expose the draw frame by a single manipulation. The removal and subsequent bothersome restoration of parts are dispensed with, and the supporting rail encloses the lever arrangement and the saddles and keeps fly away from them on all sides. It is further possible to connect the top rollers to the saddles in such manner that they are turned up with the weighting device so as to fully expose the bottom rollers.

The invention is illustrated by way of example in the accompanying drawing, in which

Figure 1 is a side view, partly in section, of a draw frame equipped according to the invention;

Fig. 2, a plan of a part thereof; and

Fig. 3, a diagrammatic view of the mode of operation.

The saddles *a*, *b*, *c* are jointly articulated to a weighting rail *d* by means of a pin *e*, the rail *d* being of U-shaped cross section. To render the saddles *a*, *b*, *c* individually adjustable the saddle *c* is displaceably secured in a slot of the saddle *b* by a screw *f* and the saddle *b* is connected in like manner with the saddle *a* by a screw *g*. Set screws *h* secure the top rollers to prevent them from dropping out.

Between its sides the weighting rail *d* supports in the rear a double lever *i* connected to the rail by a pin *k*. The end *l* of the lever *i* is engaged by a draw or weight hook *m*. The lever *i* is disposed in a forked supporting member *n* and ro-

tates therein about a pivot *o*. In the direction of the rollers the supporting member *n* terminates in an extension piece *p* below which, at the application of weight, a continuation *q* of the weighting lever *r* hooks. The weighting lever is pivotally secured to the rail *d* for movement about a pin *s*.

The mode of operation of the device is indicated in Fig. 3.

When the parts are in the position shown in Fig. 1, the draw hook *m* transmits the pull to the lever *i* and urges the latter to turn counter-clockwise about the pin *o* on the stationary support *n*. However, as the extension *q* of the weighting lever *r* is under the nose *p* of the stationary support, the pin *k* pushes upwardly on the right end of the rail *d* so that the left end of the latter tends to thrust downwardly on the pin *e* and presses the rollers *a*, *b*, *c* downwardly toward the lower rollers. As the continuation *q* now contacts the extension *p* and is, further, connected to the weighting rail *d* by the pin *s*, the rail *d*, at the application of weight, moves about the pin *s* and transmits the pull of the weight hook *m* by means of the pin *e* in the form of pressure to the saddles *a*, *b*, *c*. To relieve the draw frame the weighting lever *r* is raised so as to break its hold on the extension *p*. The double lever *i*, due to the action of the weight hook *m*, turns until its end *l* lies on the extension *t* of the supporting member *n*, whereas the other end thereof supporting the pin *k* moves up. Now the entire weighting rail *d* together with all the parts articulated thereto can be swung up about the pin *k* until it rests on a projection *u* of the double lever *i*. It is further possible to employ springs instead of the weight hook *m* to apply force to the double lever *i*.

What is claimed is:

1. In a draw frame a weighting device, comprising a stationary supporting member provided with an extension piece, a double-armed lever articulated to said supporting member, a weight hook engaging one end of said lever, a weighting rail articulated to the other end of said lever, saddles flexibly fixed to said weighting rail, and a weighting lever rotatably arranged on said weighting rail and having a continuation which at the application of weight engages below said extension piece for supporting said weighting lever.

2. In a draw frame a weighting device according to claim 1, in which the weighting rail is of U-shaped cross section and embraces with its flanges the saddles, the double-armed lever and the supporting member.

3. In a draw frame a weighting device according to claim 1, in which means are provided for rendering the saddles individually adjustable.

HEINRICH OTTO HESS.