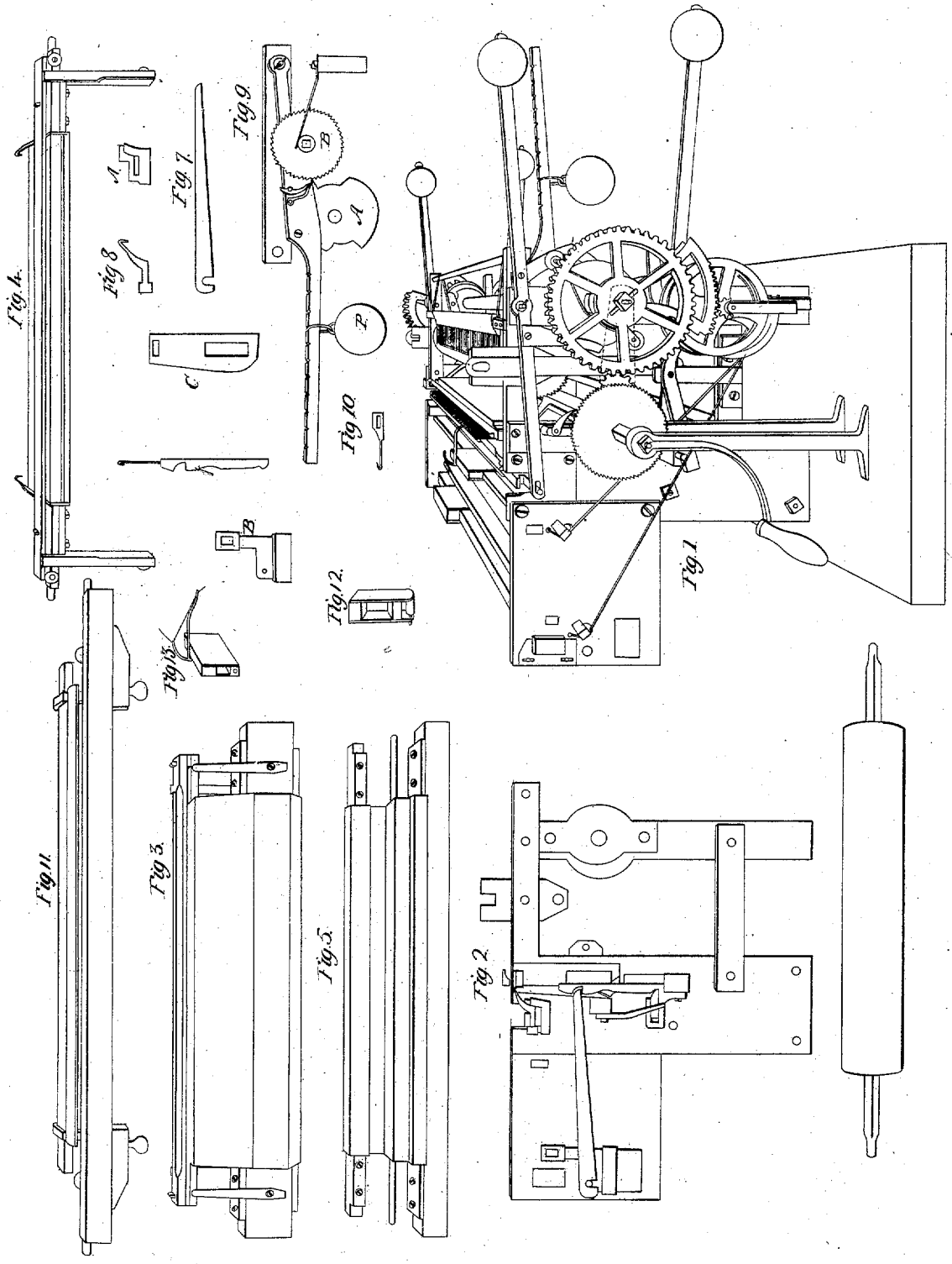
2211X

J. Bazin, Jr.
Knitting Mach.

Patented Oct. 28, 1814.



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

Oct 28, 1814

2211X

Letters Patent

To all to whom these Letters Patent shall come or may concern Know ye that I John Braun of the City of Philadelphia in the State of Pennsylvania Gentleman have invented and discovered a new and useful Improvement in the Steering Gear



This Improvement in the Steering Gear consists of a Frame and Steering Wheel constructed according to the following description. A Block formed by a Plank of Sound wood 2 feet long and 9 Inches wide having 4 Legs 18 Inches in height, a Frame 22 Inches wide and 18 Inches high fastened on the top of the Block. The front Standards of the Frame 2 cast Iron Plates 11 Inches wide and 18 long 1 Inch & 3 Horizontal Bars long in proportion 22 Inches long 1 Inch & the bottom Bar one in the middle) Bars Straight Bars and fastened by a nut and screw at each end at the top of the Standards screwed on the inside a hexagonal Iron Bar of 9 Inches long & one 3 Inches from the bottom 7 Inches long. The back Standards cast Iron Plate 1 1/2 Inch wide screwed on the long Standard to the front Standards 4 1/2 Inches from them having on the edge towards the front a Circular depression and on the back edge 3 Inches from the top a notch 1/8 Inch wide cut in as far as the center. A round Iron Pillar 21 Inches long passing through Mortises in the top Bars and fastened by a nut and screw at each end. At the top of the front Standards screwed on near the edge a cast Iron Plate 6 Inches wide 9 in length 6 Inches in front on the top Bar one Iron or Brass Plate about 2 Inches wide and 4 Inches long screwed on between the Standards having a pivot at top and a round hole 2 Inches below the top of the Bar, an Iron axle 1/4 Inch diameter the pivot turning in a Brass Plate screwed on the back Standard over the notch projecting and at each side of the frame about 3 Inches and supported. The axle of the cog on the right side of the frame rounded 2 Inches in length. On the right side of the frame a cast Iron Standard 12 Inches high screwed on the Bench having an Iron axle 3 Inches long with a hole in the end through which the end of the large cog passes. A Standard 12 Inches high screwed on the Bench opposite the Wheel. One cog the proper size to

on the standard having a pinion on the end inside the frame & another about the
middle the two standards on the left of the inner standard a click to prevent the
axle from being turned backwards on the large axle a ratchet wheel working there
in, on the end of the arm and a pinion on an axle between the ratchet on the
large axle and the pinion on the axle, & winch on the other end of the small
axle, the axle being turned by the winch the pinion on the end turns the pinion
on the arm of the standard and the ratchet on the large axle. the large axle
makes one turn to four of the small axle. across the frame having the ends
fixed in the front standard 2 inches from the left 2 polished steel bars the
least smaller 3/4 of an inch apart one in front of the other. the front bar half
the width of the back: a slide between the bars formed by two plates of case
hard steel cast in lead about 1/2 inches wide the ends of both plates and lead
cast in lead together by iron or brass plates 3 inches long rounded the
left end of the bar at each end, the steel plates made as the space between
the bars: in. long high: on the left of the frame the lead cast on the steel plates
carries the under side. back and left of the bar having a perpendicular open
ing between each plate for the pulley to move in. through the left of the slide
1/8 of an inch from the upper edge an oblique 1/8 of an inch long across the left
of the slide and 3/8 of an inch wide: at each end of the slide pieces on the
bar a piece of brass or iron of the same form to prevent the slide coming from
being. a steel plate screwed on the outside of the front standard at the left
having a pin at the left 1/8 inch thick 4 corresponding groove in the slide
and 1/2 an inch wider toward the front. a steel bar called the lock
bar fixed having a stop the same in the grooves in the steel plates projecting
rather 3/8 of an inch at each side and turned round at the ends on
the upper side of the bar at each end a piece of iron or brass 3 inches long
and on the inside side a perpendicular guard formed by a piece of iron bent right
angular one side screwed to the bars by 2 screws passing thro' the pieces of
iron on the left the other side of the angle about 1/4 of an inch from the standard.
on each end of the bar and guard a pinion working against them
side of the standard. the end of the guard next again a pin screwed into the
standard. mark. On each end of the bar in front of the slide a spring one end
pressing against the left bar the other end against the end of the guard.

& Plate formed by three plates of polished steel one end of the same thickness as the needle plate & fixed on the locking bar. The steel plate on the outer end of the bar about 1/8 of an inch wide and the end of the top part of the needle 3/8 an inch wide. The ends of the plate except the under side of the bar rivetted towards the needle as hinge at the top of the steel plate. The guide and plate on the ends of the bar holds the plate together. The bar carrying with the same one front, one over the other the ends formed as the plate on the front standards. The locking bar 1 1/2 inch wide and 1 inch thick. The upper part 1/2 an inch wide and 3/8 of an inch thick. Planed 3 inches above and on the inner edge of the under bar. It slides on the bar formed by three plates of polished steel each on ends of the same thickness as the needle and locking plate ends: the plate in form a right angle one side 1/2 one inch wide. the other one inch wide. on the end of the narrowest side of the angle is bent and a hinging to hole thro' to fit the upper bar. along the outer edge of the wide side a bead cast on about 3/8 of an inch wide resting on the under bar. near the end of the widest side of the plate a round hole one quarter of an inch diameter. The plate pieces fixed together by brass & iron plate screwed on each side of each end of the bent bar and on the top of the under bar. A round steel axle 2 1/2 inches long passed thro' the holes in the plate and through the ends of the forms for the locking to work upon. A needle (similar similar to a needle in a common stocking loom) about 2 inch 1/2 long having a bent in the down leg to the front of the eye cast in a bead or collard in a steel plate 1 1/8 inches long and 1/2 an inch wide. in back needle plate in the front edge a groove. above the spring a notch 1/4 of an inch deep & 1/4 of an inch from the bottom a notch 1/16 of an inch deep. The needle fixed between the plate and the spring pressing against the front bar holds it by and sliding freely up and down. The sinker plate of steel about 3 inches long 3/16 of an inch wide at one end and 1/16 of an inch at the other at the largest end a notch 1/16 of an inch wide 1/8 an inch deep. The sinker passed through the plate. The small end between the needle plate and lapping in the notch at the back of the needle head and the notch at the large end on the side on the sinker plate. A bent bar (similar to a latch in a common stocking loom) about 3 1/2 of an inch long having

to the belong the frame of the slaves of the frame and in a bed and part be
tween the slave on the back bar the bed a little under them the slave
plate and formed to fit the shoving between the needle bar the tackle
precisely above the edge and end of the slave towards the needle. the
tackle shoving down the bed and bed down against the
face of the needles. the point entering the slide the top of the conductor
needle from the eye of the needle, and bent down towards the point. the
tackle bed in the slave by an iron bar laying on top of them and fastened to
the tackle bar by a thumb screw at each end. the holes at the ends of the
bar not long that the bar can be taken off without drawing out
the screws. on the front of the guides of the tackle bar a piece of iron
with, projecting above to prevent the top from passing against the second
the top of the groove in the steel plate at the top of the standard a notch about
the of an inch deep the tackle bar when moved up is kept into it by the spring
so that the point may stand clear of the needles. on bar called the gage
an of inch long passed thro the slave back of the needle. leaving of an inch
space between them & the bar. on the top of the slave a bar called the stop
bar to hold down the stocking piece when the needles are up fastened to the gage
bar by a thumb screw at each end. the holes in the stop bar oval lengthwise
so that it can be taken off without drawing out the screws. a spring
screwed on each end of the slave bar. the end resting against the gage bar
inside of the former on the large axle a solid wheel of brass or iron 3 inches
diameter having five notches in the edge about of an inch deep and the
of the circumference of the wheel in length. a square iron rod called the
lever axle. the spring cams resting on a steel plate screwed on the outside of
the standard back of the needle slave bar. having one cam long enough
long screwed on at each end sealing against the gage bar, the other
6 inches long screwed on the end. having all the needle plates resting on the
edge of the wheel on the axle. the axle pushes forward the gage bar against
the needles by the wheel raising the plates on the small of its neck. holds it
against them which they are raised up and the tackles come down and take
up the loops. the notches in the wheel there raising under the plates on the end
of the cams. the springs push back the gage bar. a cylinder of wood 9 inches
long

and Spindles Examined correct each Machine having an over-shot wheel three feet
Diameter working between the Legs of the frame, on the Right hand side on the
end of the Cylinder a Catch wheel, inside of the frame on the Large axle an Iron
wheel of Cast Iron Spindles diameter having a notch in the edge on each
side of the Barrel 7/8 of an inch wide Eight and a half inches at the Base. The iron
Lever 15 inches long resting on a pin at the end of the Leg bar round the
small Standard and laying to receive the Catch wheel on the Cylinder
and the wheel on the Large axle having a Catch to catch in the teeth of
the Catch wheel on the Cylinder. a Wrought weight and notched in
the upper edge like a Steel yard and a pin in the side to rest on the
wheel on the Large axle so that the notches the wheel Governs under the
frame the Large pulley on the Cylinder: The notches in the wheel to be
placed that the Cord pulley when the Lever rests Sufficient Pressure the
Large bar against Thimbles. On the Cast bar a Spring screwed on the
end resting on the axle of the Cylinder to prevent it from running (wa
when the Lever rises off. A movable iron bar resting at the middle on the
Leg bar of the frame. Having at each end on the inside a notched Slide
a Piece of Brass 2 1/2 inches long Screwed together by 2 Screws pass
ing thro the bar: On the bar as many Carriers as there are needles in
the frame and so placed in that the bar being brought forward to thimbles
the Carriers between them meet on the edge of the bar. The carriers
for needles (similar to the working needles) 1 1/2 inch long cast in a Cast
Steel Catch as the Cast bar. having a hole through it to get the bar.
on each end of the carrier bar. a chain passed over the pillar of the frame
and fastened to a Hook at each end of the Cylinder. At each side of the
frame from the outside on the Large axle a Steel wheel of Brass or iron
to Examine having 4 Spring placed at equal distances on the surface 1/4 of
an inch from the edge two on each side. one The Wheel first Secure
on the Small Standard: The iron Lever 15 inches long working
on the pivot having an oblong hole at one end two inches from end of the
Cast bar bar Brass and a Brass or leaden Ball on the other end to counter
poise the Leather bar. On the inside of the Lever a piece of Steel 3/4 inch
Cog screwed on between the Ball and Ball. The end laying against the

inner surface of the stock. The bar on the head striking the end comb of the bar and the tickler bar. On the outside of the bar a piece of steel 3 1/2 inches long screwed on between the anvil & tickler bar. The end bar up against the outer surface of the stock. The bar on the head striking the end comb of the tickler bar. The ends of the bars to the end that the operation of raising or falling is performed to be the width of the bar of iron. The tickler bar rises or falls 1/4 of an inch of the axle. And the points of the tickling enter the slots in the needle about 1/8 of an inch above the edge of the face and pass down between it. Under the needle bars a green tree cast standard 12 inches high 4 3/4 from side. A bar called the needle lifter bar an inch wide, 1/2 the frame in the grooves and projecting out at each side about an inch having a round piece in each end. On each end a wooden roller working against the inside of the standard. A bar called the catch bar to which the needles hold when sunk down by the cylinder at the bottom of the plate. 18 inches long, round above and flattened to the lifter bar to which it is screwed with two staples and bent down and screwed on the front side of the lifter bar. The catch bar lays on the lifter bar so as to bring the edge within a sixteenth of an inch from the inside of the front bar of the needle plate. The edge sloped from the top to the under side having a notch about 1/8 of an inch deep. A piece of steel wire 3 inches long screwed on the front bar of the needle plate rises each end inclined down to the lifter bar and passed into the notches in the catch bar. On each end of the catch bar a spring passed thro the staples pressing the bar against the inclined piece under the needle lifter bar. At each end a regulating screw formed with a piece of iron about 3 inches long having an eye at one end and fastened to the bar by a thumb screw passed thro the eye & the bar one end sloped to rest on the bottom of the groove in the standard. An iron standard 3 inches high screwed on the inner bar on each side of the frame. Cast at the following distances from the centre of the cylinder as far as the end of the lifter bar. 1 Iron 9 inches long at each side of the frame fastened on the standard of the stocking frame to which the lower feeders are fixed with two

the ends of the Main Bar. The other long bar is the large axle bar. It is
similar to the main bar, but is longer. On the large axle bar are the large axle
bar. On the large axle are the large axle ends of the frame to
move about, extending off about 3/4 inches from each side of the centre
of the axle & having small rollers at the ends. The rollers work in the grooves
in the cylinder bars & slide along as the cylinder moves. The cylinder bars
centre of the bars. Above the reading office bar which the axle passes
about 11/2 of an inch from the bar. The cylinder bars are held in place by
the reading office about an inch. The catch bar is above the reading office
reading plates by sliding against the inclined ends. The lifter bar slides
the ends of the same ones are the head or catch on the bars and the catch
bar comes in over the bar. A bar lying across the frame over the cylinder
& the reading plates through a groove in each side plate and projecting out
1/4 of an inch a regulating gauge at each end of the bar formed with a flat
steel plate having a notch cut in the bar. and the long groove has a
recessed to the side of the frame by a flat headed screw passed through
groove in the bar. an iron frame or slide having friction rollers to work
upon the under side of the bar at the bottom of the frame a roller about
1/2 an inch diameter to work upon the sliders and under the reading plates
down to a roller and frame in the common stocking form. A bar lying
across the frame the small plates 1/2 an inch from the left between the end
a slide and locking bar passes out at one frame or slide called the
frame. On left of the frame a piece of steel screwed on the end
touching the point of the reading having a piece of steel in it about 1/3 of
length raised an inch above at the end. Into the end of each of the
little pieces of steel for the thread to work in. on the outside of the frame
at each side under the ends of the large axle. Two circles about 1 inches
diameter having a groove round them. and a pinion on the centre
with 12 leaves. and working in an axle screwed into the back standard
on inner face bent angularly and screwed on the standards under the
wheels to support the ends of the axle. under each wheel a spring 3 inches
in long screwed on the face & taping against the arm of the wheel on
front. having a groove the each inch of an inch wide and about

A rack long enough at the end of the frame to reach on the inside of the frame a piece of brass about ¼ of an inch thick. Under each end of the roller bar each shuttle has a curved spring screwed with the side of the frame & a small hole thro' the frame over the spring, & each fastened to the roller frame at each side passed over the spring and thro' the opening & fastened to the common wheel at each side of the frame & each fastened to the shuttle frame at each side passed over the spring & thro' the opening and fastened to the roller wheel at each side of the frame. One end of the large circle & section wheels to turn the roller and shuttle wheels being ¼ of a circle of 8 inches in diameter. So placed that the two on one end being drawn and working on the pinions of the wheels. Drawn the other end an eighth part section wheels turn the outer or shuttle wheel by 3 or 4 teeth before the inner or roller wheel so as to draw the shuttle swiftly across the frame. before the roller. the section wheels being to operate on the wheels as soon as the picker bar comes down towards winding around the wheels on each side & around the ends of the frame. Stopped the wheels at the other side of the frame. by being passed thro the springs the ends close the wheels which is secured by striking against the top of the hole thus causing the wheel to stop always at the same place. and preventing the teeth of the wheel from striking on top of the back of the pinion. the shuttle and roller are drawn across the frame three quarters of the circle. first by the section wheels at one end of the axle. then by those at the other end. A cylinder of wood 17 inches long & 8 inches diameter having one iron axle passed thro' the centre the gudgeons fitting the grooves on the plates on the top bars of the frame a bore at each side of the frame 18 inches long close against the side of the frame over the axle of the roller and shuttle wheels and working over a screw at the back of the front standards 6 inches from the top. a thin steel plate about 8 inches long screwed upon the cross 3 inches from the centre & working freely under the screw having a long hole at the end for the gudgeons of the cylinder to play thro'. at the end of the cross a ball or weight by which the cylinders are pressed together. To purpose the [illegible] beginning the weight to keep off the effect of [illegible] put on the cross bar and play the

[illegible] cover Cylinder. Take off the left bar and bring forward [illegible] the needles, Pass the rack on [illegible] to have Cotton round it the back of the Comb and the thread through the [illegible] in the shuttle. wind the ends of it round the first needle and work [illegible] with the thread double Cast on [illegible] much to draw the shuttle and take away the Comb. then work the Cotton [illegible] take off the Cotton and tighten the Stitches of the row by drawing the first [illegible] put on the left bar and work and draw down. Leave the rack [illegible] the Comb bar and work as drawn over the Cylinder. put on the [illegible] number and pass the end of the Cotton over the pegs on the Cylinder. [illegible] take off the Comb bar and the work being finished between the Cylinder [illegible] strain off by them. Commencing with a Cotton take off the left [illegible] bar and the Comb shall hold in the Cotton and having narrowed by shifting [illegible] two or more Cotton on one needle take away the Cotton and Comb from the [illegible] needle & put on the bar. For narrowing place on two or more pins the [illegible] pounds as laid by hand and the Cotton & Comb often removing the left [illegible] on those pins. By the regulating screw on the left bar and on the [illegible] frame bar the Comb can be set to make the work look right.

Looms for weaving ribbed work also for double work may be constructed [illegible] on the same principle as the Comb above described & described. The Looms [illegible] may be turned by hand machinery or by a steam engine

Witnesses

Stephen Bazin

James & Bazin

J. Bazin Junr

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References to the Drawings of John Bazin Junr as Stocking Loom

The parts are figured in the order as they are described in the specification.

Fig 1. The Stocking Loom in perspective.

Fig 2. A section the cutting showing the sinker plates, the shaded parts the needle, tickler and sinker and an end view of the different bars in the drawing.

" 3. Needle slaie bar, the piece marked C. being one of the slaie pieces cast in a lead.

" 4. Tickler bar. the piece marked A. one of the slaie pieces and Fig 8 a tickler cast in a lead.

" 5 Sinker slaie bar - Bone of its slaie pieces.

" 6 Needle and needle plate.

" 7 & sinker (its operation is the same in principle as the jack of the common stocking loom and should loom so called)

" 8. The tickler cast in a lead.

" 9. A section of Fig 1. S is the cam on the main shaft to lift the lever and weight P. B. is the ratchet wheel on the cylinder on which the stocking winds.

" 10 The carrier - the carrier bar and carriers can be seen on top of the perspective fig 1.

" 11 Needle lifter bar - and catch bar on top

" 12 The roller and frame which works the carriers (or jacks) it answers to what is called the lever in the common stocking frame

" 13 Shuttle frame.

(Loose sheet accompanying the Patent returned for record.)