2 Sheets—Sheet 1.

W. F. PERRYN.

Machine for Making Washboard Legs.

No. 197,891. **Patented Dec. 4, 1877**

Fig. 1.

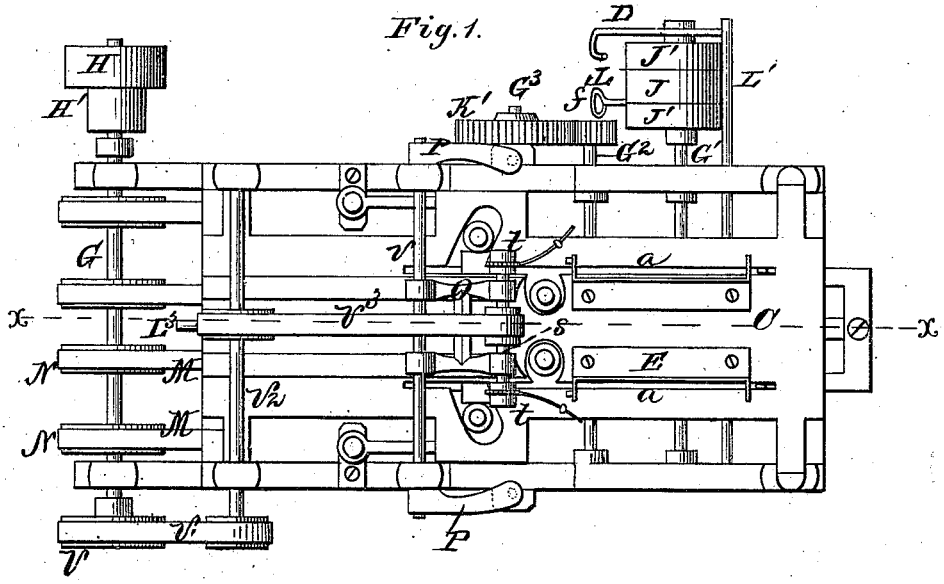
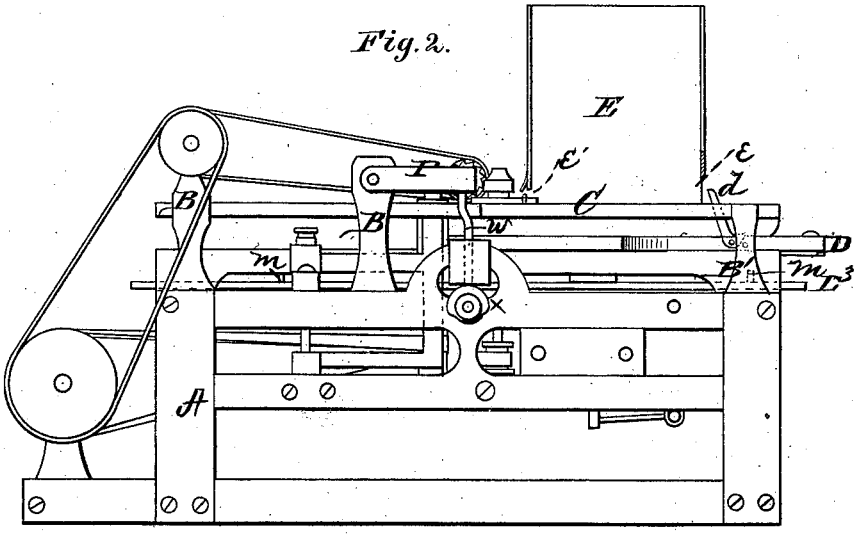


Fig. 2.



WITNESSES

Henry N. Miller

Frank Galt

INVENTOR

Wm. F. Perryn,

Alexander Mason

ATTORNEYS

2 Sheets—Sheet 2.

W. F. PERRYN.

Machine for Making Washboard Legs.

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Fig. 3.

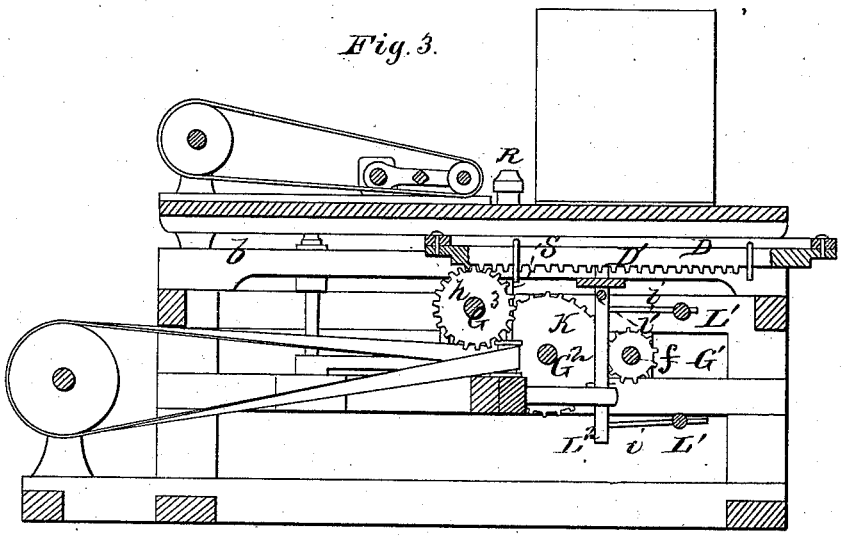


Fig. 4.

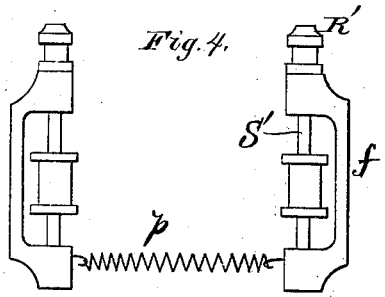
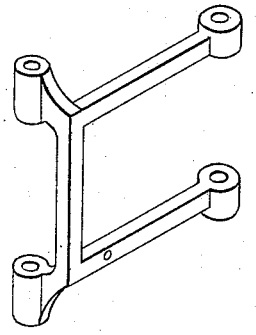
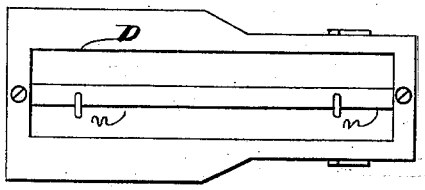


Fig. 5.





WITNESSES

Henry N. Miller

Frank Gall

INVENTOR

Wm. F. Perryn,

Alexander Mason

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM F. PERRYN, OF TOLEDO, OHIO.

IMPROVEMENT IN MACHINES FOR MAKING WASH-BOARD LEGS.

Specification forming part of Letters Patent No. **197,891**, dated December 4, 1877; application filed October 11, 1877.

To all whom it may concern:

Be it known that I, WILLIAM F. PERRYN, of Toledo, in the county of Lucas, and in the State of Ohio, have invented certain new and useful Improvements in Machines for Making Wash-Board Legs; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a machine for making legs for wash-boards, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a plan view, and Fig. 2 a side elevation, of my machine. Fig. 3 is a longitudinal vertical section of the same. Figs. 4 and 5 are detailed views of parts thereof.

A represents the frame-work of the machine, constructed of metal or wood in any suitable manner to contain the various working parts.

On and projecting above the frame a suitable distance are four standards, B, to receive two cross-shafts, hereinafter described. At the front end of the machine, on the top of the frame, are two shorter standards, B′, to support the front end of the table or top plate C of the machine.

The main drive-shaft, which receives the pulleys from which all the working parts of the machine are driven, is placed in the rear of the machine, and may be made as a part of the same, or set upon the floor entirely separate from the machine, and a shaft extending a suitable distance beyond the sides of the machine to receive certain pulleys hereinafter mentioned.

The top plate or table C is fastened to the standards B B′ a suitable distance above the top of the frame, and is made of sufficient width to receive the legs in the rough, and also to allow sufficient room for the guides and cutter-heads to work. It extends the entire length of the frame A, and is provided with suitable holes for the cutter-heads to pass up through. It has also two openings or slots, *a a*, cut from near the front end, about two-thirds the length of the plate in a straight line, to allow the automatic dogs *d* to pass through in feeding the work.

Upon the top of the plate or table C are placed two hoppers or receivers, E E, for the legs or pieces to be worked in the rough, and in which they are piled one upon the other.

These hoppers may be of any suitable shape or size to suit the work being done. An opening is left at the bottom in either end of the hopper, the one, *e*, nearest the front end of the machine being of sufficient size to allow the spring-dogs *d* to pass through, while at the other end the opening *e′* is made large enough for a piece of the work to pass out, the under one being taken each time, and those above dropping down and taking its place as soon as one is drawn out.

Below the top plate C, in the main frame A, are two parallel longitudinal ways or guides, *b b*, upon which moves a carriage, D, in a true line forward and backward, said carriage being about two-thirds the length of the main frame. To this sliding carriage, near its forward end, are attached two automatic spring dogs or catches, *d d*, which pass up through the slots *a a* in the top plate; and as the sliding carriage is propelled forward these dogs or catches each strike the end of a rough piece placed in the hoppers E, and propel the same forward past the knives and cutters; and when these pieces have passed and are finished, and the sliding carriage is being returned for others, these dogs or catches, as they strike against the sticks in the hoppers, press down and pass under said sticks. As soon as they pass to the forward end they again spring up as the carriage begins its forward motion, and so on.

To the bottom of this carriage is attached a rack, D′, into which a suitable gear or pinion works to give it its motion.

The sides of this carriage may be made of any shape desired to have the work made, or they may be so arranged as to be removable and any number of different shapes substituted.

Motion is communicated to this sliding carriage by the following means: The main driving-shaft G has on one end a double pulley, H H′, one larger and the other smaller, from which two belts communicate motion to a

shaft, G^1, near the front end of the machine. The belt I is straight and the belt I′ crossed, to give the carriage the backward and forward motion, and also that the return or backward motion of the carriage will be more rapid than the forward. These belts drive onto a tight pulley, J, and a loose pulley, J′, on each side thereof on the shaft G^1, which shaft is also provided with a pinion, *f*, working into a gear-wheel, K, on a shaft, G^2. This latter shaft is provided with a second pinion, *f′*, which meshes with a cog-wheel, K′, on still another shaft, G^3, and this shaft is provided with a gear-wheel, *h*, working into the rack D′ on the under side of the carriage D.

The device for shifting the belts consists of two hooked arms, L L, attached to laterally-moving rods L^1 L^1. These rods are, by arms *i i*, connected with a vertical rocking shaft, L^2, which is provided with another arm, *i′*, connecting it with a longitudinal rod, L^3. This last rod is, near each end, provided with a pin or lug, *m*, and on the under side of the carriage are suitable stops *n n*, the whole being so arranged that when the carriage has moved just far enough in a forward direction the stop moves the shipper which shifts the forward drive-belt off and the backward belt onto the tight pulley J on the shaft G^1, and the carriage is returned, and when it arrives at the proper point the trips again come in contact, and again shift the forward belt onto the tight pulley, and so on, making any number of strokes or motions per minute.

Four upright spindles, S S and S′ S′, are provided, extending from steps below up through the top plate C a sufficient distance to attach suitable cutter-heads or knives. The spindles S S are held in one position, while the spindles S′ S′ are held in swinging frames F F, and are so arranged as to run out and in to suit the work required to be done.

The two fixed spindles S are placed upon the inside of the machine, in such a manner as to dress the backs of the pieces being run as they pass through the machine by the cutter-heads R R, secured on the upper ends of said spindles.

The two movable spindles S′ are placed in the swinging frames F, which are hinged to the side of the main frame, the hinges being a greater distance apart than the spindles, so that the belts for rotating the spindles tend to hold them up to the work. One or more suitable springs, *p*, are connected to the frames F in such a manner as to cause the spindles to follow the uneven line of the edges of the sliding carriage D. These spindles being thus pressed against the edges of the sliding carriage, it will be seen that the cutter-heads R′ on said spindles may be moved out and in to suit the unevenness of any work required to be done, by simply placing a pattern of the required shape upon the edges of the sliding carriage. These spindles are driven by belts M from pulleys N on the main driving-shaft G.

Over the top of the machine is a horizontal spindle, *s*, carrying a cutter-head or saw, *t*, on each end. This spindle is hung in a swinging frame, O, the hinge-rod *v* of which passes the full width of the machine, and is provided with an arm, P, at each end. The ends of these arms rest upon rods or studs *w w*, which work in suitable boxes, and have their lower ends resting upon cams *x* secured on the shaft G^3, so that as this shaft revolves the cutters upon the spindle *s* are raised or depressed, as desired, and in exact line with the motion of the carriage, whereby grooves may be cut or the surface planed either straight or over irregular surfaces or a portion of the length of the piece, as may be desired.

The spindle *s* is driven from a pulley, V, on the end of the main shaft G, by a belt, V^1, connecting with a pulley on a counter-shaft, V^2, and this shaft is, by a belt, V^3, connected with the spindle.

The lumber to be worked into wash-board legs is planed on an ordinary planer on the sides. It is then sawed into strips of suitable width, after which they are placed in the hoppers of the above machine.

This machine is, however, also adapted to many other kinds of irregular planing.

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

1. In a machine for making wash-board legs, the hoppers E, provided at their ends with the openings *e e′*, and arranged over the slots *a* in the table C, for the purposes herein set forth.

2. The combination of the table C with slots *a*, the hoppers E with openings *e e′*, and the automatic spring dogs or catches *d* on the reciprocating carriage D, substantially as and for the purposes herein set forth.

3. The belt-shifting devices L L^1 L^2 L^3, with pins or lugs *m m*, in combination with the stops *n n* on the reciprocating carriage, all constructed substantially as and for the purposes herein set forth.

4. The combination of the fixed spindles S with cutter-heads R, the spindles S′ with cutter-heads R′, mounted in the hinged frames F, and the horizontal spindle *s*, provided with saws or cutter-heads *t*, and mounted in a swinging frame, O, all arranged to operate substantially as and for the purposes herein set forth.

5. In combination with the hinged frame O, carrying the horizontal spindle *s*, the rod *v*, with arms P, the pins or studs *w*, and the cams *x* on the shaft G^3, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of September, 1877.

WILLIAM F. PERRYN.

Witnesses:
A. T. BARNES,
S. P. C. HOSTLER.