

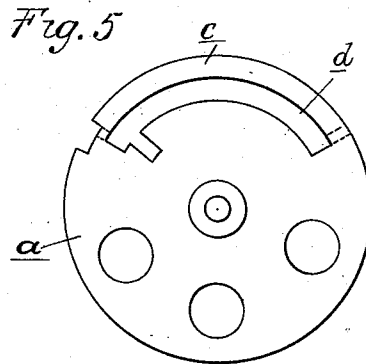
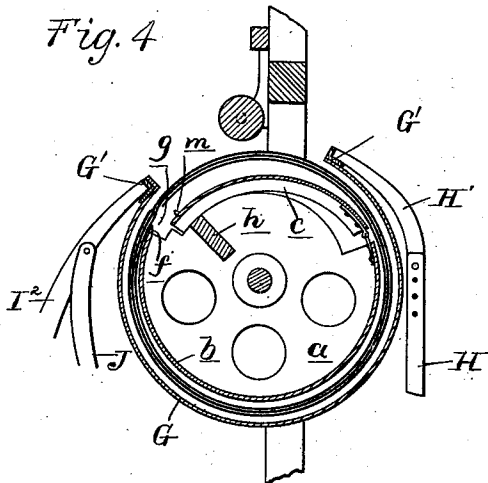
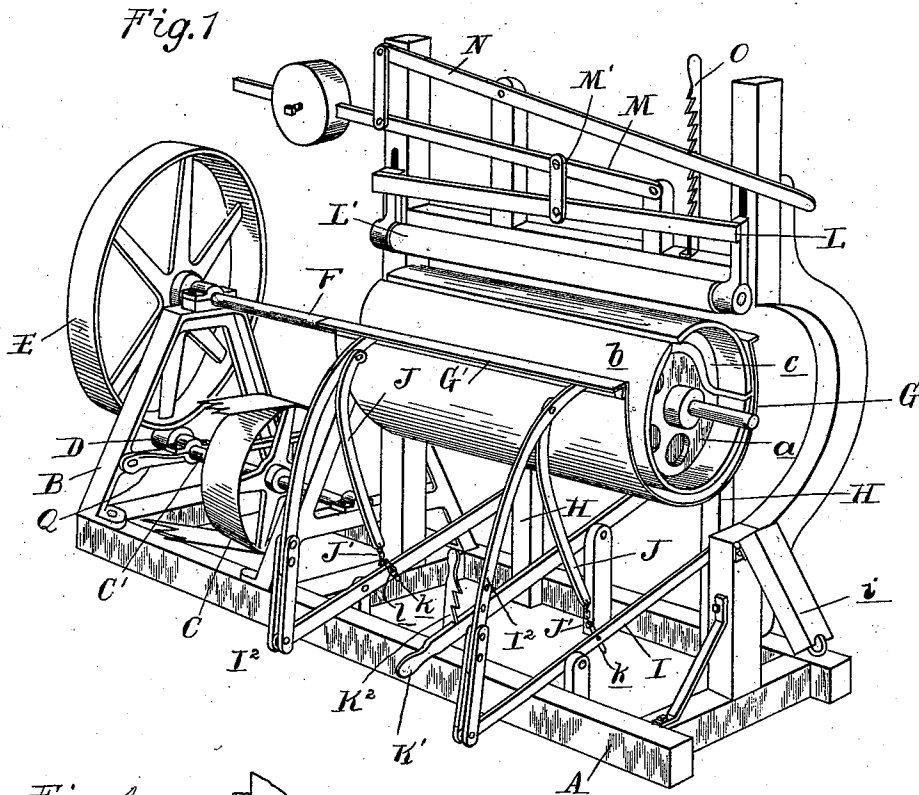
(No Model.)

2 Sheets—Sheet 1.

J. TOMLINSON.
VENEER COILING MACHINE.

No. 531,604.

Patented Dec. 25, 1894.



Witnesses:

P. F. Barthol.
P. M. Hulbert

Inventor:

James Tomlinson

By

Wm. H. Prospect & Son
Attys.

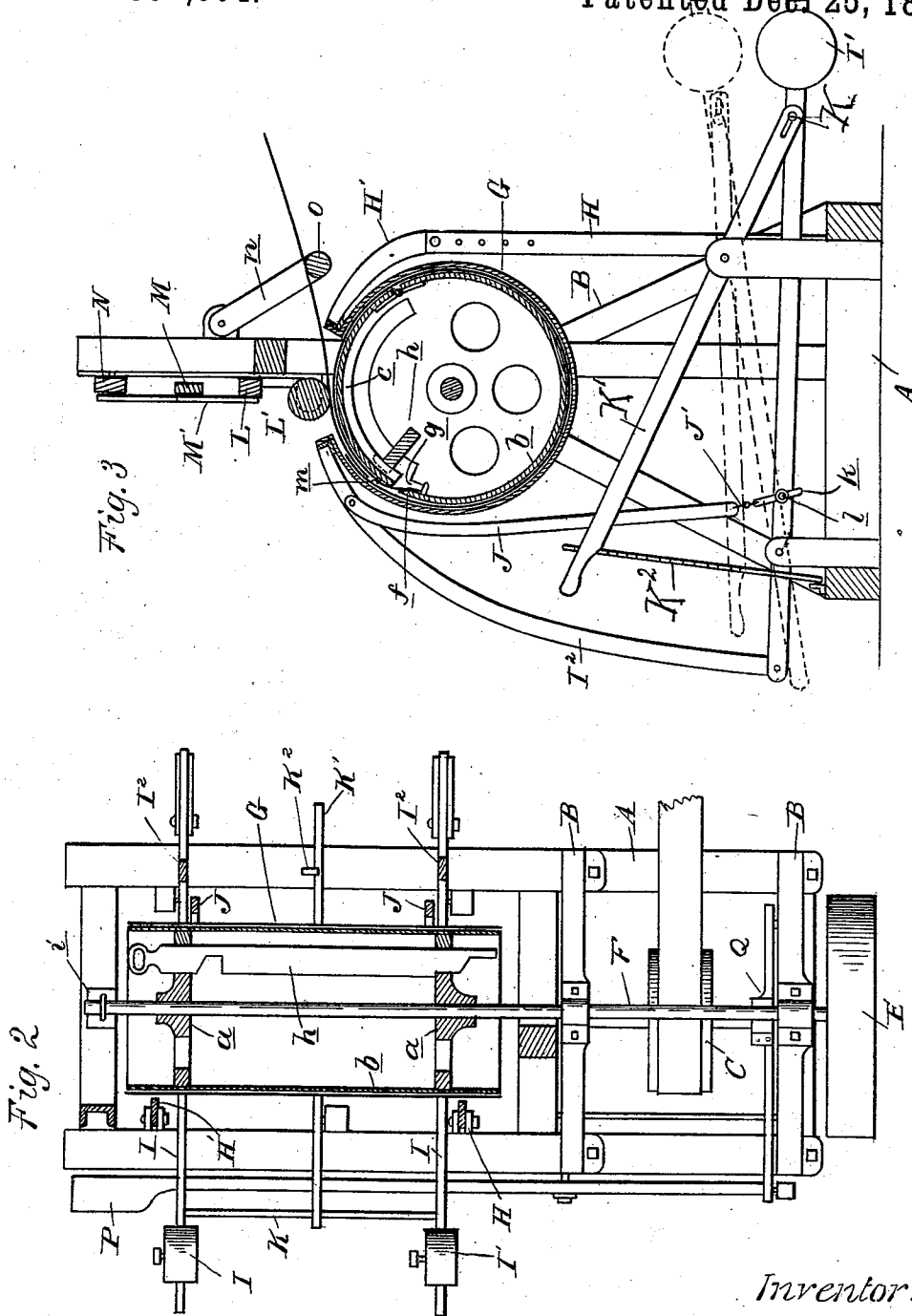
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UNITED STATES PATENT OFFICE.

JAMES TOMLINSON, OF DETROIT, MICHIGAN.

VENEER-COILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 531,604, dated December 25, 1894.

Application filed February 28, 1894. Serial No. 501,785. (No model.)

To all whom it may concern:

Be it known that I, JAMES TOMLINSON, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Veneer-Coiling Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to improvements in veneer coiling machines especially intended for use in the manufacture of barrels, or other packages or articles from veneer by coiling the same in superimposed layers, glued or otherwise secured together.

The invention consists in the peculiar construction of a machine embodying a rotary drum or cylinder, having a portion adapted to be collapsed or withdrawn to assist in securing the veneer upon the drum and in removing the finished article therefrom; further in the peculiar construction of the apron for applying the pressure upon the veneer during the act of coiling; further in the actuating devices for such apron, and in the peculiar construction and arrangement of the parts, all as more fully hereinafter described.

In the drawings, Figure 1 is a perspective view of my improved machine. Fig. 2 is a horizontal section, centrally through the drum. Fig. 3 is a vertical central section through Fig. 2. Fig. 4 is a similar section through the drum showing the hinged section collapsed and the apron loosened to permit of the removal of the finished article. Fig. 5 is an elevation of one of the heads of the drum illustrating the manner of constructing the same.

A is the base. B is a suitable frame thereon for supporting the operating parts of the machine.

C is a drive pulley connected by means of belting to any suitable source of power and secured on the shaft C'.

D is a friction wheel on the shaft C' driving the friction wheel E on the drum shaft F.

The drum I make of two like heads *a* and a suitable cylindrical covering *b*, preferably of metal. In manufacturing this drum, I cast the two circular heads and true them up, com-

plete, as shown in Fig. 5, including the hinged or collapsible section *c* which spans the segmental slot *d*. After the head is finished in this shape, I sever it from the head at both ends.

The drum casing I make in sections *b b'* complementary to the sections of the head, one section surrounding and secured to the integral portion of the head, and the other to the section *c*, the two casing sections being hinged together at one edge, and being slightly separated at the other edge.

f is a projecting lip of the casing overhanging a notch *g* in the edge of the head.

The free end of the hinged section is adjustably supported on the wedge bar *h*, by means of which it may be allowed to collapse, or be moved out to form a complementary section of the drum.

The outer end of the shaft is supported in the hinged block *i*, adapted to be turned out of the way as shown in Fig. 1, to permit the removal of the finished article from the end of the drum.

G is a flexible, metallic compression apron, adapted to envelop the drum, but of a width less than the circumference of the drum, so as to leave an open space at the top of the drum between the edges thereof. At each edge this apron is provided with a rigid lip or bar G'.

H are standards at the rear of the machine, having the curved arms H' at the top vertically adjustable thereon. At the upper forward end these arms are connected to the rear bar G' of the apron.

I are levers pivoted on the base, having the counter weights I' at their rear ends and at their forward ends supporting the curved compression arms I² pivoted at the lower end, and at their upper ends engaging with the cross bars G' at the forward edge of the apron.

J are tie bars secured at their upper ends to the upper ends of the compression bars I² and at their lower ends adjustably connected with the levers I, preferably to the long arm thereof and comprising a loose or flexible section J'.

The adjustable connection which I have shown consists of a link *k* on the end of the loose connection J' and the clamping bolt *l* passing through the lever and link.

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The two levers I are connected together at their rear ends by a cross-bar K and centrally of this cross-bar is connected the actuating lever K' which at its forward end runs beside the notched standard K², so that the lever K' and the levers I may be held at any desired point, by engaging the lever K' with a suitable notch on the bar K².

L is a frame slidably engaging in the standards of the machine above the compression drum, and at its lower end provided with a compression roll L'.

M is a weighted lever pivoted on the frame and engaging by means of the link M' with the middle portion of the frame L.

N is a lever connected to the weighted lever M near the outer end thereof and by means of which the lever M and the compression roll L' may be raised and lowered. This lever may be held at any desired position by engaging it in any one of the notches in the notched bar O, secured to the frame beside the lever N.

Upon the outer face of the hinged section of the drum are suitable teeth or pins m.

n is a swinging frame pivoted on the rear side of the machine and having the feed roll o journaled at its lower end. See Fig. 3.

The parts being thus constructed their operation is as follows: The drum being turned so that the opening in the casing is at the top the operator engages the edge of the veneer beneath the lip f in the notch g and it is held from disengagement therefrom by means of the pins or teeth m. Motion is then imparted to the machine by the operator stepping upon the lever P which rocks the lever Q on which is journaled the shaft C' carrying the friction wheel D thereby bringing that wheel into engagement with the friction wheel E on the drum shaft F. The pressure roll is lowered and rests upon the veneer between the lips or edges of the compression apron, by means of the weight on the lever N. The compression apron is contracted by releasing the lever K' and tightly binds the veneer against the drum by the weight of the weights I' exerted through the levers I and compression bars I². The veneer is fed into the machine over the feed roll o. When the proper thickness is obtained, the superimposed coils being secured together by cement, or in any other suitable manner, the cylinder thus formed may be removed in the following manner: The compression roll L' is raised by drawing down upon the lever N which is held in its adjusted position by arranging it in any one of the notches in the bar O. The compression apron is released or opened by drawing down upon the lever K' which raises the weighted levers to the position shown in dotted lines in Fig. 3, and the parts are held in this position by engaging the lever K' with one of the notches on the notched bar K². This draws down the forward lip of the apron

and loosens it all around, the parts being then in the position shown in Fig. 4. The hinged section of the drum having been collapsed by drawing out the wedge bar h, the package may now be freely withdrawn from the drum by turning out the hinge bearing i supporting the outer end of the drum shaft. The object of the tie bars J and the loose section J' therein is to force the upper end of the compression bars I² inward, as well as upward, when actuated by the weighted levers I. The loose section therein permits the bars I² to first lift to the desired point before being forced inward upon the drum, and thus apply the power of the compression bars upon the forward edge of the apron through the cross-bar G', substantially tangentially. By arranging the rigid bars at each lip or edge of the apron I am enabled to apply the power thereto at each end only, and thus obtain an even tension at all points in the length of the apron, and simplify and cheapen the machine, and at the same time apply the apron almost entirely around the drum, except the small space necessary to feed in the veneer at which point I apply the compression roll. I also deem it especially important to construct the heads in the manner heretofore described, that is make the hinge section c of the head integral with the head, and then true it up before severing it therefrom as it insures absolute perfection in the shape of the drum, which is difficult, if not impossible to obtain in any other way.

What I claim as my invention is—

1. The combination of the drum and flexible compression apron nearly surrounding the same, of the compression arms applied to the forward edge of the apron, levers for actuating the arms and to which they are pivoted, flexible ties for the outer ends of the arms having their lower ends connected to the levers, supports for the rear edge of the apron, and the vertically adjustable curved sections secured to the upper portions of the supports and bearing against the rear edge of the apron, substantially as described.

2. The combination of the drum and flexible compression apron nearly surrounding the same, of a support for the rear edge thereof, the compression arms applied to the front edge, levers for actuating said arms and to which they are pivoted, and a flexible tie for the outer end of the arms, substantially as and for the purpose described.

3. The combination of the drum and flexible compression apron nearly surrounding the same, of a support for the rear edge thereof, the compression arms applied to the front edge, levers for actuating said arms, to which they are pivoted, and a tie connecting the outer end of the compression arms to the long arm of the lever, having a flexible section, substantially as and for the purpose described.

4. In a veneer coiling machine, the combi-

5 nation of the rotary drum, the flexible compression apron nearly encircling the same, the compression arms I² secured to the apron at each end, the weighted levers I pivotally supporting the arms I², tie bars flexibly connecting the upper ends of the compression arms with the weighted levers, the connecting bar K, the lever K' connected to said bar, and extending to the front of the machine, and the

vertical rack bar K² beside said lever, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES TOMLINSON.

Witnesses:

M. B. O'DOHERTY,
A. L. HOBBY.