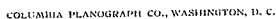


TOBACCO HANGING AND HOISTING APPARATUS.

APPLICATION FILED APR. 21, 1910. RENEWED DEC. 12, 1911.

Patented Jan. 23, 1912.

2 SHEETS—SHEET 1.



O. GATES.

TOBACCO HANGING AND HOISTING APPARATUS.

APPLICATION FILED APR. 21, 1910. RENEWED DEC. 12, 1911.

1,015,553.

Patented Jan. 23, 1912.

2 SHEETS—SHEET 2.

Fig. 2.

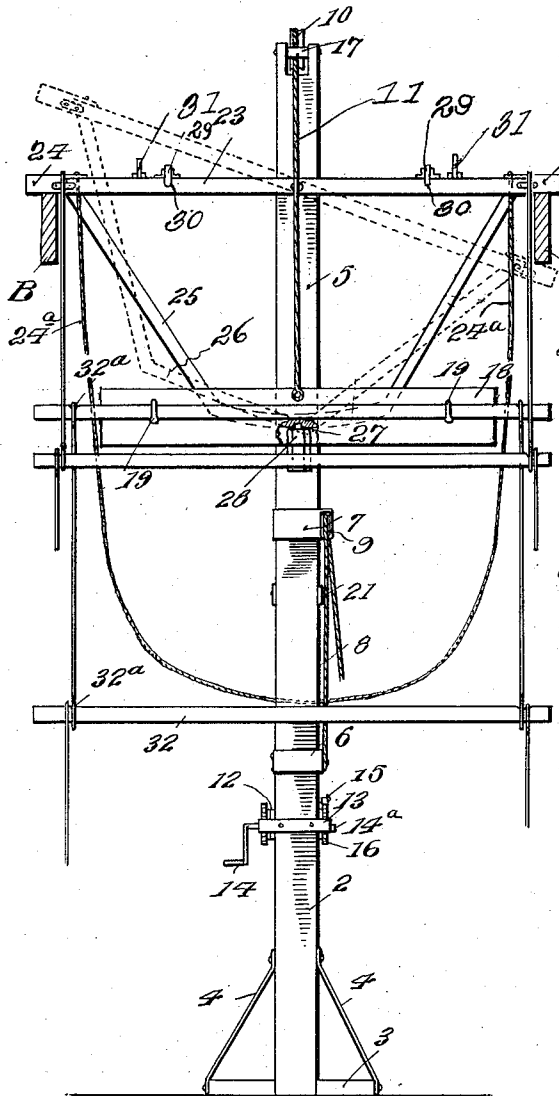
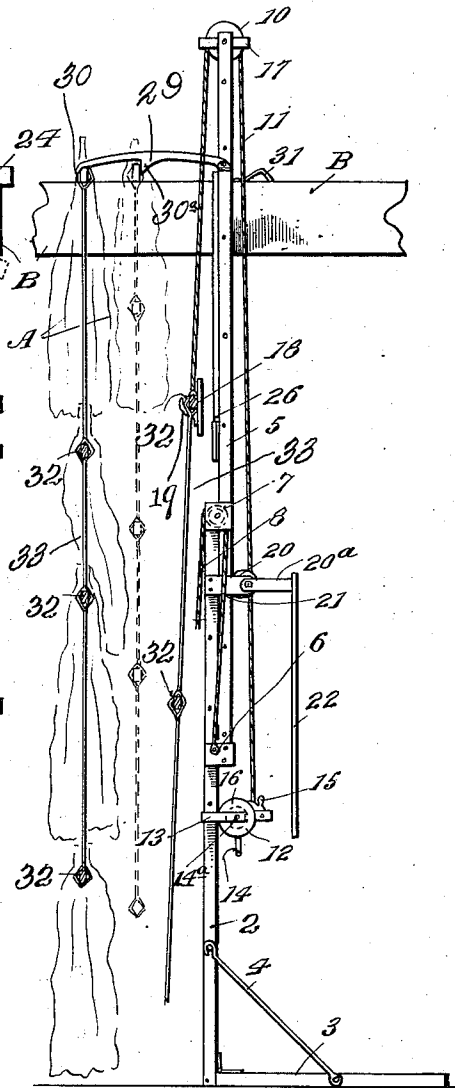


Fig. 3.



Inventor

O. Gates

Witnesses

W. A. Hudson

J. M. Fallon

By

W. A. Macy, Attorneys

UNITED STATES PATENT OFFICE.

OLUS GATES, OF MARTIN, TENNESSEE.

TOBACCO HANGING AND HOISTING APPARATUS.

1,015,553.

Specification of Letters Patent.

Patented Jan. 23, 1912.

Application filed April 21, 1910, Serial No. 556,778. Renewed December 12, 1911. Serial No. 665,377.

To all whom it may concern:

Be it known that I, OLUS GATES, citizen of the United States, residing at Martin, in the county of Weakley and State of Tennessee, have invented certain new and useful Improvements in Tobacco Hanging and Hoisting Apparatuses, of which the following is a specification.

My invention relates to means for hoisting a plurality of tobacco carrying sticks in a loft and hanging the sticks in place upon supporting beams.

The general object of my invention is to provide an elevating and hanging device of such character that it may be easily put in place within a store-house and may then be operated from the ground to hoist up a plurality of sticks with leaf tobacco hanging thereon and hang the uppermost of these sticks upon the cross beams at the upper portion of the storehouse, thus dispensing with the use of scaffolds and the necessity of employing a number of men for the purpose of hanging the sticks in place.

A further object of the invention is to provide an elevating and hanging device of the character before referred to having spacing gages whereby the tobacco supporting sticks may be spaced from each other a proper distance apart and with regularity not obtainable by hand without great care.

The apparatus includes a telescopic support or standard which may be raised to any desired height within the store-house and which is provided with hooks for engaging the uppermost of a line of sticks supported one from the other upon which the tobacco is hung, provision being made whereby this hoisting device may be centered in place accurately between the beams, and whereby it may be easily passed up between the beams and then turned into proper position.

For a full understanding of the invention reference is to be had to the following description and accompanying drawings in which:—

Figure 1 is a perspective view of my hoisting apparatus. Fig. 2 is a front elevation thereof. Fig. 3 is a side elevation thereof. Fig. 4 is a detail perspective view of one end of the guiding cross-bar 23. Fig. 5 is a detail view showing the action of the spacing or gaging hook 29. Fig. 6 is a detail view of one of the lengths of wire used for sus-

pending the tobacco carrying rods from each other.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

Referring to these figures, 2 designates the lower section of a standard or support, of any suitable material, and which is preferably provided at its bottom with the hinged base 3 connected to the support by hooked links or braces 4. Slidably mounted upon the section 2 of the standard is the movable section 5. This consists of an upright preferably of wood of the same size and material as the section 2, which at its lower end has a collar or guide 6 which is attached to the lower end of the section 5, and embraces or partly embraces the section 2. The upper end of the section 2 is provided with a collar or guide 7 which embraces or partly embraces the section 5. Thus the section 5 may have a sliding movement upon the section 2 so that the standard as a whole may be raised or lowered to suit any particular store-house in which it is to be used. In order to provide for the raising and lowering of the standard I attach a lifting cord 8 to the lower end of the movable section 5 and preferably to the collar 6, which cord passes over a pulley 9 supported upon the upper end of the standard 2, preferably on the face of the collar or guide 7. The free end of the rope 8 may be connected and held upon the standard 2 in any desired manner, as by a cleat or other rope engaging device.

The upper end of the standard 5 carries upon it a pulley 10, over which passes a rope 11, which extends down to a windlass 12 mounted in brackets 13 projecting from the lower section 2. This windlass 12 is provided with a crank 14 and may be also provided with a head 14^a for the attachment of another crank, not shown. A pawl 15 is mounted on one of the brackets supporting the windlass and adapted to engage a ratchet 16 formed upon one end of the windlass. Attached to the upper end of the section 5 is the rope guide 17 which surrounds the pulley 10 and holds the rope in contact therewith, preventing the rope from slipping off. The free extremity of the rope is attached to a transversely extending tobacco stick supporting member 18 which is

provided with outwardly projecting hooks 19, these hooks being adapted to engage the tobacco sticks upon which the tobacco is supported, as will be later described.

5 In order to hold the sections 2 and 5 in any desired adjusted relation, I provide an eccentric 20 which is mounted on brackets 21 projecting from the section 2 and embracing the section 5. This eccentric 20 has
10 a projecting arm 20^a attached to its shaft and connected to a depending handle 22. When the arm 20^a is turned in one position, the eccentric will jam against the face of the section 5 clamping the two sections 2 and 5
15 together in their adjusted relation.

Pivotaly supported upon the face of the section 5 is a cross-bar 23, which at its end is provided with pivoted terminations or latches 24, so arranged that though they can
20 move downward they cannot move upward beyond a position of alinement with the cross bar 23. The purpose of the latches 24 is to allow the cross bar to pass between the tier beams without turning sidewise or hav-
25 ing to be turned up to the position shown in dotted lines in Fig. 2. With my construction by raising the cross bar from the tier beams and releasing the latches by loosening the rope 24^a, the outer end of the
30 latches being heavy drop down, thus permitting the head to be turned down between the poles when the barn or warehouse is filled without having to twist or turn the apparatus, which would be impossible as the
35 distance between the last two of the tobacco sticks would only be from six to ten inches. By pulling down on and fastening said rope 24^a the latches may be extended and overlapped onto the tier beams. The rope 24^a
40 is never used except to get the apparatus out after each tier has been filled and when the roof is so close that the cross bar and frame cannot be tilted. The rope 24^a is fastened at both ends to the oppositely disposed
45 latches 24 and the middle of the rope may be drawn down and fastened tight enough to hold the latches in proper position for hanging the apparatus onto the poles.

The extremities of the cross bar 23 are
50 connected to downwardly and inwardly extending bars 25 which in turn at their ends are connected to a slightly bowed cross bar 26 formed with a notch 27 in its middle. Mounted upon the face of the section 5 in
55 position to engage the notch 27 is a bolt or like latching device 28, which, when the cross bar 23 is horizontally disposed, will engage the notch 27 and hold the cross bar firmly at right angles with the uprights or
60 standards. The spacing gages 29, to be hereinafter described, would not work if one end of the cross bar be elevated above the other. In placing the apparatus in position, these gages 29 do not drop below the
65 level of the cross bar and so the cross bar

when hung on the tier beams must be horizontal. The inclined braces 25 on each end of the cross bar act to center it with relation to the tier beams.

Pivotaly mounted upon the cross bar 23
70 are a plurality of gages 29, these gages preferably consisting each of a metallic arm pivoted at one end in ears upon the cross bar 23 and at the other end downwardly
75 turned or bent as at 30 (see Fig. 5). The middle of each gage is formed with the projecting tooth 30^a, the inner face of which is inclined. These gages 29 normally rest upon the uppermost tobacco supporting
80 sticks 32 but are adapted to be raised to a position shown in dotted lines in Fig. 5 as the tobacco sticks are raised above the tier beams. Their purpose is to gage the distance between the tobacco sticks and they operate as will be hereafter described. The
85 bar 23 is also provided with hooks 31 by which the device may be hung upon the tier beams when it is desired to use the apparatus simply as a hoisting device and without regard to placing the tiers of tobacco in regular order. The device is hung upon the tier
90 beams B by the hooks 31, the tobacco stick supporting member 18 being parallel with the tier beams. The tobacco sticks 32 may then be supported on the hooks 19 and the supporting member 18 raised to any height
95 desired and the tobacco sticks taken off therefrom by hand.

The supports for leaves of tobacco comprises a plurality of parallel sticks 32 which
100 are hung from each other, or connected to each other by means of lengths of wire 33, each of which is provided with the elongated loops 34 at its ends. The loops 34 at the
105 ends of the wires are approximately diamond shaped, and therefore when the tobacco stick is loaded with tobacco the weight thereof will tend to compress these loops into the corners of the sticks, which sticks being
110 preferably square are thus indented. Thus the wires cannot possibly slip. The same operation of course will take place when the sticks are notched, but by forming the wires with diamond shaped loops, there is no
115 necessity of the notches. Upon each of the sticks 32 the tobacco indicated by the character A is to be supported in the manner usual in drying tobacco. Preferably the wires on each alternate stick of all the uppermost
120 sticks are just half as long as the wires of the next adjacent stick. This would throw each set of sticks alternately lower or higher than the adjacent sticks, and thus the heavy portion of the stalks on each stick will be
125 alternately lower and higher than those on the next tier, thus allowing the sticks to be placed more closely together and still have plenty of room for the circulation of heat and air in drying. It will be seen further-
130 more that by arranging these sticks in alter-

nate or staggered relation that a better circulation of air is secured.

The operation of my device is as follows:—The hoisting apparatus is placed in position within a tobacco drying barn or storehouse, this barn being provided with a plurality of tier beams B upon which the tobacco supporting sticks are to be hung. The apparatus is placed between a pair of tier beams and at one end of the barn. Before the first series of tobacco sticks are hung it is necessary to place a false stick across the pair of tier beams, this false stick being placed at one end of the barn and not supporting any tobacco. After the false stick is in place, the upper end of the standard is raised until the cross bar 23 is carried above the beams B. The operator then lowers the cross bar 23 until it rests securely upon the beams B in a position shown in Fig. 2. In this position, the gages 29 will be lowered into the position shown in Figs. 1 and 3, and the hooks 30 at the end of the gages will just engage over the false stick. The teeth 30^a will then occupy the position to be taken by the next tobacco supporting stick to be placed. After it has been placed in position as above described, a tobacco stick 32 is placed upon the hooks 19 and a length of wire 33 is attached to each end of the stick 32 and depends therefrom. The tobacco stick supporting member 18 is then raised a suitable distance and a new stick 32 is inserted in the loops at the ends of the first length of wires. The tobacco is hung upon the lowermost stick 32 and the stick supporting member 18 again raised until it is possible to attach another pair of wires 33 and a new tobacco stick. When the stick supporting member 18 carrying the uppermost tobacco stick 32 is raised above the beams B it contacts with the gages 29 and as it is carried up it raises these gages to a position shown in Fig. 5. The supporting member 18 and the uppermost stick 32 carried thereon are raised until the supporting member 18 passes the teeth 30^a on the gages 29. The supporting member is then lowered. As the supporting member is lowered, the gages 29 will move downward and the teeth 30^a engaging with the supporting member 18 will shift it outward into proper relation to the next adjacent tobacco stick 32 (or to the false stick if the beams B are just being filled). As the supporting member 18 is lowered below the level of the tier beams, the uppermost tobacco stick, which is longer than the supporting member 18 and longer than the space between the tier beams, will be left supported on the tier beams, while the supporting member 18 will move downward into position to receive another series or tier of tobacco sticks. During the hoisting operation just described, the apparatus is entirely supported upon the beams B by

means of the cross bar 23. After one tier of tobacco sticks has been hung the apparatus is allowed to rest upon its base 3 and the upper section of the apparatus with the cross head is hoisted from the tier beams by means of the rope 8 and pulley 7. The upper portion of the apparatus is then pulled back until the terminal hooks on the spacing gages 29 catch over the last stick hung, then the bottom section of the apparatus is raised and the lower end of the apparatus pulled back so that the standard is vertical. When the standard is vertical the lower section 2 is raised with relation to the upper section so that the apparatus is supported upon the upper section and upon the cross bar 23, after which the operation is repeated. This operation is repeated for each series of tobacco sticks until the space between the parallel beams is entirely filled with tobacco. After the tobacco has been dried, and in order to take down the tiers of supporting rods, the apparatus is placed in the proper position, as before described, and the tobacco stick supporting member 18 drawn up until the hook 19 raises the uppermost stick or cross rod 23 from the beams high enough to permit of the uppermost stick being drawn diagonally downward to permit the stick to pass between the beams. After it has been passed below the beams it is lowered by the windlass and each stick taken off as it comes in reach of the operator.

The tobacco sticks 32 upon which the tobacco is strung lap onto the tier beams B about two inches, and the sticks are provided with notches as previously stated, about this distance from each end into which the loops on the wires fit so that they may not slip when they are pulled into a diagonal position, as shown in dotted lines in Fig. 2.

While I have shown what I believe to be the best features of my invention, and its most preferred form, I do not wish to be limited to the exact construction shown, nor to the particular arrangement illustrated, as it is obvious that many changes might be made without departing from the principle of my invention.

What I claim is:

1. A tobacco hoisting device of the character described, comprising a standard, a hoisting rope supported on the standard, a tobacco stick supporting member attached to the free end of the hoisting rope, hooks projecting from the supporting member and adapted to engage a tobacco carrying stick, and a centering device carried upon the upper end of the standard and having downwardly and inwardly inclined sides adapted to engage with the tier beams of a tobacco barn.

2. In a device for hanging tobacco, a standard having a pulley at its upper end, a

rope passing over said pulley and carrying a tobacco stick supporting member at its free end, said supporting member being provided with spaced hooks, a centering bar
5 pivoted to the face of the standard below the pulley thereof, and downwardly and inwardly inclined guide bars attached to the ends of said centering bar.

3. A tobacco hanging device comprising
10 a standard mounted on a base and having a pulley at its upper end, a hoisting rope passing over the pulley, a tobacco stick supporting means attached to the free end of the hoisting rope, a centering bar pivoted
15 to the face of the standard below the pulley thereof and having downwardly and inwardly extending guide bars attached to its ends, the extremity of the centering bar being provided with pivoted terminal mem-
20 bers.

4. An apparatus of the character described, comprising a base and a standard formed in two sections sliding upon each other, the lower section being hinged to the
25 base, guides on each of said sections slidably engaging the other section, means for raising the upper section relatively to the lower section and holding it from any adjusted position, a pulley on the end of the upper
30 section, a hoisting rope passing over the pulley, a transversely extending tobacco stick supporting member on the free end of the hoisting rope, a centering bar pivoted to the face of the upper section of the stand-
35 ard below the pulley, downwardly and inwardly extending guides on the centering bar, and a latch for holding the centering bar in a horizontal position.

5. The combination with tobacco support-
40 ing devices, consisting of a series of transverse supporting sticks and oppositely disposed connecting wires between the supporting sticks, of a hoisting device therefor consisting of a standard formed of upper and
45 lower sections, one vertically adjustable upon the other, a pulley at the upper end of the upper section of the standard, means for engaging the sections with each other in any adjusted position, a windlass mount-
50 ed on the lower section, a hoisting rope passing over the pulley and connected to the windlass, a tobacco stick supporting member on the free end of the hoisting rope provided with spaced hooks adapted to engage
55 a tobacco supporting stick, and a centering device mounted upon the face of the uppermost section of the standard and having downwardly and inwardly extending guides adapted to engage between the tier beams
60 and a tobacco warehouse.

6. A tobacco hanging device of the character described, comprising an extensible
65 standard, a hoisting rope supported thereon, means for engaging tobacco supporting sticks, said means being carried upon the

free end of the hoisting rope, a cross bar supported on said standard and adapted to engage over adjacent tier beams of a warehouse, and gaging members pivoted to
70 said cross bar for movement in planes at right angles to the rod, said gaging members each having a projecting tooth adapted to engage with a tobacco carrying stick as the stick is hoisted and move it into proper
75 spaced relation with the tobacco carrying stick previously deposited upon the tier beams.

7. A tobacco hoisting device of the character described, including a standard adapted to be placed between the tier beams of a to-
80 bacco barn, a hoisting rope supported on said standard, a tobacco stick supporting member attached to the hoisting rope and having projecting hooks adapted to engage a tobacco carrying stick, a transverse stand-
85 ard supporting bar on the upper end of the standard for engaging over adjacent tier beams, and gaging members pivoted to the supporting bar and movable in planes at right angles to the bar, each member being
90 formed with a hook at its extremity, and a tooth upon its inner face, said gaging members being adapted to be engaged and raised by the raising of a tobacco carrying stick and to be lowered when said stick is lowered,
95 the teeth on the gaging members acting to space the stick from the standard supporting bar.

8. A tobacco hanging device of the character described, comprising a standard, a
100 transverse standard supporting bar pivoted to the upper end of the standard and having outwardly projecting terminal latches, said latches being movable downward but being prevented from any upward movement be-
105 yond a position of alinement with the bar and adapted to rest upon the tier beams of a tobacco barn, downwardly inclined guide bars attached to said supporting bar and acting to center the standard between ad-
110 jacent tier beams, a hoisting rope supported on the standard, a tobacco stick supporting member attached at its middle to the free end of the hoisting rope and having means thereon for supporting the tobacco carrying
115 stick, and connections attached to the pivoted terminations of the supporting bar whereby they may be held in alinement with the bar.

9. In a device for hanging tobacco, a
120 standard having a pulley at its upper end, a rope passing over the pulley and a transversely extending tobacco stick supporting member attached to the end of the rope and provided with supporting hooks, a standard
125 supporting bar pivoted to the upper end of the standard and adapted to rest upon the tier beams of a tobacco barn to support the standard thereon, downwardly and inwardly inclined guide bars attached to the
130

ends of the supporting bar and connected at their lower ends to each other, means for locking said supporting bar from any movement upon its pivot, and oppositely disposed gages pivotally mounted upon the supporting bar and extending at right angles thereto over the stick supporting member, said gages being hooked at their ends and being provided intermediate of their ends with inwardly projecting teeth, the teeth being inclined toward the pivoted ends of the gages.

10. In an apparatus of the character described, a standard, a cross bar supported on the standard and adapted to engage over adjacent tier beams, means on the standard for hoisting tobacco supporting sticks, and pivoted gages mounted on the cross bar and extending at right angles thereto for gaging the distance between the said cross bar and a tobacco stick.

11. In an apparatus of the character described, a standard, a transverse bar mounted upon the upper end of the standard and adapted to extend across the space between adjacent tier beams, a hoisting rope on the standard, a tobacco stick supporting member carried by the rope, and gages pivotally mounted upon the transverse bar and extending at right angles thereto and in the path of movement of the tobacco stick supporting member, said gages being provided with

means whereby they may engage the stick supporting member and shift it into spaced relation to the standard.

12. In a device of the character described, a transverse bar adapted to rest upon adjacent tier beams and extend between the same, gages pivoted to said bar and extending at right angles thereto, each gage being provided with a hook at its extremity and a projecting tooth at its middle, and means for hoisting a tobacco carrying stick upward between the tier beams above the same and into engagement with the gages and lowering the stick upon the tier beams.

13. In a device of the character described, a tobacco stick hoisting means, a cross bar adapted to rest upon two adjacent tier beams of a tobacco warehouse and extend across the space between the same, and two gages pivoted to said cross bar on each side of the tobacco stick hoisting means, each gage comprising a member pivoted to one end of the cross bar, having its other end formed with a hook and its middle provided with a tooth having an inclined face extending toward the pivotal end of the gage.

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

OLUS GATES. [L. s.]

Witnesses:

F. J. TAYLOR,
T. G. PARRISH.