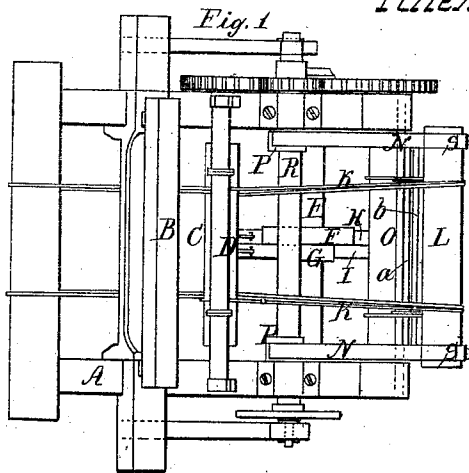
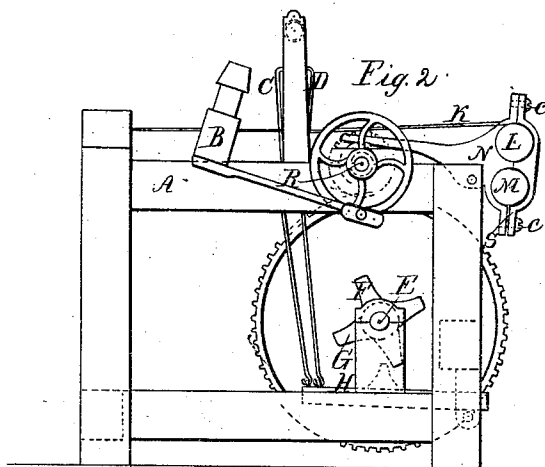
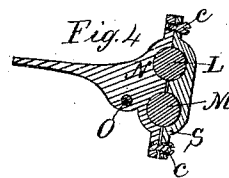
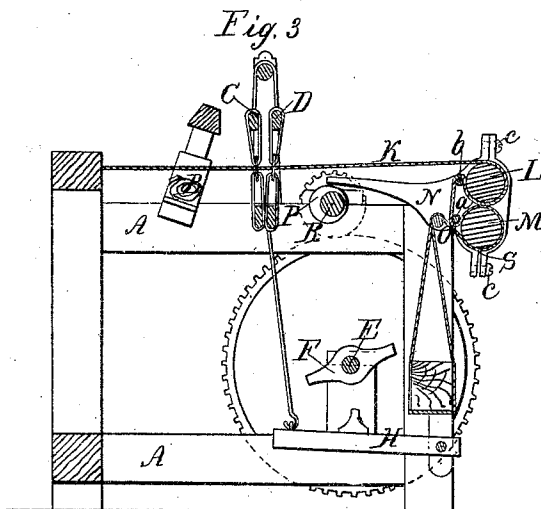


J. C. Cooke. Take-Up and Let-Off.

N^o 27,860.

Patented Apr. 10, 1860.



Attest

Cha^s C. Hubbard
Julius Hochstetler

Inventor

J. C. Cooke

UNITED STATES PATENT OFFICE.

JAMES C. COOKE, OF MIDDLETOWN, CONNECTICUT, ASSIGNOR TO RUSSELL MANUFACTURING COMPANY, OF SAME PLACE.

LOOM.

Specification of Letters Patent No. 27,860, dated April 10, 1860.

To all whom it may concern:

Be it known that I, JAMES C. COOKE, of Middletown, in the county of Middlesex and State of Connecticut, have invented an Improvement in Looms for Weaving Machine-Banding or other Textile Fabrics of Like Character; and I do hereby declare the same to be fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1, is a top view; Fig. 2, a side elevation and Fig. 3, a longitudinal section of a loom containing my invention. Fig. 4, is a vertical section of one of the rocking levers, its friction clamp or apparatus and the roller journals supported by the same, all of which will be hereinafter described.

In such drawings, A, exhibits the frame of the loom; B, the lay; C, and D, the harnesses; E, the main driving shaft; F and G, its cams, and H, I, the treadles operated by such cams, such treadles being connected to the harnesses in the usual manner.

The warps are exhibited at K, as extending through the harnesses and lay and passing around two rollers, L, M, one of which is arranged directly over the other and each has its journals supported by two rocker levers N, N, arranged at the rear end of the frame and in the upper part thereof, as shown in the drawings. The said levers turn on a rod or fulcrum, O, and have their front arms resting respectively upon two cams P, P, fixed upon the cranked shaft R, by which the lay is usually operated. The warp threads in their passage from the yarn beam are carried partially around the fulcrum rod, O, which serves as a guide to them. From thence they are passed underneath the lower roller, M; thence, nearly around such roller and toward and underneath a guide rod *a*; thence upward toward another guide rod, *b*, and thence underneath and partially around the upper roller, L, from which they continue toward and through the harnesses the whole being as shown in the drawings. In some instances, a single roller, L, instead of two or more rollers, may be employed in the rocker levers. I prefer however to use two and with them either one or two guide rods, *a*, *b*, these latter being extended from one lever to the other and fastened firmly thereto. Furthermore, to the journals of either or both of the rollers L, M, friction clamps or brakes, S, are to be applied. In the draw-

ings, these clamps are shown as constituting caps for the bearings of the rollers, each friction clamp being held to its lever by means of two screws, *c*, *c*, which serve to press it closely against the roller journals in order to cause it to produce the necessary friction thereon.

By the operation of the cams which actuate the rocker levers, the latter will not only be allowed to move on their fulcrums so as to slacken the yarn or warps while the harnesses are being changed but afterward will be moved in the opposite directions and maintained stationary, or comparatively so—in order that the slack of the yarn may be taken up, and the lay may properly beat the filling into the warps, the friction on the roller or rollers L, M, carried by the levers serving to prevent the warps from giving way more than may be necessary under the blows of the reeds on the filling.

I am aware, that a warp guide roller situated at the back of a loom has been supported in the upper arms of two upright levers, whose lower arms respectively carried toothed sectors made to engage with gears fixed on a shaft from which there was projected an arm carrying an adjustable weight; also, that the said shaft carried a wheel against whose periphery a brake was arranged, such brake being drawn against the wheel by the lay of the loom when beating up or driving the filling closely into the decussations of the warps, the whole being for the purposes not only of allowing the warps to give way, and maintain evenness of tension under the action of the harnesses, but to have their guide roller supporting levers maintained stationary during the beating up of the lay. I do not claim, such, my invention differing essentially therefrom for, although I employ one or more guide rollers supported by two levers, I do not apply to the levers any friction brake to simply hold them stationary at the period when the warps are strained lengthwise by the beating up of the lay, but I apply a friction apparatus directly to the guide roller or rollers themselves so as to hinder them more or less from revolving, and I operate their supporting levers by means of eccentrics or cams fixed either on the crank shaft of the lay or some other suitable shaft of the loom. Thus, by a positive or unyielding device I hold the levers firmly and sta-

tionary at the proper time and also allow them to move while the harnesses are being moved. In so doing, I avoid the liability of the force of the beat of the lay overcoming that of the friction of the brake when operating to hold the levers. I also gain other important advantages.

In weaving machine banding or textile engine hose, canvas, or very thick and firm fabrics it becomes necessary that the filling should be beaten into the warps very closely and with much force in comparison to what is usually required in weaving calico, ingrain carpeting or other fabrics whose texture is not required to be of so close a nature. Thus my invention is particularly applicable to and intended for looms for weaving

machine banding, cotton duck, or textile hose for fire engines.

I claim

1. The application of a friction clamp or apparatus to each or both rollers carried by the rocker levers and operating the said levers by cams substantially as described.

2. I also claim the combination and arrangement of one or more guide rollers, or rods, *a*, *b*, with the two rollers L, M, and their supporting levers, the same being to operate in manner as specified.

JAS. C. COOKE.

Witnesses:

CHAS. C. HUBBARD,
JULIUS HOTCHKISS.