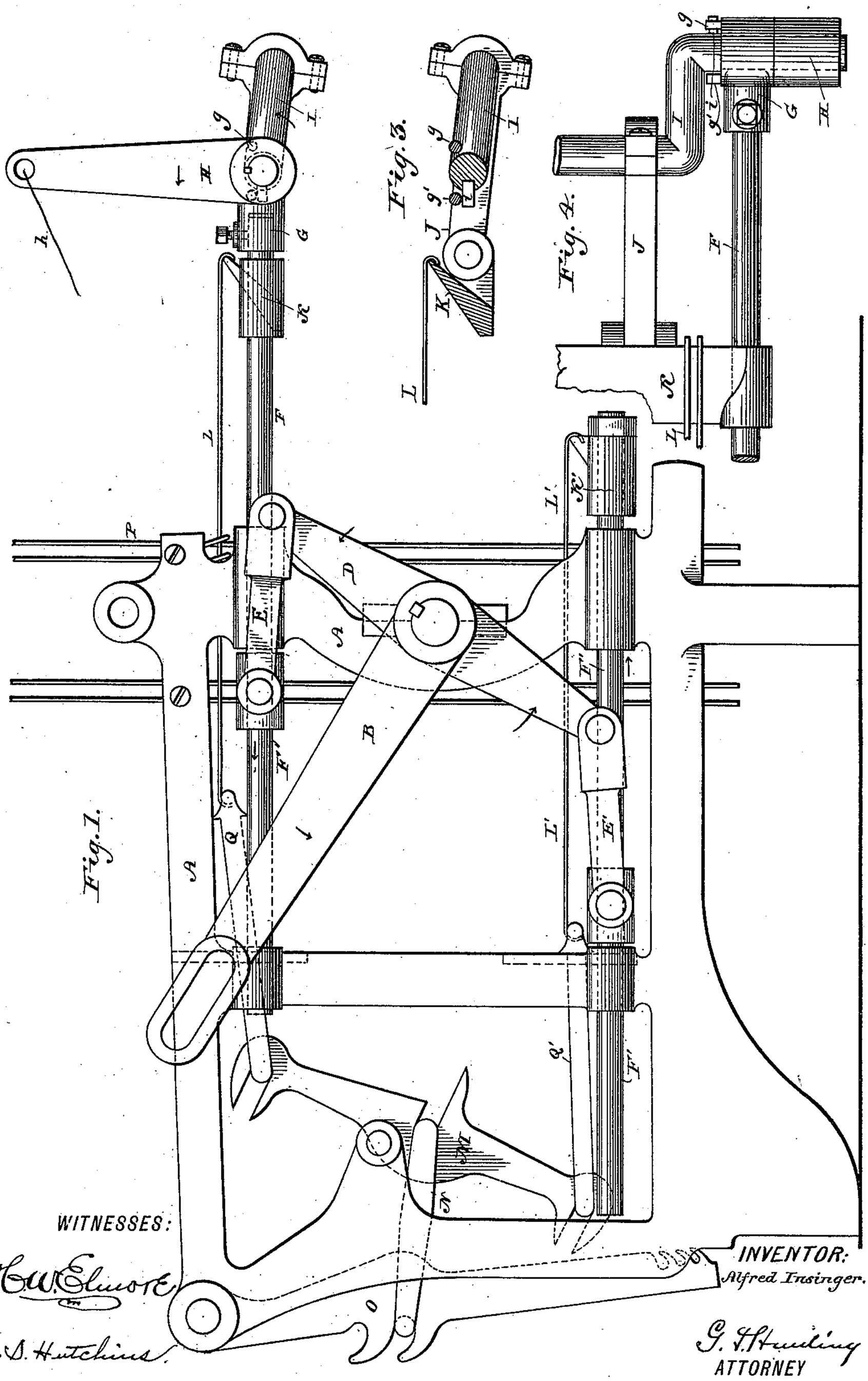
(No Model.) 2 Sheets—Sheet 1.

A. INSINGER.

DOBBY AND JACQUARD MACHINE FOR LOOMS.

No. 408,485. Patented Aug. 6, 1889.



N. PETERS. Photo-Lithographer, Washington, D. C.

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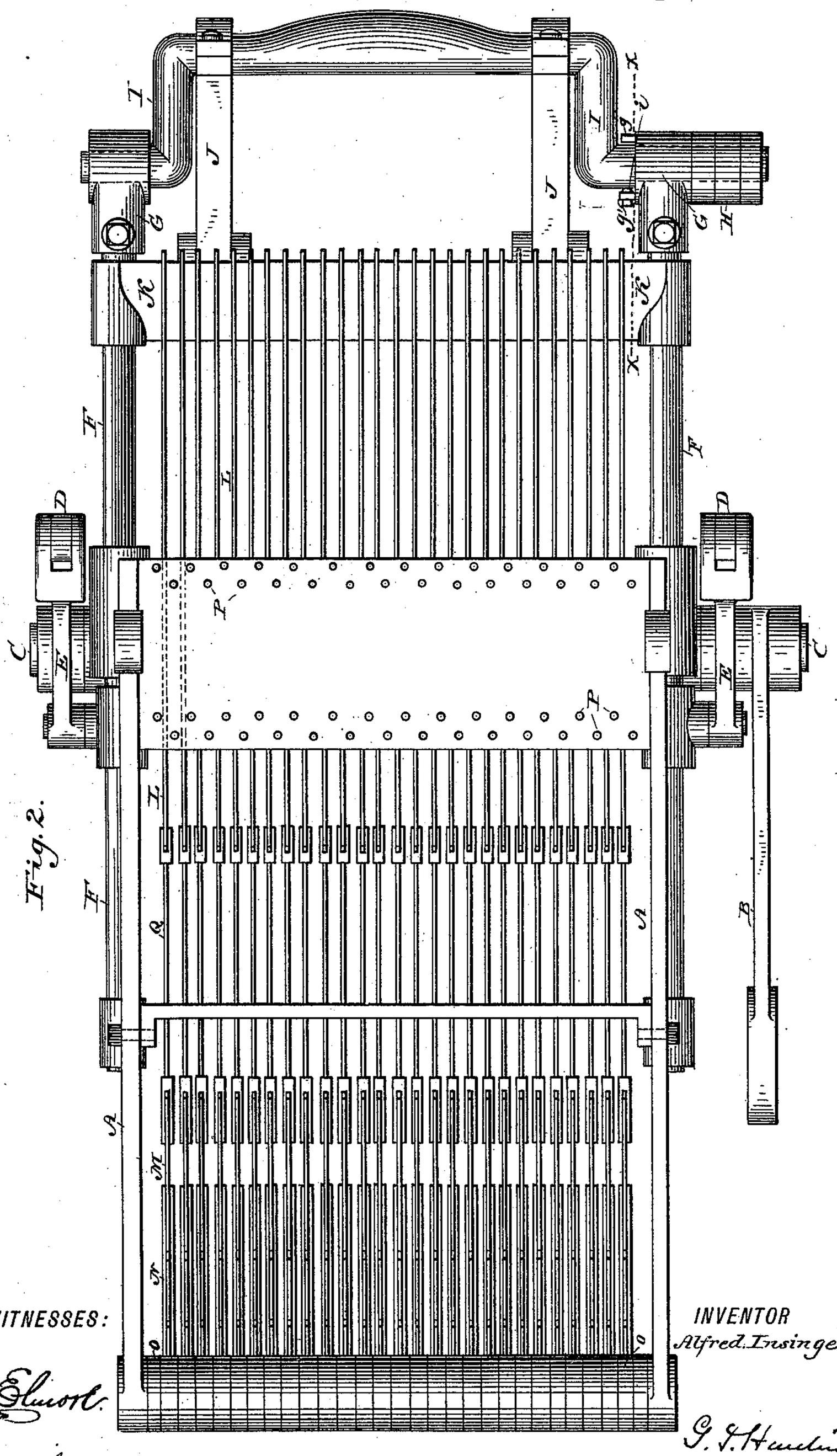

Fig. 2.

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UNITED STATES PATENT OFFICE.

ALFRED INSINGER, OF PHILADELPHIA, PENNSYLVANIA.

DOBBY AND JACQUARD MACHINE FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 408,485, dated August 6, 1889.

Application filed September 21, 1888. Serial No. 286,056. (No model.)

To all whom it may concern:

Be it known that I, ALFRED INSINGER, a citizen of the United States, and a resident of the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Dobbies and Jacquard Machines for Looms, of which the following is a true and exact description, due reference being had to the drawings which accompany and form part of this specification.

In dobbies and Jacquard machines now in use the griff or knife by which the hooks are operated is fixedly connected to part of an operating-frame by which said griff or knife is operated, and in order to lower the hooks it is necessary for the griff-frame to operate. The operation of this griff-frame causes the card-cylinder to turn and a new pattern-card to be brought into position. It is often necessary to have all the warp-threads lowered at one level during the operation of weaving for purposes of repairs, &c., of the warp-threads, and this cannot be accomplished in a double-lift machine by ordinary means, for when one set of hooks are lowered or returned to their normal position the other set of hooks are elevated.

My improvement consists in so arranging the griff or knife with reference to the griff-frame that in the normal position of the griff it will be operated by the frame; but said griff or knife with its hooks can also be lowered while the griff-frame remains stationary.

In the drawings, Figure 1 represents a side elevation of the machine; Fig. 2, a plan view. Fig. 3 is a section on line *x x*, Fig. 2. Fig. 4 is a detached plan view of the griff, thrown back.

The machine illustrated is a double-lift open-shed side Jacquard machine or dobby.

A represents the frame of the machine; B, the operating-bar which is in connection with the source of power, as in any ordinary dobby or Jacquard machine; D, the lever connecting said bar with the griff-frames or plungers through the medium of links E and E′.

F F′ are the griff-frames or plungers, and K and K′ the griffs or knives.

L L′ are the hooks. These hooks are connected by the links Q Q′, respectively, with the lever M, and said lever M is connected by the link N with the harness-operating lever O. The griff or knife K, instead of being connected to the griff-frame or plunger in the ordinary way, as shown at K, Fig. 1, has its ends enlarged, and through these ends the plungers F F′ pass. At the end of said plungers is situated the crank-shaft I, the ends of which pass through the boxes G, within which the plungers are secured.

H is a crank-arm, which is secured to the crank-shaft. The crank-shaft I is connected to the griffs or knives by the links J J upon one box G. On each side of the shaft I are the projecting pins or lugs *g* and *g′*, and on the crank-shaft I is the projecting lug or pin *i*. The griff or knife is operated backward and forward by the plungers through the box G, crank-shaft I, and links J.

If at any time it is desired to get at the harness and to have all the harness at one level, the operator turns the crank H, either by turning the crank directly or through the medium of the cord *h*, Fig. 1, which is secured to the crank and extends to any desired point of the loom in reach of the operator, and this revolves the crank-shaft I and, through the medium of the links J J, causes the griff or knife and its hooks to be lowered or returned and the harness brought to one level, (it being supposed that the griff, when it is said to be operated, is in its upper position,) while the griff-frame or plungers remain stationary. The pin *i*, by striking the lugs *g* and *g′*, prevents too great a movement of the crank-shaft. The crank H may be connected with a cord *h*, which cord may be extended to any point of the loom, so that the loom-operator can at any time bring the warp to one level for the purposes of repairs. When the purpose for which the harness was brought to a level is accomplished, the machine is again set in motion, and the first operation will be the return of the griff-frame. During this return or inward movement of the griff-frame the griff comes in contact with the fixed frame of the machine, and being thereby held as the griff continues to move the crank-shaft is thereby turned in its bearings and restored to its normal position.

I have illustrated my machine with a side jacquard or dobby; but it is evident that my

invention is applicable to a vertical jacquard, and also that the specific mechanism here shown may be varied from without departing from my invention, provided that the connection between the griff and frame or plungers is such that the griff can have a movement independent of the movement of the frame or plungers.

My improvement is shown applied to one of the griffs and frames only, in which case the leveling of the harness is accomplished when the griff to which the improvement is applied is in its outward position; but it is obvious that if advisable my improvement may be used with both griffs and frames without departing from the invention, in which case the harness may be leveled when either griff is in its outward position.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination, a griff-frame, a griff, and devices whereby said griff is connected with said frame, substantially in the manner described, and whereby the griff is normally operated by said frame, but whereby said griff may be given a movement independent of the movement of the frame.

2. In combination, a griff-frame or plungers, a crank-shaft journaled on the griff-frame or plungers, a griff, and a connection between said griff and said crank-shaft, whereby when the crank-shaft is turned the griff moves independently of the movement of the griff-frame.

3. In combination, a griff-frame or plungers, a griff, a crank-shaft, journal-boxes carried by the griff-frame or plungers, within which said shaft is loosely journaled, connections between said griff and crank-shaft, projections upon the journal-box of said crank-shaft at each side of the shaft, and a projection upon said crank-shaft.

4. In combination, a griff-frame or plungers, a griff, a crank-shaft, journal-boxes carried by the griff-frame or plungers, within which said shaft is loosely journaled, a crank connected to said shaft, and a cord or other connection secured to and extending from said crank to the desired point, and connections between the crank-shaft and the griff and the griff-frame or plungers.

5. In combination, a griff-frame or plungers, a crank-shaft journaled on said griff-frame or plungers, a griff supported on said frame or plungers, and a connection between said griff and said crank-shaft, whereby when the crank-shaft is turned the griff can have a movement independent of the movement of the frame or plungers.

6. In combination, a griff-frame or plungers, boxes on the ends of said griff-frame or plungers, within which said plungers are secured, a crank-shaft loosely journaled within said boxes, a griff, and links connecting said crank-shaft and the griff or knife.

7. In combination, a griff-frame or plungers, boxes on the ends of said griff-frame or plungers, within which said plungers are secured, a crank-shaft loosely journaled within said boxes, projections on one box at each side of said shaft, and a projection on said shaft, a griff the ends of which are supported by said griff-frame or plungers, and links connecting said crank-shaft and the griff or knife.

In testimony of which invention I have hereunto set my hand, at Philadelphia, Pennsylvania, this 17th day of September, A. D. 1888.

ALFRED INSINGER.

Witnesses:
ERNEST HOWARD HUNTER,
ABNER J. DAVIS.