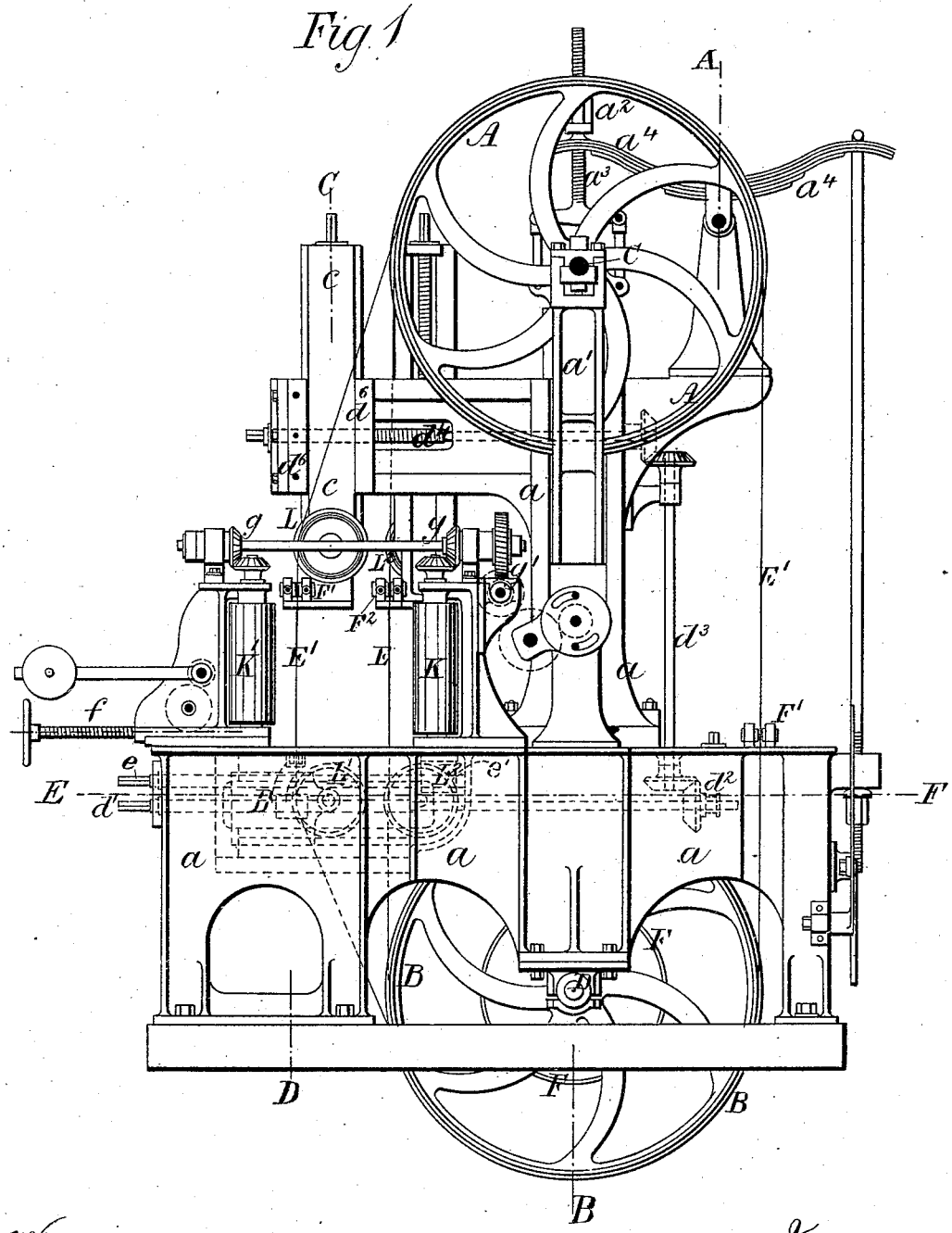
(No Model.) 3 Sheets—Sheet 1.

H. AYLESBURY.

BAND SAWING MACHINE.

No. 265,652. Patented Oct. 10, 1882.

Fig 1



Witnesses

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(No Model.) 3 Sheets—Sheet 2.

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BAND SAWING MACHINE.

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Fig. 2.

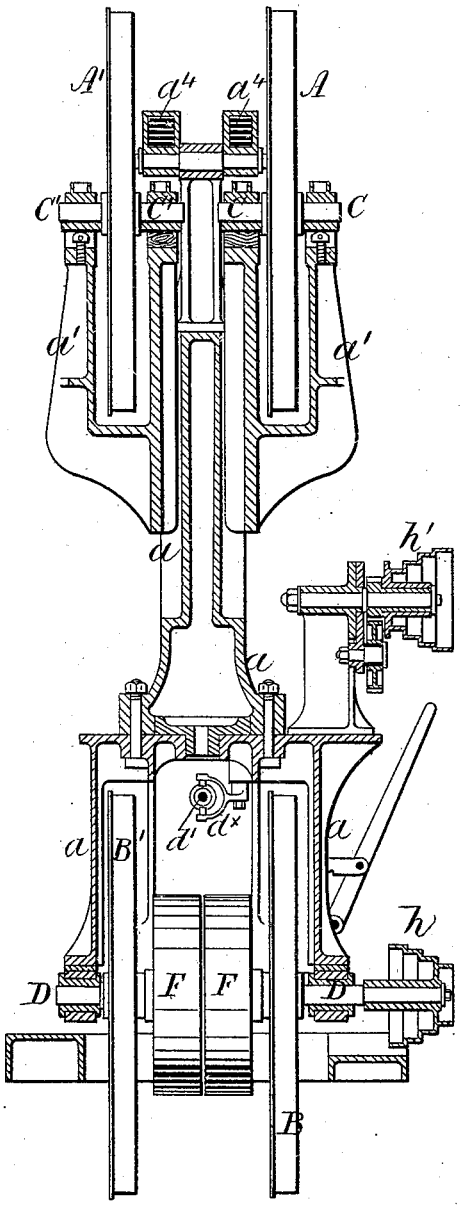
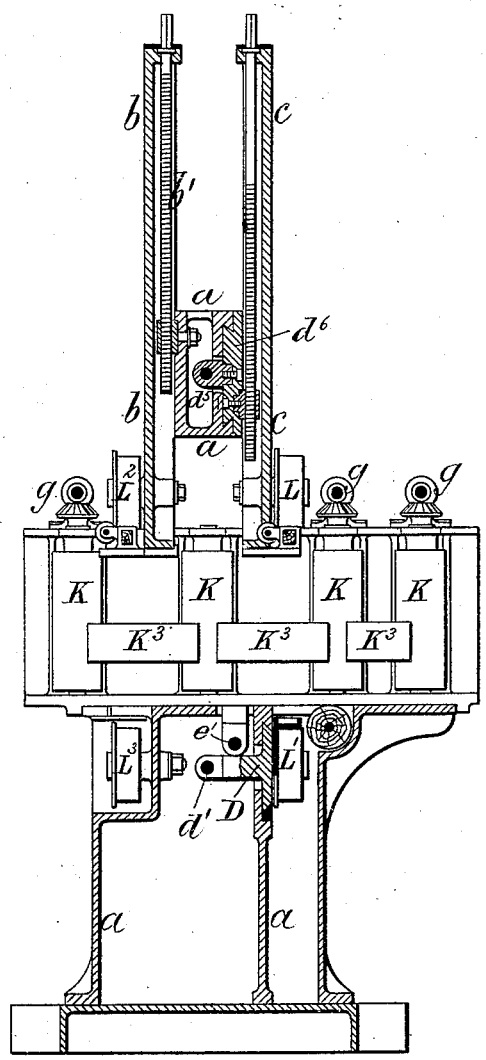


Fig. 3.



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BAND SAWING MACHINE.

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Fig. 4.

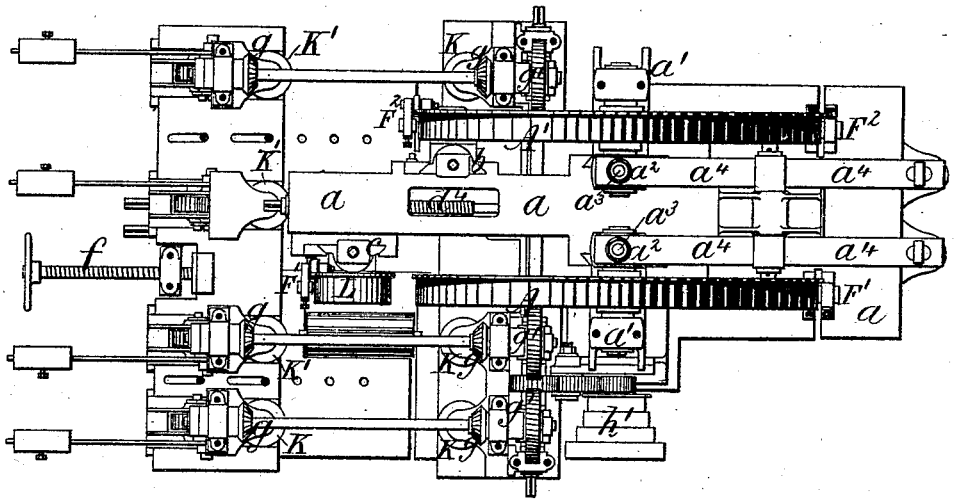
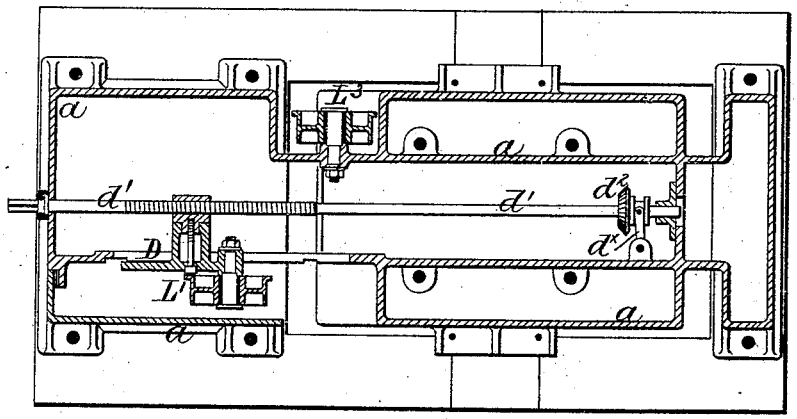


Fig. 5.



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UNITED STATES PATENT OFFICE.

HECTOR AYLESBURY, OF BRISTOL, COUNTY OF BRISTOL, ENGLAND, ASSIGNOR OF ONE-HALF TO JOHN WATTS, OF SAME PLACE.

BAND SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 265,652, dated October 10, 1882.

Application filed May 31, 1881. (No model.) Patented in England February 15, 1879, No. 612; in France June 1, 1881, No. 143,174, and in Belgium June 3, 1881, No. 54,809.

To all whom it may concern:

Be it known that I, HECTOR AYLESBURY, of the city and county of Bristol, England, have invented new and useful Improvements in or in connection with Band Sawing-Machines, (for which I have obtained a patent in Great Britain on the 15th day of February, 1879, No. 612,) of which the following is a specification.

The primary object of my invention is so to construct band-saw frames that I am able to cut two or more thicknesses of material at one and the same time, according to the number of endless band-saws used. For this purpose, supposing I use two saws, I employ two main guide-pulleys on one common shaft and two other main guide rollers or pulleys each on a separate shaft, and the two saws revolve by motion communicated to the shaft or shafts in the ordinary way. One or both of the endless saws is or are passed round other guide pulleys, these latter guide-pulleys being capable of having their position adjusted so that one of the saws may be drawn out of the plane of the adjacent saw to the distance required for the work to be accomplished. Both saws then revolving, the material operated on is cut twice, or in two places, at equal or unequal distances apart, upon the same frame, and at one operation, all according to the angle at which the saws are laid. A similar result is obtained for three saws, and so on. The adjustment of the guide-pulleys may be effected by screws and slides or other convenient means, and a scale may be applied to the adjusting arrangement for convenience and regularity of work.

According to this invention endless-band-saw frames are constructed in such a manner that by combination of two or more endless band-saws I am able to cut two or more thicknesses at one and the same time, and so that the required thicknesses may be adjusted by the saw-blades without disturbing the fence.

Figure 1 is a side elevation, Fig. 2 a vertical section through A B, Fig. 1, and Fig. 3 a vertical section through C D, Fig. 1, of a frame fitted with two endless band-saws. Fig. 4 is a plan, and Fig. 5 a plan section through line E F.

A and A′ are the two upper main flange or guide pulleys, and B B′ the two lower main flange or guide pulleys. The pulleys A and A′ are mounted on separate shafts C and C′, and the lower pulleys, B and B′, are mounted on the common shaft or spindle D. The endless band-saws E and E′ are passed round the pulleys A and B and A′ and B′, respectively.

F F are fast and loose pulleys on the lower shaft, D, both saws being driven simultaneously.

The brackets a' a', carrying the pulleys A A′, slide in the framing a, the travel of the pulleys and the brackets a' consequent on the movement of the pulleys L, L′, and L^2 being determined by the nut a^2, screw a^3, and spring a^4, so giving the required tension to each blade.

The saws are provided with packing appliances F' and F^2 for steadying the blade near the cut, which may be chambered out to receive oiled hemp to lubricate the blade at the same time.

The front saw-blade, E′, is adjustable, so that it may produce a cut through the timber at various distances from the cut produced by the saw-blade E and from the fence or feed-rolls K and K′. This adjustment is produced by shifting the distending guide-pulleys L L′. The back saw-blade, E, passes over the pulleys L^2 and L^3, the axes or centers of which latter are vertically true. The pulley L^3 is mounted on the framing a, and is not adjustable; but the pulley L^2 above is adjustable in a vertical direction only, to suit the various thicknesses to be cut. The pulley L^2 is mounted on the slide b, and is vertically adjustable by the screw b', working in a nut on the arm or framing a. The pulley L′ is mounted on the slide D, and is horizontally adjustable by actuating the screw d'. The upper pulley, L, is simultaneously moved in a parallel direction with the lower pulley, L′, the screw or shaft d' having a bevel-wheel, d^2, driving a vertical shaft, d^3, which also has a bevel-wheel, so rotating the screw or shaft d^4 in the same direction as the screw or shaft d, working in a nut, d^5, on the slide d^6, which works in the arm or framing a. The vertical slide c is also contained and free to slide in the horizontal slide d^6.

If the bevel-wheel d^2 be disengaged from its corresponding wheel by the clutch $d^\times$, Fig. 2, one of them may be moved relatively to the other, so that the saw-blade cuts on a bevel.

The feed-rolls K and K′ and fences K^3 are adjustable along the table. A screw working in a nut is provided for actuating the feed-rolls K and fences K^3.

f is the screw for adjusting the opposite feed-rolls, K′. These rolls K and K′ are driven by miter or bevel gearing *g*, which receives motion by a worm and wheel, *g′*, from cone or step pulleys *h h′*, the lower step-pulley, *h*, being mounted on the main driving-shaft D.

In the example here given I have shown one saw in a fixed position and one saw adjustable as to position of the cutting part; but I may use one saw in fixed position in combination with two or more saws adjustable as to position of the cutting parts relating to the latter, being simply repetitions of the parts here shown in connection therewith.

The means above described for distending an endless saw-blade—videlicet, by a distending appliance both above and below the table—may also be applied to saw-frames with a single endless band-saw, whereby I am thus enabled similarly to alter the thickness to be cut without shifting the fence, and also to cut any required bevel.

I claim—

1. In a band-saw machine having two band-saws, two pulleys on one shaft, by which the saws are driven, in combination with two separate pulleys and shafts and adjustable bearings for the same, and distending pulleys for the saws, substantially as specified, whereby two cuts can be made simultaneously, either parallel or at a bevel, substantially as set forth.

2. In a sawing-machine, the two band-saws E E′, the pulleys B B′, and the driving-shaft for the same, in combination with the pulleys A A′ and their separate shafts C C′, elastically-adjusting bearings, the distending pulleys L L′ L^2 L^3, mechanism for simultaneously adjusting the pulleys L L′, feed-rollers K K′, and fences K^3, and mechanism for adjusting the same, substantially as described and shown, whereby the two cuts are made simultaneously, either parallel or at a bevel, the adjustment being effected without disturbing the fence, substantially as set forth.

HECTOR AYLESBURY.

Witnesses:
WILLIAM THOMPSON,
RICHMOND OSMOND COLEMAN.