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Amaden

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(54) **STAVES FOR TRUSS HOOPS**

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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 Amory Amsden himself of his improvement in the Machine for making bo ogers Staves ready for the hoops.

Fig: 1. The block carriage & saw A. The block saw runs in a perpendicular manner like that of an ordinary saw Mill, and faces the Sawmill saw directly back of the head block, so that when the block carriage receives the plank intended to be worked into staves, the block saw cuts it smoothly (the plank standing upright and on its edge) and the saw strikes and cuts it off near the letter B. B. the block carriage has four motions; 1st by being moved by the swivel dogs C. C. it plays towards the block saw where the stick, placed upon it is cutted; then by springs placed under the carriage B. (which cannot be represented in the draught) as soon as the notch gauges 1. 2. 3. 4 & 5 attached to the main saw Mill Carriage D. have passed the swivel dogs C. C. then the springs 1. 2. 3 & 4 (which are strung by the last operation) instantly throw the block carriage B. to its first position; being now out of gear & detached from the saw Mill carriage D. the weight E. suspended by the rope F, draws the block carriage until the end of the plank strikes the block gauge G. which measures it the proper length for a stave; the block saw is all the time running and is ready to cut whenever the notch gauges begin to take effect on the swivel dogs at which time the block carriage begins to move towards the saw; it then begins to cut & continues precisely the same operation until the plank

is worked up which will be in the same length of time that the saw mill carriage runs through. when the carriage D returns, having its arm E extended, it takes the block B. by the hand J. and leads it back to the place from whence they both started, at which time the carriage B is ready to receive a part of D's load or the plank last sawed. — K the keeper or key retains the carriage B. after the plank has moved by the gauge G, until the plank is sawed in two parts. — L. — the sloping dog that holds the plank while sawing. — M the lower & N. the upper pulleys thro' which the rope F runs. O. the staple to which the rope is attached. P P. the long sills for the carriage B. — a. the spikes which keep the plank from slipping. — b. b. the short cross sills — C the perpendicular arms or half posts that keep the plank erect on its edge. d. d. govern the gauge G for the desired length of the slave. —

Fig 2. A cylinder saw for sawing staves of any size. — A the cylinder is composed of cast iron & may be of any size according to the size of the stave wanted; for instance, for barrel staves it will require about 2 feet from the back end to the nuzzle & about 22 inches in diameter. — B the little end, extends from 10 to 12 inches in length including 3 or 4 inches thro' the back end into the inside of the cylinder thro' which the shaft runs & serves for the gudgeon nearest the saw — two as well as one of these may be hung on the same shaft by turning the teeth the other way, having in that way two sets of teeth opposite each other. C. the saw plate will be from 9 to 10 inches wide & is placed from 1 to 1¼ on to the saw. D. the feeder is an iron or steel screw about About 7/8ths of an inch in diameter with a thread joining in every successive revolution about one fourth of an inch which runs into the shaft & extends to the back end of the carriage.

Fig 3. In case of 2 cylinders on the same shaft, one of the screws must

must be cut left handed & opposite the other. F pivot rest for the feeder.

Fig 3. The cylinder carriage. A the apron dye which passes over the screw feeder, being in two pieces joined together, a female screw so called; B.C.D. cog wheels for lessening or lightening the blocks. E.F.G. iron rods passing from one end of the carriage to the other throwing back or drawing up the iron catches thro' which the spikes or dogs pass E. G being left handed in their revolutions in consequence of C. being turned by a right right handed and its cogs working into C & B. H.J. iron bolts to support the ends of the arches K.L.M.N.O & P. conductors to direct the bolts to the feeder, or centre of the cylinder; in this manner any number of staves from 1 to 13. may be sawed at one time. Q. spring that holds the dye &c. R for head points that throw the carriage into gear & close the two parts of the dye, this is done by the passing of the two circular ends of the fork they are crowded together as they approach the ends of it. this shuts the dye; it then passes along the screw the dye being as was before mentioned threaded cut as a screw. S. guard that throws the carriage out of gear. T a spring that is constantly crowding the bars outward and the lower ends of the bars leave the fork last described, this spring gradually opens the split dye so that it may move back over the screw without raking the threads. — U.U. arch pieces of cast iron or wrought iron which the dogs pass that hold the bolts. 1.2.3.4.5.6. the dogs. V the front & W the rear gauges for the thickness of the staves. X Y. arms that support the apron. Z. The apron that receives the staves and carries them out of the cylinder & drops them under the cylinder.

Fig 4. for cutting staves (so termed) or sawing joints & making each stave of an exact & uniform edge.

A. the perpendicular wheel saw. B. the horizontal saw wheel C. the centre bar on which the carriage turns. D. the carriage.

E.

E. The rack whereon the staves from 4 to 6 or more are placed at a time; one edge is then applied to the perpendicular saw and carried thro' the length of the stave the frame turns easily and is then brought down to the horizontal saw, so that the other edge of the lot of staves are sawed precisely like the first edge.— F. the follower which presses on the staves by the hand & hold them steady.

G. Hold fast with teeth to retain the follower whenever wanted after being pressed down.

H.H. frame for the circular saws. JJ. Screws to direct the centre bar.

Fig; 5.— A. Case and directer for the pointer.—

B. The stock which plays back & forward by a pitman.

C. The pitman.— Figs. 1.2.3.4.5.6.7.8. The pointer is my.

These are placed, 4 facing one way & 4 the other so that as the pointer moves back & forth, the staves move from the centre first toward one end and then toward the other & all the staves are placed as desired.

D.D. Gauge screws for the length of the staves.

E.E. The Gauges where notches are cut to direct the stave and give it a bevel edge.

It must be understood that this Machine is moved by water power & the one now in operation by the inventor is attached by principles familiar to every Mechanic to a common saw Mill.

Horse power would do equally well for the preparation of staves after the plank for the purpose is properly sawed.

Witnesses
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