H. Bachofner.

Loom.

No. 6,823. Patented Oct. 30, 1849.

Fig. 3.

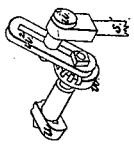


Fig. 2.

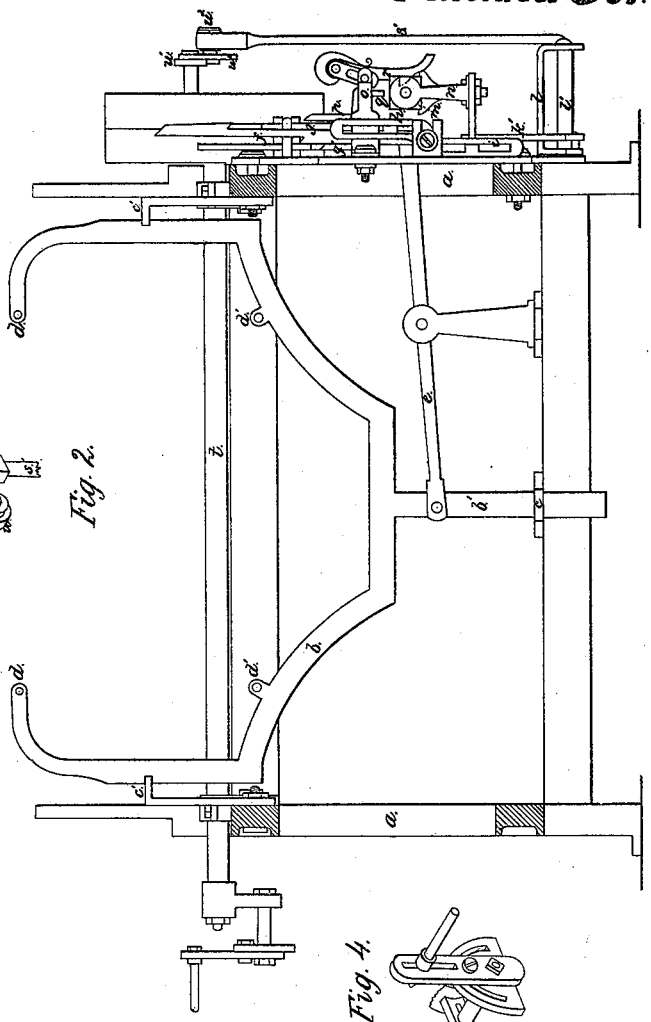


Fig. 4.

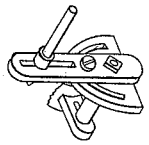
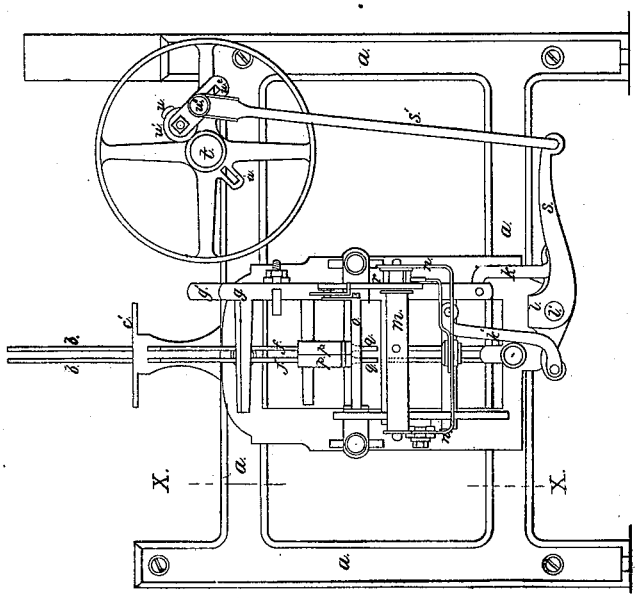


Fig. 1.



UNITED STATES PATENT OFFICE.

HENRY BACHOFNER, OF SPRINGFIELD, MASSACHUSETTS.

LOOM.

Specification of Letters Patent No. 6,823, dated October 30, 1849.

To all whom it may concern:

Be it known that I, HENRY BACHOFNER, of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Power-Looms for Weaving Figured Fabrics; and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawing, which forms a part thereof, in which—

Figure 1 is a side elevation. Fig. 2, is a section on line *x x*, Fig. 1.

The nature of my improvement consists in the construction and arrangement of parts for working the harness, and their connections with the moving power, by which I simplify the loom, and save a considerable amount of the power required to drive looms as heretofore constructed.

The construction is as follows: The loom frame (*a*, *a*,) is in all essential particulars, like those of ordinary looms, reserving only such minor modifications as are required by the new parts of my loom. The harnesses are connected with frames (*b*) which consist of a lower stem (*b'*,) at the center of the breadth of the frame, and supported in a stationary guide (*c*,); from the top of this stem the frame branches out toward the sides of the loom, and then rises perpendicular upward to a proper height, and terminates in a curved end that turns inward to a horizontal line. Holes (*d*,) are made in the ends of this frame, and others (*d'*,) perpendicularly below them, for the purpose of attaching the harness to—there are as many of these frames as there are leaves of harness; their perpendicular sides are steadied and guided by fixtures (*c'*,) attached to the frame of the loom. To the stems (*b'*,) are connected horizontal levers on marches (*e*,) that extend out a little beyond the side of the loom frame: where they connect with uprights (*f*,) on each of which there are two notches, one on the outside for raising the uprights by; the other on the inside, next to the frame for depressing them; on each side of the uprights there is a frame, (*g*, *g'*,), that vibrates up and down, composed of two horizontal arms each, connected by a perpendicular; the perpendiculars and lower arms of these frames slide up and down, in proper bearings (*h*, *i*,) attached to the loom frame; the outside frame (*g*,) is connected by a link (*k*,) with the near end of a rocker (*l*,) situated just below and turned on a stud (*l'*,) in the frame, the inside frame (*g'*,) is connected by a similar link (*k'*,) with the front end of said rocker, the fulcrum being between them, so that as the rocker is turned, it causes one of the frames (*g*,) to rise and the other to fall, each time that the outside frame rises, its upper arm catches the hooks of all the uprights that are not removed out of its way, and carries them up with it, thus depressing all that portion of the harness connected with them; but when any of the uprights are pushed back, in a manner to be presently explained; they come in contact with the descending arm of the inside frame, and are depressed, causing the corresponding leaves of the harness to rise.

The apparatus for shifting the uprights back, consists of an ordinary jacquard prism or cylinder (*m*,) connected with the lower arm of the inner frame (*g'*,) by means of its supports (*n*,) with which it rises and falls; at a proper distance above this cylinder, on a stationary bar (*o*,) there is a series of bent levers or fingers (*p*,) one arm of which rests on the bar, and the other stands vertically; these fingers are as many in number as the uprights (*f*,) one opposite each of them; under the horizontal arms of these fingers are pins (*q*,), that project down through the bar (*o*,), so that when the cylinder (*m*,) rises, they will enter a series of corresponding holes therein, if instead of a hole on this cylinder a blank be presented, by means of the ordinary card, or otherwise, the pin (*q*,) will be found upward, and with it the horizontal arm of the finger lever (*p*,) causing the vertical arm to bear the upright (*f*,) over, so that its inside notch will catch on the arm of the near frame (*g'*) and be depressed by it, as before named. To the bar (*o*) there is a hook (*r*,) appended, that projects down to the jacquard cylinder, and turns it as it descends, in a manner similar to the similar fixtures in ordinary jacquards. The rocker (*l*,) has a long arm (*s*,) attached to it, that extends back horizontally, and the near end is connected with the crank-shaft (*t*,) by means of the rod (*s'*,); this rod is connected with the crank-shaft by means of an adjustable crank, shown more clearly in Fig. 3, and in the modification thereof, Fig. 4, it consists of an arm (*u*,) extending

out from the shaft, and having a slot in it, into which a stud is adjusted; at the desired distance from the shaft near the outer end of the stud, there is a toothed circular plate (u'), and over it there is an arm (u^2) fastened with a tooth on its inner face; that fits into one of the notches on said plate, so as to fasten it in any position; this arm (u^2,) is made with a slot in its end into which an adjustable wrist, (u^3,) fits, to which the rod (s',) is connected. This adjustable crank may be modified by making a concentric slot in the disk, instead of the notches, which will be fully understood by inspecting the Figs. 3 and 4; by it the crank pin or wrist, can be placed in any desired position. The other parts of the loom may be of the ordinary character, or more or less modified to meet the requirements of the manufacturers.

Having thus fully described my improved loom, what I claim therein as new, and for which I desire to secure Letters Patent, is—

1. The combination of the jacquard cylinder with the depressing frame and fingers for the purpose of working the upright thereby through the medium of the fingers, as herein set forth.

2. I claim the combination of the lifting and depressing frames with the crank shaft by means of a rock shaft connected with said frames by connecting rods and worked by the crank shaft with which it is connected by a rod for that purpose.

3. I claim the frames for suspending and carrying the harness in combination with the marches *e* and the apparatus for working the same as above specified.

4. I claim the combination of the hooks, for lifting and depressing, with the marches and harness frames without the aid of cords, as herein set forth.

5. I claim the construction and application of the adjustable crank, by which I effect an adjustment in all directions in a simple and convenient manner.

HENRY BACHOFNER.

Witnesses:
J. J. GREENOUGH,
WM. GREENOUGH.