No Printed Specification Available.

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Goodell & Harvey

Loom.

Patented Dec. 2, 1835.

Fig 3

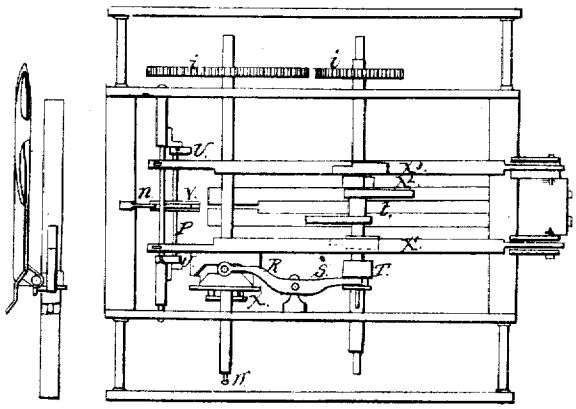
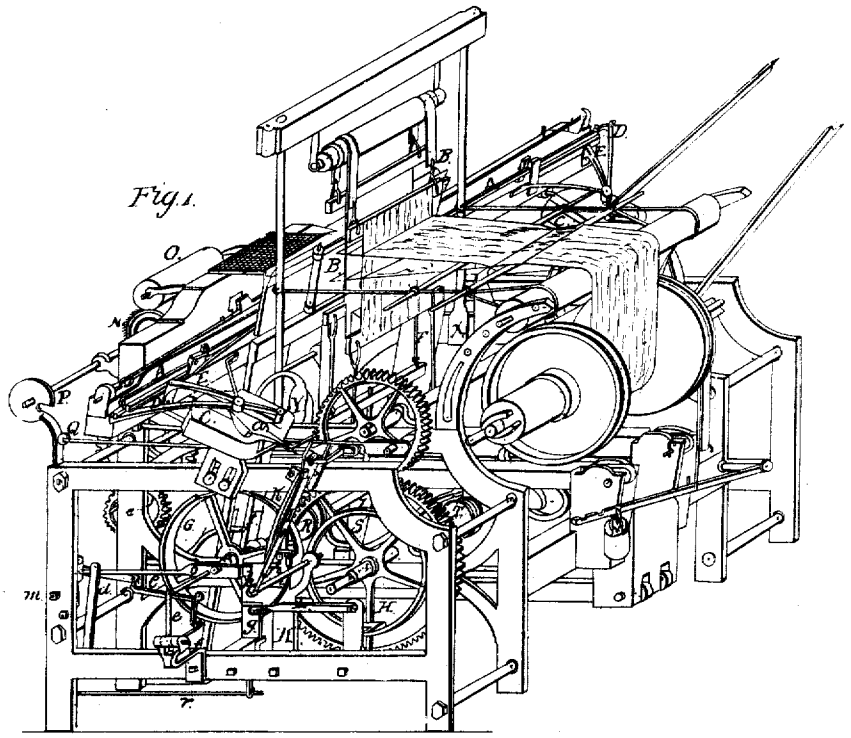


Fig 2.

Fig 1.



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Frederick Goodell (and) Thomas W. Harvey of Pamapo New York

Letters Patent.

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Frederick Goodell and Thomas W. Harvey themselves of their Improvement in the Power Loom for weaving Stocks Frames and for other purposes.

To all to whom these presents shall come. Be it known that We Frederick Goodell and Thomas W. Harvey of Pamapo in the County of Rockland and State of New York have invented a new and useful improvement in the power loom for the purpose of weaving bristles hair or whale bone splints into a web of cotton linen or silk yarn used for making stocks and the foundations of Neck Stocks called "Stock frames," and also for weaving such like materials or straw into a web for other purposes than Stocks or Stock frames and the following is a full and exact description thereof. First to a common power loom having a suitable frame yarn and cloth beams, take up and stop motions, lathe reed shuttle crank and cam shafts harness or headles, heddle eams and picker fixtures drawing pullies a pair of cog wheels connecting cranks and cam shafts, comb and crank arms whip roller &c. The same substantially as are in general use in the common power loom for weaving plain cloth with the exception of comprising the width of the loom to twenty inches or thereabouts between the frames we have suspended an apparatus for placing the Bristles into the web by forceps or pincers a plain being placed on each side of the web back of the race board between the range of the shuttle and the reed. Secondly an apparatus for measuring the length of the Stock frames by stopping the bristle forceps after weaving 13/8 inches (more or less) Bristle cloth, and then starting in motion again after weaving 3/8 inches more or less.) of plain cloth without bristle filling. Thirdly, an apparatus for changing the movements of the pickers from a shot of the shuttle with thread filling every stroke to one in two strokes of the lathe while weaving bristle cloth, to wit, a shot of thread filling and a shot of bristles alternately but pickes every beat of the lathe while weaving plain cloth without bristles. For a description of which reference is had to the drawing annexed A. A. Fig 1 Bristle forceps or pincers attached to the lathe and move

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with it (see pinions on sectional drawing Fig 3.) BB. Fig 1. Bristle bows attached to the Lathe. FF. Fig 1. are sides to which the bristle bows are attached and extend down to the bottom of the Lathe work being connected thereto and works on the transverse cam. UU Fig 2. DD Fig 1. levers working in the transverse and straight grooves (opened by switch a) at one end and connected at the other end with the bristle forceps and sustained at the fulcrum by an arm EE. attached to the Lathe bb. Fig 1. switch stands. G Fig 1. is a transverse cam on front shaft. L Fig 2. the circle of this cam is depressed 3/4 of an inch 1/4 of the circumference of the cam. the remainder of the cam is full working against the end of the plunger f. and gives motion to switch a. A similar cam is placed on the end of said shaft on the opposite side of the loom. H Fig 1. is a similar cam on the back or cam shaft with this difference. the depression is one half the circumference of the cam, its use the same but being twice the speed of cam G. on front shaft it changes the switches two to one and directs the movement of the bristle forceps accordingly. L Fig 1. is a spring fastener having two holes to fit upon a pin in stand K. one of the holes directs the plunger f. to the cam H. the other hole directs the plunger f. to cam G. K Fig 1. is a connecting lever between plunger f and switch a and is attached to a stand K fastened to the outside frame piece. the lever is thrown out from the frame at top by a spring M. Fig 1. N an index cam. A similar is at the other end of the shaft. N. Fig 1. is an index Roller over which the web passes and is in part the length of a stock frame O. Fig 1. P a top roller of metal to secure the cloth from slipping on roller N. P. Fig 1. is an arm held up to cam M by a small spring (not shown in the drawing back of the outside frame and moves on point at 2.2.2. Q Fig 1. is a rod affixed to arm P. on the other end of said Rod is a dog fixture which when the arm P drops in to the indentation in the cam M. is brought forward outside of lever D and drops it and serves to hold open the straight groove of switch a. and stops the motion of the bristle forceps and determines the length that bristles are to be worked into the stock frame. R Fig 1 & 2 R a changing cam having a sliding piece so constructed as to open a straight and a zig zag groove and

working the clutch lever S. working in clutch T. which clutch connects by sliding Rods t. t. fig 2. with the picker arms x x x. W. Fig 2. are cams on barrow shaft P. in the shape of hearts. having their eccentrics placed on the shaft. the one reversed from the other and working against the end of slides F F. Their use is to harrow the bristle boxes up and down in order to distribute the picks of the bristle pieces uniformly out of the bristle boxes. V Fig 2 is a ratchet wheel on the same shaft and is moved by the stationary spring 12. fastened to the lower end rail and falling into the notches of the ratchet wheel when the lath is thrown back. and moving the barrow shaft when the lath beats up. O Fig 2 is a shaft called barrow shaft fastened by bearings to the lower part of the lathe. M. Fig 2. is a slide bolt on the shaft S. and reaches to a crank bar X. which passes through the end of the bolt and is mortised in the shaft. C. Fig 1. is a support. fastened to the inside frame. and the switch stand and bracket a to allow the crank arms to play freely. D. Fig 2. Is an extra shaft connected to the back cam shaft by cog wheels i i and is two to one slower than the cam shafts. b Fig 1. is an arm affixed by a pivot on the inside of the outer frame and is held in by spring d. and connected with elbow e and slide bolt W. b Fig 1. is an arm affixed to arm O and connects to elbow e and serves to draw out the bolt W. when the arm O drops into the indentation in the index cam M. and opens the straight groove arm R. Fig 2. h. fig 1 is a latch held forward towards the arm a by a spring on stand g. and is connected with the arm O. by the rod n. by passing through a hole in the lower end of latch h. and is secured by a screw nut. When the arm O drops into the indentation in cam M this latch falls back of the arm b and holds it till the arm O is thrown back to periphery of the cams W by the passing of the web. when done the spring d slides the bolt W. and opens the zig zag groove in cam R Fig 2 and exchanges the motion of the shuttle from one to two to wit. a shot of the thread shuttle every other beat of the lathe.

Use and operation. This loom comprehends what we term a plain and complex loom. By taking off the screw nut on rod n. Fig 1. which connects it with latch h. the loom is plain in which case the slide bolt W is constantly drawn out by latch h. and the straight groove is held open and the shuttle is kept going every beat of the lathe. By connecting them the complex

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loom is constituted whereby the zig zag groove above described is opened and the shuttle motion is changed from a pick every beat to one every other beat of the lathe during the space the loom is weaving bristles into the web and then changing to a pick every beat of the lathe while the bristle forceps are at rest. The zig zag groove is formed to open 3/4 of the circumference of the cam R. the remainder of the circle is stationary so that this shaft being two to one slower in movement than the back or cam shaft moves the clutch T Fig 2. which connects with the three picker cams X.X.X. by the slide rods t.t. in a manner for the cams to move the picker treadles alternately first one and then the other. The picker cams are easily affixed to the slide rods t.t and held upon a feather affixed in the cam shaft. The cams marked 1 and 2 have their eccentricities alike and are directly opposite to the one marked 3. The switches s.s. swing on a pivot and when thrown inward open a transverse groove into which the lever D works and throws forward the forceps. When thrown outward a straight groove is opened and the forceps are at rest. The movement of the switches is indicated by the cams G.G. and H.H. Fig 1. When the plunger F is set to cam G the straight groove of the switch is open 3/4 and the transverse groove is open 1/4 of the time. By crossing this cam G. to the one on the opposite end of shaft L Fig 2 a motion will be given to the right and left hand forceps alternately missing one pick of bristles every other beat of the lathe. or if the cams G are set to agree with each other both forceps pick at the same time at every fourth beat of the lathe. When the plunger F is set to cams H the same effect is produced in every respect with the exception of doubling the frequency of the picks of the forceps the cam shaft being two to one in speed of the shaft L. Fig 2.

Operation of the Bristle forceps — When the lathe is thrown back and the fingers are shot through the web into the bristle trays the button w. Fig 3 strikes a propelling piece and turns the button from its seat against the lower arm of fingers marked V. Fig 3 when the spring part of the forceps marked y shuts and seizes the bristles whereupon on the return of the lathe to beat up, the forceps are brought back with the bristles till their tips have reached the opposite selvage of the cloth when the lower arm of the forceps rises on to a regulating piece and forces them open when they drop the bristles

which are caught by arresting the shade of the web at that instant the forceps being carried still further back until the bobbin is turned into its seat again by abutting against said regulating piece That part of the forceps marked w. Fig 3. keys into the slide piece Z and serves as a standard for the forceps and prevents their points from entangling in the web by projecting beyond the point of the forceps. The slide piece Z is seated upon the race board of the batten and is connected with lever D. Fig 1. The forceps and the shed. the pass through the web at the same instant and in different ranges from each other in such a manner as not to interfere with each other. each Bristle box is set so as to give to its respective forceps a space of two inches being open to receive them the capacity of the boxes being 3/8 of an inch thick and as high as desirable. and as long as the bristles. the bristles are kept down by placing small weights of the calibar of boxes over them. What we claim as new and desire by Patent is. First the manner of working the bristle forceps and their connexion including their combination with the switches a. a. and frames. cams G and H. Secondly the manner of traversing the bristle boxes. Thirdly the manner of changing the motion of the shuttle and its connexion with the index cams K. Fourthly the manner of measuring off the length of the stick frame. by the operation of the loom as combined with the changing motion of the shuttle in claim third and in connexion with the index roller and cam with the stop rod Q which drops the switches. Fifthly the use of two pair of bristle forceps to a loom a pair on either side of the web. by which the bristles are placed butts and flanks alternately into the web. Sixthly the manner of protecting the points of the bristle forceps by the projecting piece marked w. Fig 3. it being longer and broader than the points of the forceps. and Lastly to the general arrangement of the above claimed parts in its adaptation to a common Power Loom

Witnesses
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(Drawing)