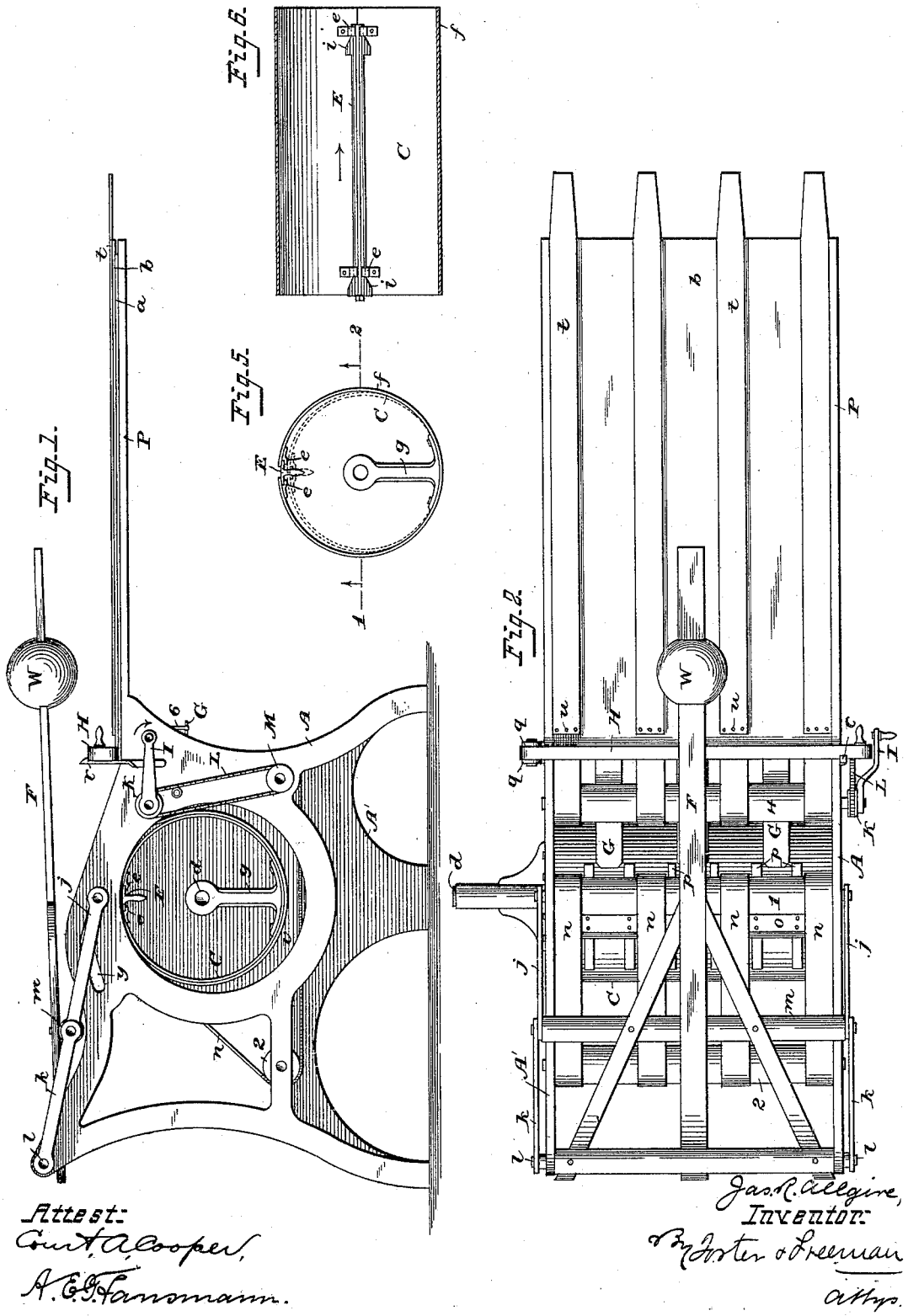
(No Model.) 2 Sheets—Sheet 1.

J. R. ALLGIRE.

MACHINE FOR THE MANUFACTURE OF VENEER BARRELS.

No. 341,866. Patented May 18, 1886.



Attest:
Court. A. Cooper,
A. E. G. Fanomann.

Jas. R. Allgire,
Inventor:
By Foster & Freeman
Attys.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 6.

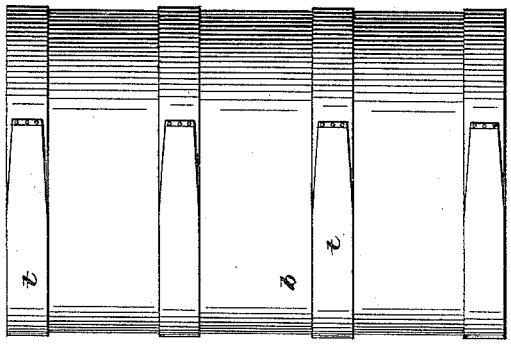


Fig. 7.

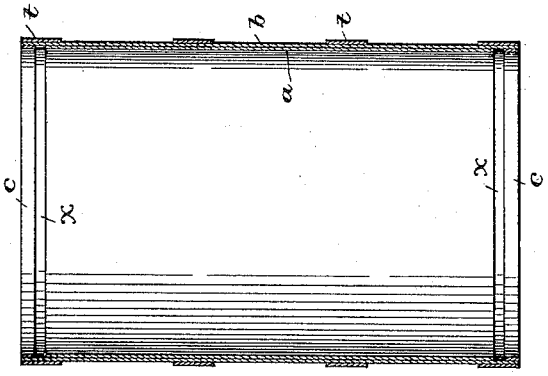


Fig. 5.

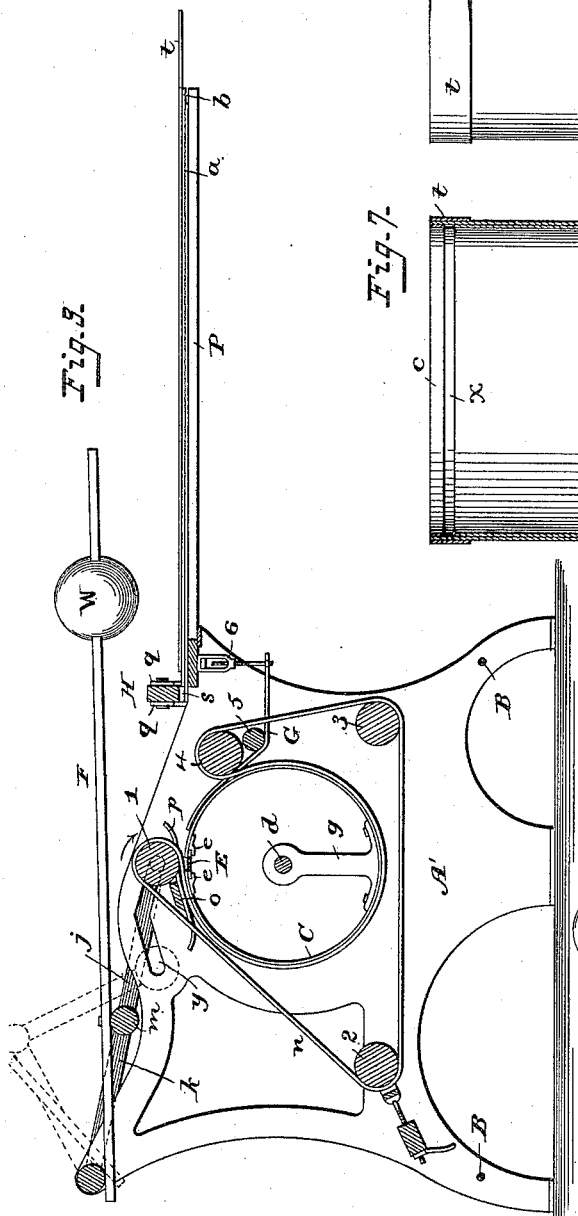
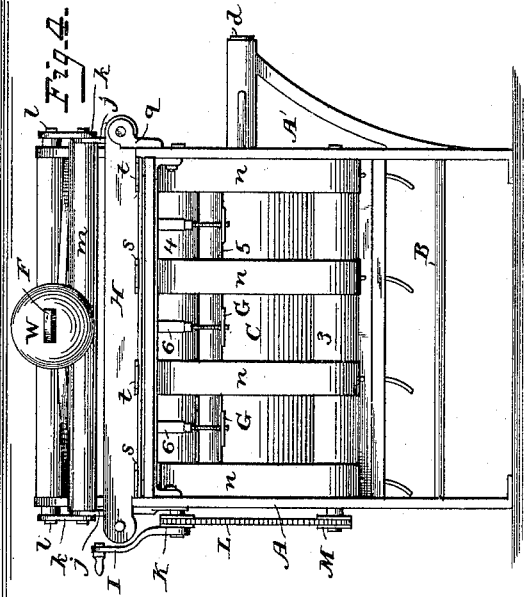


Fig. 4.



Attest:
Court. A. Cooper
A. G. Fennmann.

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Inventor:
By Foster & Freeman
Attys.

UNITED STATES PATENT OFFICE.

JAMES R. ALLGIRE, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF TWO-THIRDS TO GEORGE F. ADAMS AND MARSHALL D. WILLIAMSON, BOTH OF SAME PLACE.

MACHINE FOR THE MANUFACTURE OF VENEER BARRELS.

SPECIFICATION forming part of Letters Patent No. 341,866, dated May 18, 1886.

Application filed January 9, 1886. Serial No. 188,116. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. ALLGIRE, a citizen of the United States, and a resident of Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in the Manufacture of Veneer Barrels, of which the following is a specification.

My invention relates to machines for the manufacture of veneer barrels; and it consists, generally, in certain mechanism, comprising endless bands and guide-rolls, for bending the veneers constituting the body of the barrel, together with the binding strips or hoops, around a collapsible cylinder of peculiar and novel construction, all as fully set forth hereinafter, so as to firmly compress together and secure immovably in contact while and after bending to a cylindrical form layers of veneer having the grain running in the same direction.

In the accompanying drawings, Figure 1 is a side elevation of a barrel-machine, showing my improvements. Fig. 2 is a plan view. Fig. 3 is a sectional elevation. Fig. 4 is an end elevation. Fig. 5 is a transverse section of the collapsible cylinder. Fig. 6 is a section on the line 1 2, Fig. 5, looking in the direction of the arrow; Fig. 7, a longitudinal section of the barrel-body; Fig. 8, an external view of the barrel-body.

The barrel which is to be made by the machine consists of two layers of veneer bound together by hoops, preferably of wood, the inner layer, *a*, being narrower than the outer layer, *b*, so as to form at each end an edge or bearing, *x*, for the head, which is held in place by a narrow band or hoop, *c*. The grain of the wood in both sheets of veneer runs lengthwise of the barrel, thereby avoiding the unequal expansion of the inner and outer layers which results when the grain in one is at an angle to the grain in the other.

It has heretofore been found difficult to manufacture barrels of two sheets with the grain running in the same direction, from the fact that it is impossible to so dry or season the veneers that they can be made to lie closely together without a great expense in the drying process and in the operation of fitting.

My improved machine so securely holds the parts together under pressure while rapidly bending and securing them that veneers dried in the ordinary manner may be used without difficulty, whatever may be the position in which the two plates are placed in respect to each other.

The frame of the machine consists of side pieces, A A′, connected by suitable cross-bars, B, and supports at the forward end a platform, P, and near the center a spindle, *d*, around which turns a collapsible cylinder, C. This cylinder may be constructed in any suitable manner, so as to be readily held in its expanded position while the body of the barrel is being bent around it, and then readily contracted to permit the said body to be slipped off prior to the formation of another barrel-body. One mode of constructing the cylinder to effect this result is illustrated in Figs. 5 and 6, in which *f* represents a plate bent to a cylindrical form, with the ends in contact, the portion opposite the ends being riveted to arms *g*, secured to the spindle *d*. At the inner side of the plate, near the contiguous edges, are riveted short strips forming ears *e e*, between which slides a bar, E, provided with two wedge-shaped portions, *i i*, which, when the bar is pushed in the direction of the arrow, Fig. 6, will enter between the ears and separate them, so as to spread apart the edges of the plate, and thereby increase the diameter of the cylinder, in which state it is used for bending the barrel-body; and when the body is to be removed the bar is drawn out in the opposite direction, when the edges of the plate will come together, diminishing the diameter of the plate, as shown in dotted lines, Fig. 5, and permit the barrel to be withdrawn. Parallel and adjacent to the cylinder C, in suitable bearings, turn the guide-rolls 1 2 3 4, the guide-rolls 2 3 4 revolving in fixed bearings, and the journals of the guide-roll 1 projecting through angular slots *y* in the side frames and turning in the ends of links *j j*, jointed to the links *k k*, the rear ends of the latter being hung to pivots or pins *l*, projecting from the side frames. Upon a cross-bar, *m*, extending between the joints of the links *j k*, bears a lever, F, carrying a weight, W, the action of which

tends normally to throw the roller 1 forward to the position shown in full lines, Fig. 3, the lifting of the lever permitting the parts to assume the position shown in dotted lines in said figure. Around the rollers 1, 2, 3, and 4 pass a number of endless bands, *n*, each of which also passes partly round the cylinder C, as best shown in Fig. 3, and to a bar, *o*, at the rear of the roller 1 are secured a number of guides, *p*, which prevent any lateral displacement of the various bands, the number of which corresponds to the number of hoops with which the barrel is to be provided. Against the face of the cylinder C bear a number of spring-blades, G, each of which occupies a position between two of the bands *n n*, and extends below a rod, 5, and is secured at the outer end to a pendent adjusting-screw link, 6, supported by and beneath the end of the platform P. By the adjustable connection between the outer end of each spring-blade and its supporting-link, the pressure of the inner end of the blade upon the cylinder C can be easily regulated. The bands *n* are of such length that they will be caused to bear with great pressure upon the surface of the cylinder when the roller 1 is carried toward the position shown in full lines, Fig. 3, the weight W depressing the lever F, causing it to bear upon the cross-bar *m*, and thereby forcing forward the roller, so as to maintain a very considerable tension upon the bands. A bar, H, is pivoted between ears *q q* upon the side frame, A′, and is maintained in a horizontal position by a spring-catch, *r*, secured to the frame A, and the bar has at the under side a number of notches, *s*, corresponding in width and position to the hoops which are to be placed upon the body of the barrel. To the journal of the roller 4 is secured a sprocket-wheel, K, round which a chain, L, passes to a sprocket-wheel, M, on the journal of the roller 3, and a crank-handle, I, is also secured to the journal of one of the rollers.

In order to make the body of the barrel, the sheet *a* of veneer, that is to constitute the inner layer, is first placed upon the platform P, and the sheet *b*, that is to constitute the outer layer of the barrel-body, is placed upon the sheet *a*, but so much farther to the right that some six or eight inches of the lower sheet will be uncovered at the end nearest the bar H. Upon the upper sheet, *b*, are placed the strips *t*, of thin wood or metal, which are to constitute the hoops of the barrel, the said strips being longer than the veneers, and being placed so far to the right that their inner ends will be six or eight inches away from the inner edge of the upper sheet, *b*, each hoop-strip being opposite one of the notches or openings *s* in the bar H. Nails *u* are now driven through the inner ends of the hoop-strips and through both layers of veneer, so that all the parts are firmly secured together at their inner ends, after which they are pushed inward until they are caught between the bands passing round the roller 1 and the face of the cylinder, round which they are bent as the handle I is turned in the direction of its arrow, Fig. 1. As the parts are secured together at their inner ends, they will not be displaced from their relative positions in the act of bending, and as they are free to move one upon the other throughout all their remaining portions, any excess of material resulting from the flattening and compressing of the parts together will be worked toward the free ends of the parts until the two ends are brought in contact upon the cylinder, and the ends of the hoop bands or strips are folded down upon the parts on the body of the cylinder, where they are nailed, as shown in Fig. 8. The pressure of the bands upon the veneers is so regulated by adjustment of the weight W as to flatten the inequalities or wrinkles and bring both layers closely together at all points, and as the hoop-strips are nailed while the parts are held under compression, both by the bands *n* and the spring-plates G, the parts will be retained in close contact throughout all their surfaces after the removal of the body from the cylinder. This removal is effected by contracting the cylinder by sliding inward the bar E, as before described, after which the newly-formed body of the barrel may be slipped off the end of the cylinder through an opening, *v*, in the side frame, A, after which another body may be bent, formed, and the parts fastened together, as before described.

It will be evident that the mode of manufacturing veneer barrels above set forth may be embodied in machines constructed differently from that described, that different modes of making a collapsible cylinder may be employed, the cylinder, for instance, being formed of parallel slats arranged upon bands or rings capable of being expanded or contracted.

The bands *n* may be belts, chains, or thongs of leather, metal, rubber, or other suitable material, and the bearings of the roller 1 may be adjusted by means of screws, instead of by a weighted lever and toggles. I prefer the latter, however, as it enables the parts to accommodate themselves to the work to be performed.

I do not herein claim the process set forth of manufacturing veneer barrels, as that will form the subject-matter of a separate application for Letters Patent.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. The combination, in a barrel-making machine, of a collapsible cylinder, guide-rolls arranged adjacent to the cylinder and parallel to the same, and endless bands passing round said rolls and partially around the cylinder, substantially as set forth.

2. The combination, in a barrel-making machine, of the collapsible cylinder, guide-rolls arranged adjacent and parallel to the cylinder, endless bands passing round said rolls and partially around the cylinder, and adjusting devices, substantially as described,

for moving one of the rolls to tighten the bands upon the cylinder, as set forth.

3. The combination of the collapsible cylinder, guide-rolls, toggle-links connected to the journals of one of the rolls, and the weighted lever bearing upon said links, and endless bands passing round the rolls and partially round the cylinder, substantially as set forth.

4. The combination, in a barrel-making machine, of the cylinder, rolls arranged adjacent and parallel to the same, a series of endless bands passing round said rolls and partially around the cylinder, and guides *p*, extending between said bands, substantially as and for the purpose described.

5. The combination, in a barrel-making machine, of the cylinder, rolls adjacent and parallel to the same, bands passing round said rolls and partially around the cylinder, spring-plates G, placed between the bands and bearing at their inner end upon the cylinder, substantially as set forth.

6. The combination, in a barrel-making machine, of the cylinder, rolls adjacent and parallel to the same, a series of endless bands passing round the cylinder and rolls, as described, guides *p*, and spring-plates G, extending between the bands and bearing at their inner ends upon the cylinder, and means, substantially as set forth, for regulating the pressure of the spring-plates upon said cylinder, as and for the purpose described.

7. The combination, in a barrel-making machine, of the cylinder, rolls adjacent and parallel to the same, a series of endless bands arranged as set forth, platform P, and a guide-bar immediately above the platform and having recesses *s*, substantially as and for the purpose described.

8. The combination, with the side frames of a barrel-making machine, connected substantially as shown, of a collapsible cylinder supported on bearings between said frames, as described, and one of said frames having an opening or recess, *v*, opposite one end of said cylinder, as and for the purpose set forth.

9. The combination, with a barrel-making machine, of a collapsible cylinder consisting of a bent plate provided at its ends with ears *e*, and a sliding bar having wedge-shaped portions extending between the ears, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES R. ALLGIRE.

Witnesses:
AUSTIN B. PRATHER,
LESLEE C. FERREE.