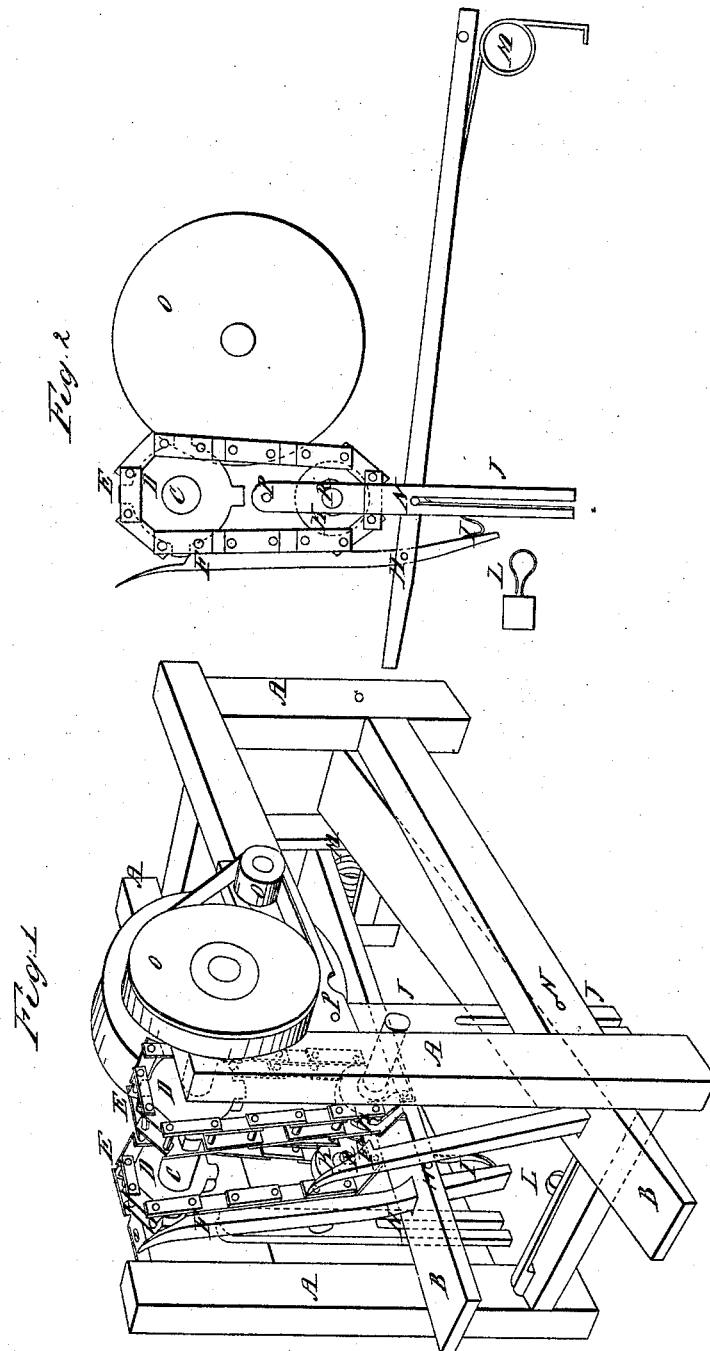


A. West,

Mechanical Movement.

N^o 1289.

Patented Aug. 16, 1839.



UNITED STATES PATENT OFFICE.

ANNIE WEST, OF GREENE, MAINE.

MODE OF DRIVING MACHINERY BY MANUAL POWER.

Specification of Letters Patent No. 1,289, dated August 16, 1839.

To all whom it may concern:

Be it known that I, ANNIE WEST, of Greene, county of Kennebec, State of Maine, have invented a new and useful Machine for
5 Propelling Machinery; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of
10 this specification, in which—

Figure 1 is a perspective view of the machine. Fig. 2 is a vertical longitudinal section at the line *x x* of Fig. 1.

Similar letters refer to similar parts in
15 the figures.

Figs. 1 and 2, letters A, A, A, A, the frame of the machine; B, B, the treadles or levers, on which the operator stands; C, the shaft on which the upper chain wheels are
20 placed; D, D, the upper chain wheels over which the chains revolve; E, E, the chains which pass over the wheels; F, F, the dogs which hook on the chains; H, H, the pins on which the dogs turn; I, I, the springs which
25 cause the dogs to hook on the chains; J, J, the side pieces, to which the axles of the lower chain wheels are fixed; K, K, the lower chain wheels; L, L, the springs which keep the dogs from the chains while the
30 treadles are down; M, M, the springs which raise the treadles; N, N, the pins which are fast to the treadles and play in a groove cut in the side pieces; O, O, the pulleys over which bands revolve; P, P, the pins on
35 which the side pieces vibrate; R, R, the axles of the lower chain wheels.

Description of my mechanical power.—

The frame A, A, A, A, I make of wood sufficiently strong for the work intended.
40 The treadles B, B, I make of wood and of such strength as not to spring while in operation. They are pressed downward by the weight of the operator, and upward by the springs M, M. The shaft C, on which
45 the chain wheel D, D are firmly attached, I make of good iron, and sufficiently large to prevent springing while the lever power is applied by way of the treadle. This shaft I place in different parts of the frame—generally near the center—accordingly as the
50 power may be designated for moving different kinds of machinery. It may be run on cast boxes or on friction rollers. The chain wheels D, D, I make of cast iron with projections to keep the chains from sliding, and
55 vary the size as I would vary the speed for

different kinds of work. The wheels I make fast to the shaft, C, directly over the treadles. The chains E, E, I make from iron plate cut in oblong pieces, with holes in each
60 end, which pieces constitute the side parts of the chain. The cross pieces I make of round iron, the ends of which are fitted to the holes in the side sections and when riveted make a chain resembling a ladder, which
65 is made to pass over the projections on the wheels D, D, or I have the side and cross sections made from cast iron, subsequently made malleable. The dogs I make of good
70 iron, having the top end—that part facing the chain—made hooking, so as readily to catch on the cross sections of the chains. The nose of the dogs I make sloping, so as to play up the chain easily. Near the lower
75 end I drill a hole through which the pins H pass and on which the dogs easily move when acted upon by the springs I, I, or L, L. These dogs may also be made of cast iron, afterward made malleable. The pins
80 H, H, on which the dogs turn, I make fast to the treadle, and they act as a fulcrum to the levers B, B. The springs I, I, I make of wire or steel and of sufficient power to move the dogs so as to catch at every section
85 of the chain, except when acted upon by the counter-springs L, L, which overpower the springs I, I while the treadles are down, and in this way there is but very little friction, while the operator is for a
90 time at rest, and less friction while the operator propels the machine with one foot, as the dogs on the treadle at rest is disconnected, by the action of the spring L, designed for that purpose. The side pieces J, J, I
95 make of iron or wood. I hang these pieces on the sides of the frame, by the pins P, P, on which they easily turn. In the lower part of these side pieces I make a groove, in
100 which the pins N play and vibrate the chain as the treadles move up and down and keep the chains in the best positions for the dogs to catch, and also keep a proper or necessary slack in the chain. Near one end
105 of these side pieces I firmly fix the end of the axle on which the lower wheels (K, K) revolve. The wheels K K, I use to keep the chains in the positions as before described. I make them of iron or wood. I use them
110 with projections like the upper wheels D D or the peripheries smooth. The springs L L, I make of wire or steel, and the action is described above as regulating the dogs. The

springs M M, I make of wood or steel. They serve to raise the treadles and may be placed in the most convenient place for that purpose. The use of the pins P P, which I make
 5 of iron, is described in connection with the side pieces J J. The pins N N I make fast on the side of the treadle facing the side pieces J J, and at such a point as will give the desired motion to the chain, by
 10 reason of the pin N playing in the groove or slot, as before more particularly described. The axles R R serve to keep the lower chain wheels in their proper position. The pulleys O O, over which I place bands and connect
 15 with such other machinery as I wish to give motion. Cog wheels are generally preferable, and I purpose generally to use them. I now apply this power for the threshing of grain, but anticipate the application to
 20 grindstones, turning lathes, small boats, silk manufacture, printing presses, rope and twine factories, and many kinds of domestic and farming purposes. It is superior to the crank, as there are no dead centers, and full
 25 leverage is all the time maintained, using the weight of the operator instead of his strength, which is believed far the most advantageous, saying nothing about the liberty of the hands of the operator to perform the
 30 work of another person at the same time he

propels the machine, which compared with the crank power is a great saving.

Operation: The operator places himself on the treadles B B and changes his weight from one foot to the other, and in this way 35 the up and down motion of the treadles communicates motion to whatever it may be connected and by using either foot the other being at rest, produces the same result and where little power is only necessary, as the 40 proper practical mode.

I do not claim as my invention the mode of applying manual power to drive machinery by means of treadles, as this has long
 45 been known and used, but

What I do claim as my invention and desire to secure by Letters Patent is—

1. The employment of endless chains, in combination with the dogs and treadles as a substitute for ratchet wheels as heretofore 50 employed, the whole being constructed and operating substantially as before described.

2. And I also claim the arrangement of the side pieces, in combination with the treadles and lower chain wheels for the purpose and 55 in the manner described.

ANNIE WEST.

Witnesses:

WM. P. ELLIOT,
 EDMUND MAHER.