J. SIEGRIST.

STOP MOTION FOR WARPING MACHINES.

No. 83,330. Patented Oct. 20, 1868.

Fig. 1.

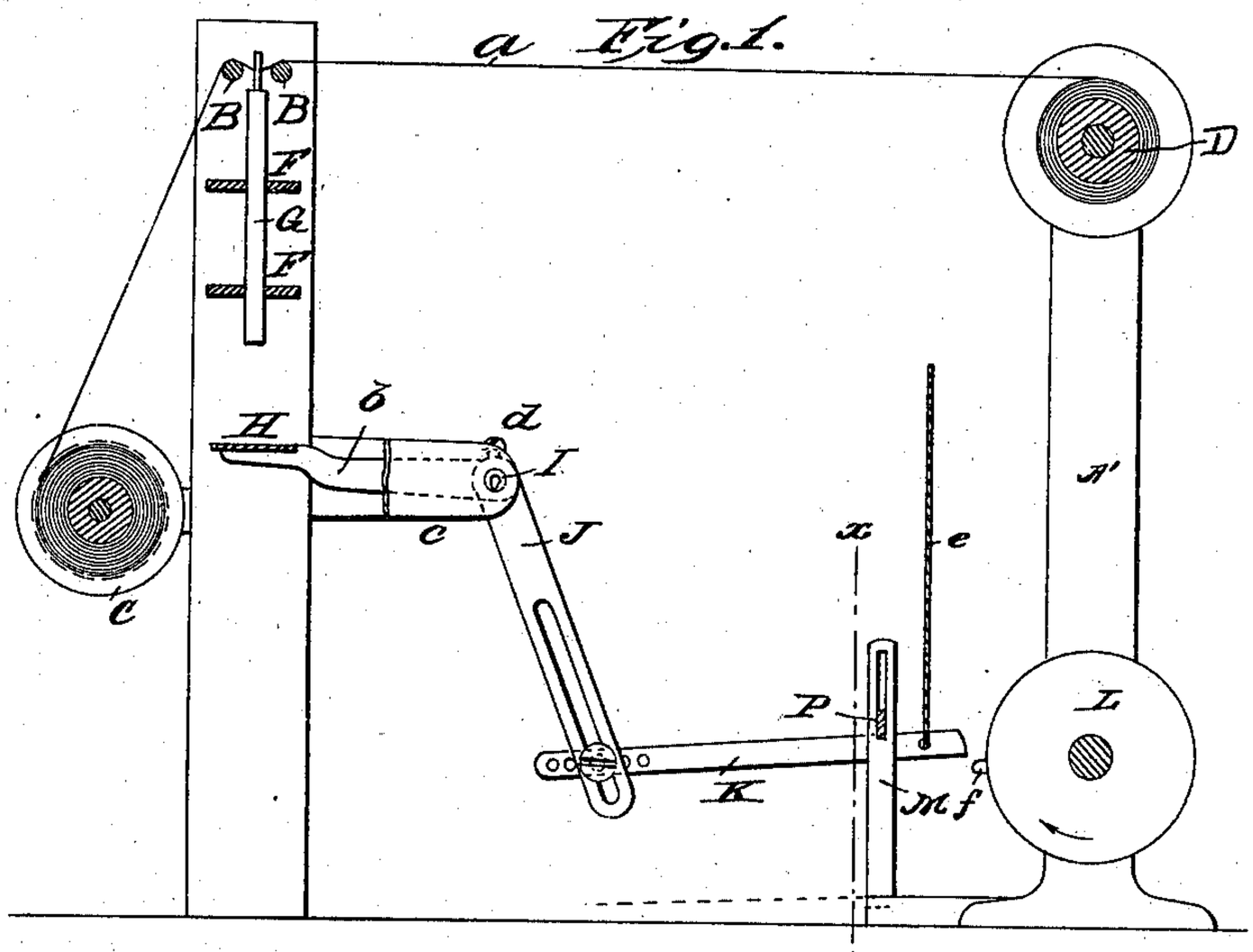


Fig. 2.

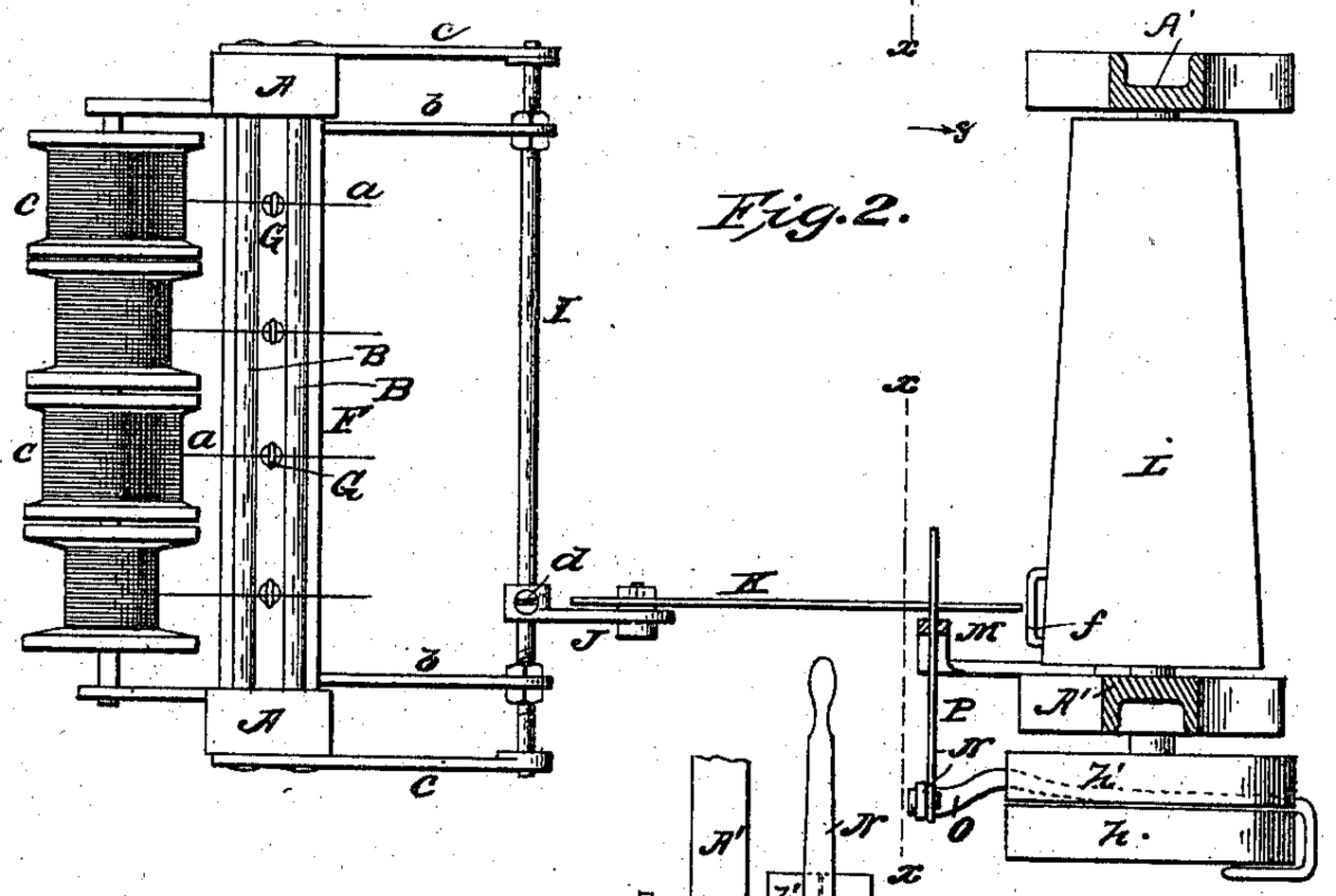
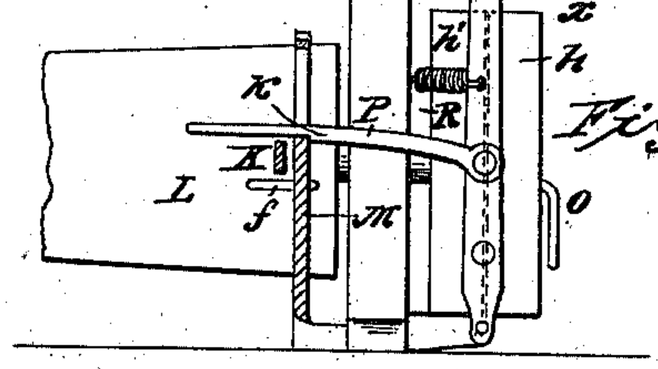


Fig. 3.



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J. SIEGRIST. OF NEW YORK, N. Y.

Letters Patent No. 83,330, *dated October* 20, 1868.

IMPROVEMENT IN STOP-MOTION FOR WARPING-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, J. SIEGRIST, of the city, county, and State of New York, have invented a new and useful Improvement in Stop-Motions for Warping and other Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a longitudinal sectional elevation of a warping-machine in part, with my improvement applied to it;

Figure 2, a partly sectional plan of the same; and

Figure 3, a transverse sectional elevation, taken as indicated by the lines *x x* in figs. 1 and 2, and looking in direction of the arrow *y*.

Similar letters of reference indicate corresponding parts.

This, my improvement, has reference to warping-machines, for either broad or narrow weaving, applicable also more directly to looms and other machines.

My invention differs from other devices for effecting a similar object, as applied, for instance, to braiding-machines, and in which weights have been hung on or attached to the warp-yarns, so that in case of a yarn breaking or running out, the weight in dropping would actuate a stop-motion to the machine, by combining with weights, so applied and operating, a peculiar stop-motion, made up of a balance-frame and rods or levers, so combined and arranged with a revolving shaft or drum, carrying a projection, as that, in case of a yarn breaking or running out, the balance-frame, by the action of said projection, is made to trip or relieve a belt-shifter in such manner as that, by the shifting of the belt, it throws the yarn-beam out of gear.

Referring to the accompanying drawing, A A is an upright frame, sustaining, among its other uses, rods, B B, which may be made of glass or other polished material, and over which the yarns *a a* pass from bobbins, C C, to the yarn-beam D, that revolves in bearings in uprights A′ A′. Of course there may be a very different disposition and increased number of bobbins used to what is or are here shown.

The frame A A also serves to carry guide-plates, F F, which are perforated to admit of the passage through them of rods or weights, G G, that are looped or hooked on to the yarns *a a*, between the rods B B, which arrangement keeps the rods G G independently suspended until the yarns that pass through their eyes or loops break, or the spools that supply said yarns are run out.

H is a horizontal board, lying beneath the weights G G, and connected, by arms *b b*, with a rock-shaft, I. that is hung to work lightly and easily in side-bars or frame-pieces *c c*.

On the shaft I, adjustable, it may be, by a set-screw, *d*, is a slotted arm or lever, J, which has connected with it, also in an adjustable manner, a rod or bar, K, that may be supported at its outer end by a cord, *e*, from any fixture, or otherwise.

These devices, namely, board H, with its rock-shaft I, and arm and rod-attachments J K, constitute what may be termed a balance or nearly-balanced frame. When said frame is balanced, or at rest, the outer or forward end of the bar K extends or projects into close proximity to a revolving shaft or drum, L, and so that a slight forward movement of said bar causes it to be struck by a projection, *f*, attached to a revolving drum, L, that serves, through belt, to drive the yarn-beam D.

On the shaft of this drum L are fast and loose pulleys *h h′*, the fast one, *h*, of which serves, by belt from any suitable prime or counter-mover, to give motion to said drum, and through it to the yarn-beam D.

M is an upright slotted bar, firmly secured to the frame.

N is a lever, attached to the belt-shifter O, and having pivoted to it an arm or lever, P, which passes through the slot in the bar M, and by a stepped projection, *k*, to it, gears with the slotted bar M, so as to keep the driving-belt on the fast pulley *h*.

R is a spring, arranged to pull on the lever N, and so that when the stepped projection *k*, of the lever P, is released from hold on the slotted bar M, the belt-shifter is shot by the spring R, to throw the driving-belt on to the loose pulley *h′*. This occurs whenever any one or more of the weights G drop, through breakage of the yarns by which they are suspended, or whenever the spools carrying said yarns run out, said weight or weights, in dropping, striking the board H of the balanced frame, and causing the arm or lever J to project forwards the bar K, so that the projection *f*, of the drum L, in revolving, lifts such bar-end of the balanced frame, and, by the arm or lever K striking and lifting the lever P, disengages the latter lever from the slotted bar M, when the spring R, pulling on the lever M, operates the belt-shifter to change the driving-belt from the fast pulley *h* to the loose pulley *h′*, and so stops the machine, or throws the yarn-beam out of gear.

What is here claimed, and desired to be secured by Letters Patent, is—

In combination with the weights G, suspended on or from the yarns, the balanced frame H, I, J, and K, arranged for operation by said weights, revolving shaft or drum L, provided with a lifter, *f*, and belt-shifter, for throwing the yarn-beam out of gear, all for action together, substantially as specified.

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