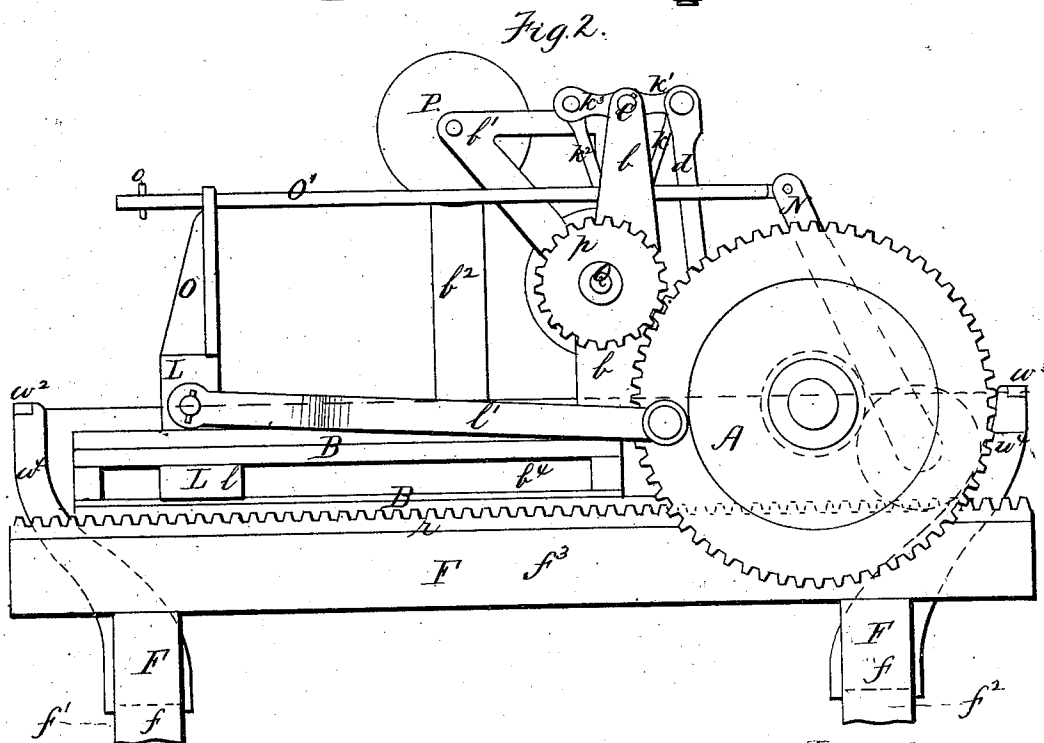
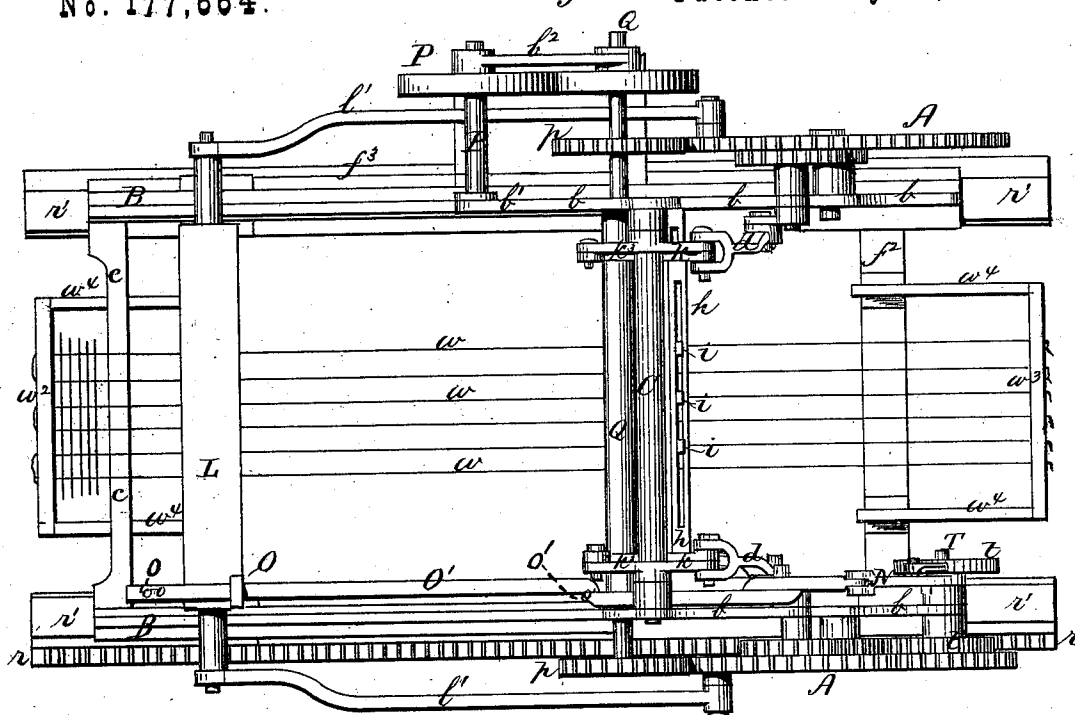


C. P. SEITZINGER.

LOOMS FOR WEAVING WIRE FOR COAL-SCREENS.

No. 177,664.

Patented May 23, 1876.



Witnesses
Grenville Lewis
H. Church

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Fig. 3.

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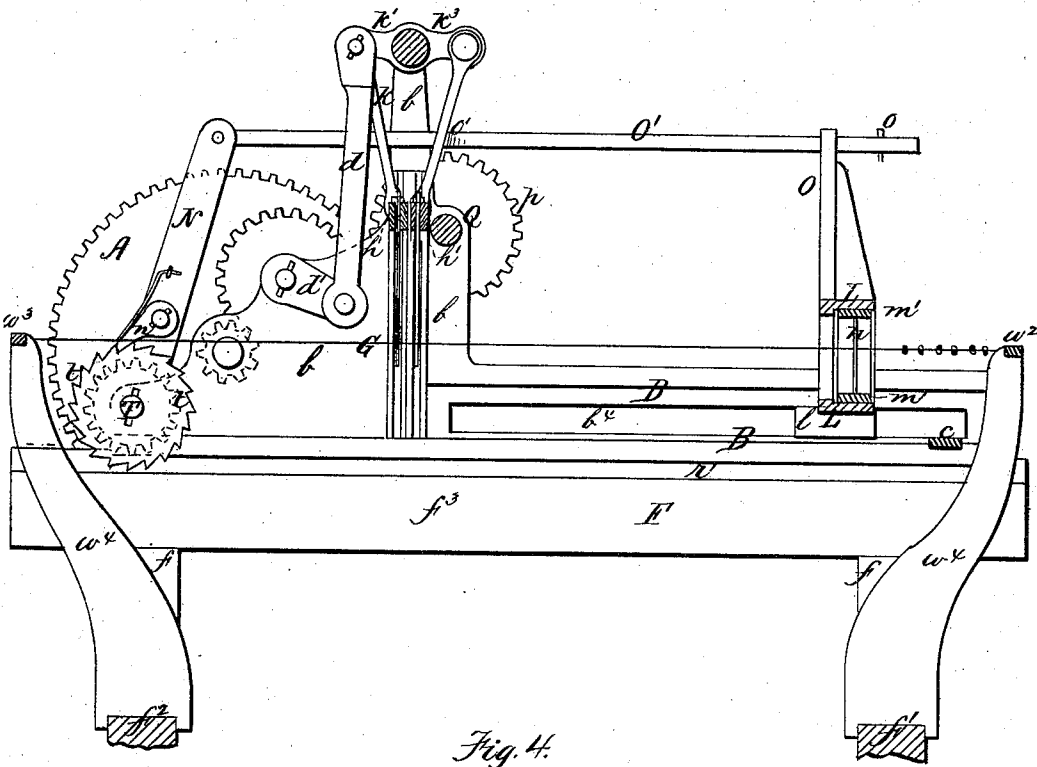
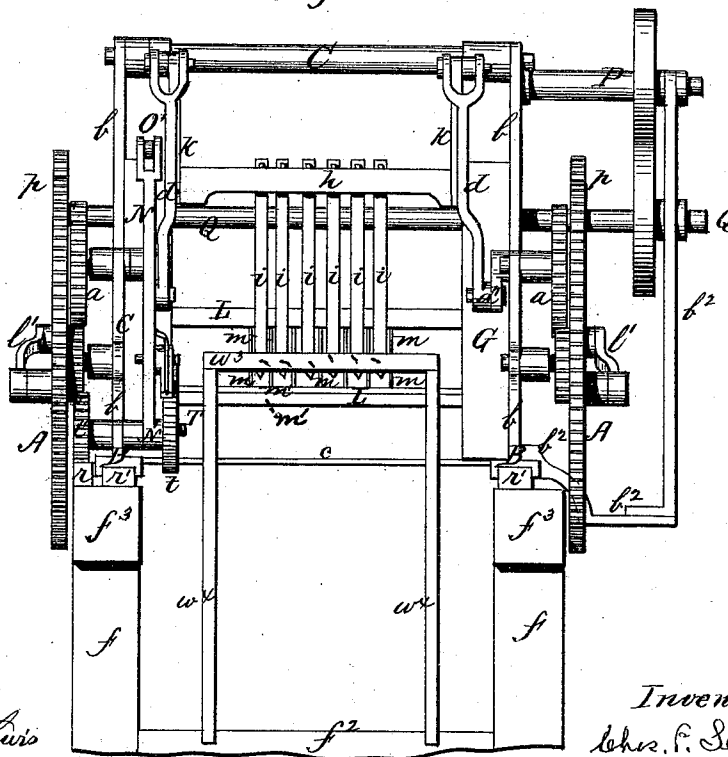


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES P. SEITZINGER, OF SCRANTON, PENNSYLVANIA.

IMPROVEMENT IN LOOMS FOR WEAVING WIRE FOR COAL-SCREENS.

Specification forming part of Letters Patent No. **177,664**, dated May 23, 1876; application filed January 13, 1876.

To all whom it may concern:

Be it known that I, CHARLES P. SEITZINGER, of Scranton, in the county of Luzerne and State of Pennsylvania, have invented a new and Improved Loom for Weaving Wire for Coal-Screens; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top view or plan. Fig. 2 is a side elevation. Fig. 3 is a longitudinal vertical section, and Fig. 4 is an end elevation.

Similar letters of reference in the accompanying drawings denote the same parts.

The object of this invention is to facilitate and cheapen the manufacture of wire screens for screening coal, sand, and other similar materials; and to this end the invention consists in the improved devices and combinations of devices hereinafter set forth and claimed.

In the drawings, F is the frame of the loom, consisting of four legs, *f*, connected at the ends of the machine by cross-beams *f*¹ *f*², and at the sides by parallel longitudinal beams *f*³, one of which has a cog-rack, *r*, on its upper outer edge, while both are provided with a smooth rail or rails, *r'*, upon which the mechanism moves forward as the weaving goes on, or runs back to commence a new web. Instead of the ordinary let-off and take-up mechanism, the warp-wires *w* are held by two cross-bars, *w*² *w*³, supported by standards *w*⁴ extending from the cross-beams *f*¹ *f*², or from any other convenient part of the main frame.

The working mechanism of the loom is all supported upon a sliding carriage, the bed-pieces B B of which are channeled on their under side to fit over the rails *r'*. Each of these sliding bed-pieces or side timbers of the carriage is provided with a wide upright standard, *b*, to support the harness and the working-wheels of the loom, and one of the side pieces has a third standard, *b*², which, in connection with an arm, *b*¹, of the nearest standard *b*, serves to support the shaft and pulley P, by which power is applied to the loom, and also to support the outer end of a shaft, Q, which extends across the carriage and communicates such power, by means of pinions *p p*, to the mechanism of the loom. The two

sides of the carriage are connected and braced by an end cross-bar, *c*, and by a rock-shaft, C, having bearings in the upper ends of the standards *b*, and also by the frame L of the lay, the ends of which are provided with arms *l*, which extend into and move back and forth in slots *b*⁴ in the side pieces B, as shown in Figs. 2 and 3. The lay is operated by means of two pitmen, *l'*, articulated to studs on its ends and to wrist-pins on the outer sides of large cog-wheels A, driven directly by the pinions *p p*.

Vertical guides G G are affixed to the inner face of the standards *b*, in the grooves of which travel the ends of the heddle-frames *h h'*, as shown. From these frames depend adjustable bars *i i*, through the lower ends of which extend the warp-wires. The upper ends of the bars pass through a long slot in their respective frames, and are supported by pins extending through the several bars and bearing on the top of the frames. The bars can be thus adjusted laterally in either direction by sliding them along in the slots of their supporting-frames. One of the frames, *h*, is raised and lowered by means of connecting-rods *k* extending to arms *k*¹, which project from one side of the rock-shaft C, and the other frame, *h'*, is operated simultaneously therewith, but in opposite directions, by means of similar rods *k*² extending to arms *k*³ on the other side of said rock-shaft. The rock-shaft itself is oscillated by means of two pitmen, *d d*, which receive their motion from crank-shafts *d'*, driven by the large wheels A through the medium of two small pinions, *a a*, at each side of the machine. The reed consists of a series of upright bars, *m m*, arranged in a removable frame, *m'*, attached to the large frame of the lay by any suitable means. From one end of the lay rises a standard, O, through a slot in which slides a long rod or bar, O', having two shoulders or stops, *o o'*. The rear end of the rod O' is articulated to a lever, N, the lower end of which is pivoted upon a small shaft, T, which has its bearings in the standard *b*. To one end of the shaft is fixed a ratchet-wheel, *t*, which is operated by means of a spring-pawl, *n*, on the side of the lever N. To the other end of the shaft is fixed a pinion, *t'*, which gears with the rack *r*. As the lay moves forward, the standard O, striking against the stop *o*, draws

back the lever N, and sets the spring-pawl for action, and when the lay, in its reverse movement, strikes the opposite stop *o'*, it moves the pawl forward and turns the ratchet-wheel one degree, thus moving the cog-wheel *t'* one step on the rack, and thereby causing the weaving mechanism to recede one step farther from the cross-bar *w*². The woof-wires are applied by hand or by any suitable mechanism that may be capable of accomplishing the object, and as they are laid, one after another, the movement of the mechanism from the bar *w*², as described, exactly compensates for the gradual increase in the length of the wire cloth. The space between the woof-wires may be varied by varying the movement of the sliding frame on the rails *r r' r'*, and this may be accomplished in a variety of ways only necessary to be indicated to a skillful mechanic, such as, for example, by changing the size of the ratchet or gear-wheel, or adjusting the spring-pawl farther up or down on its lever and adapting its length to the new position, or articulating the rod N' to the lever at different points, or adjusting the stop *o* or the stop *o'* at different points along the rod N', &c. With any of these adjustments and a proper adjustment of the depending rods of the heddle the meshes

of the cloth to be woven may be varied at will.

I claim as my invention—

1. In a wire-weaving loom, the stationary frame for holding the warp-wires, a movable frame carrying the heddles and lay, and their operating mechanism, the combination of the wheels A A, pitmen *l' l'*, and lay, the said lay moving in guides in the frame, as and for the purposes set forth.

2. In a wire-weaving loom, having the sliding frame, carrying lay and heddles and their operating mechanism, the standard O in the lay, bar O' with stops *o o'*, lever N, and ratchet-wheel *t*, and pinion gearing into rack, all combined and operating as and for the purposes set forth.

3. In combination with the carriage moved upon its frame, and carrying lay and heddles, the pinions *a a*, driven from the shaft of the wheels A A, all having their bearings fixed in the sides of the frame, the pitmen *d d* moving the arms on the rock-shaft, and through them the pitmen which connect said arms to the heddles, as and for the purposes set forth.

CHARLES P. SEITZINGER.

Witnesses:

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