

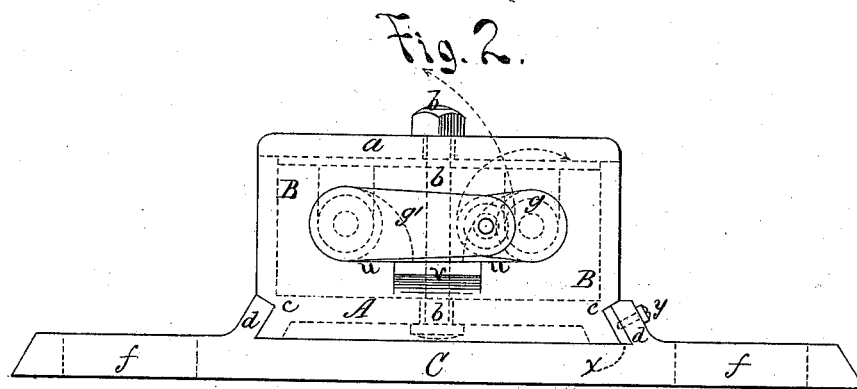
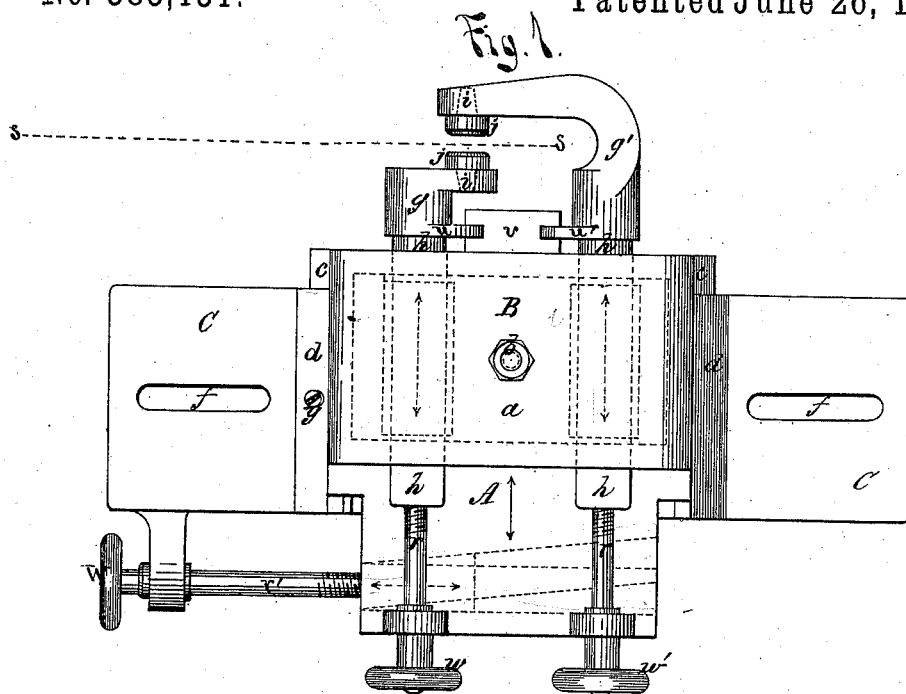
(Model.)

4 Sheets—Sheet 1.

D. J. MURRAY.
ADJUSTABLE SAW GUIDE.

No. 385,131.

Patented June 26, 1888.



Witnesses.
R. F. Steele.
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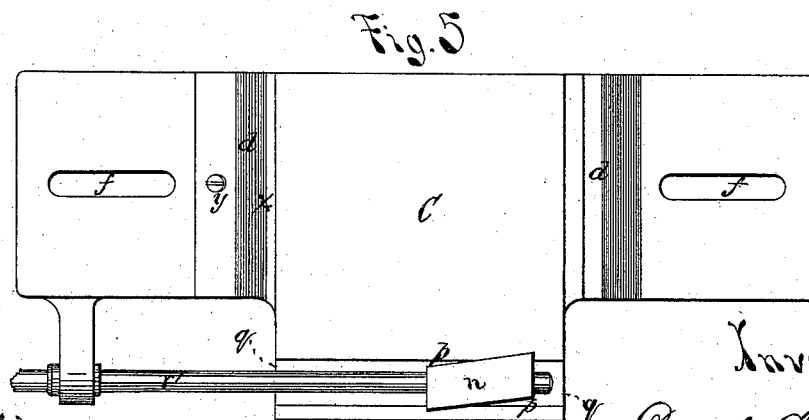
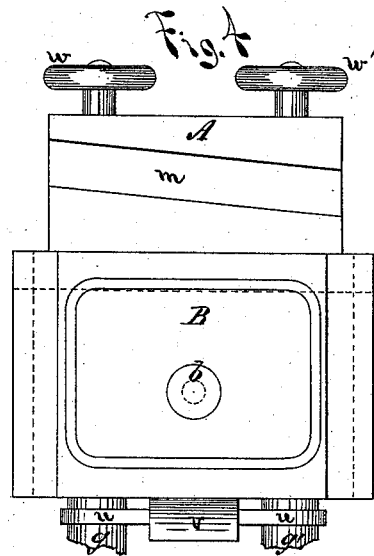
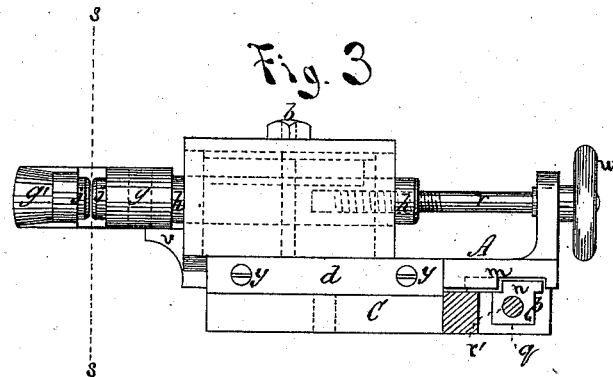
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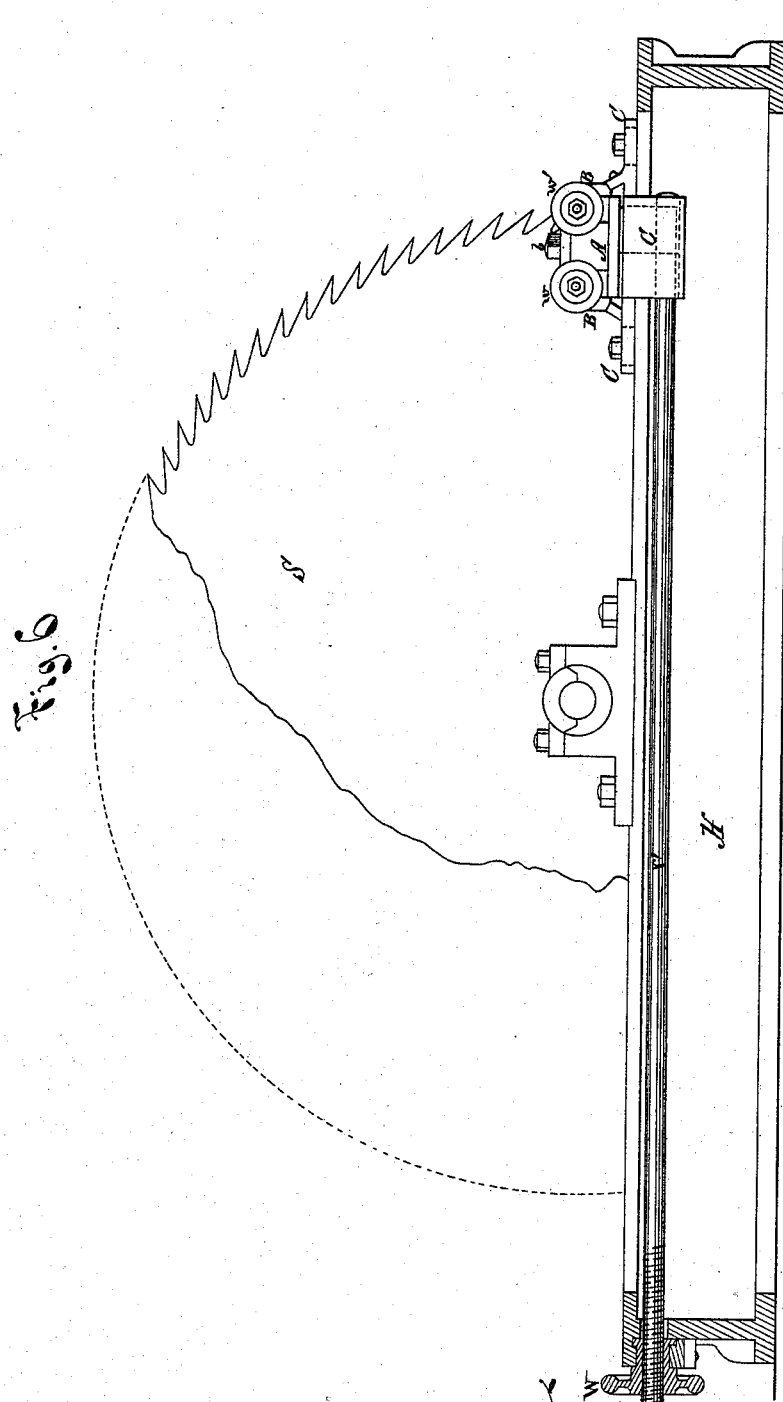
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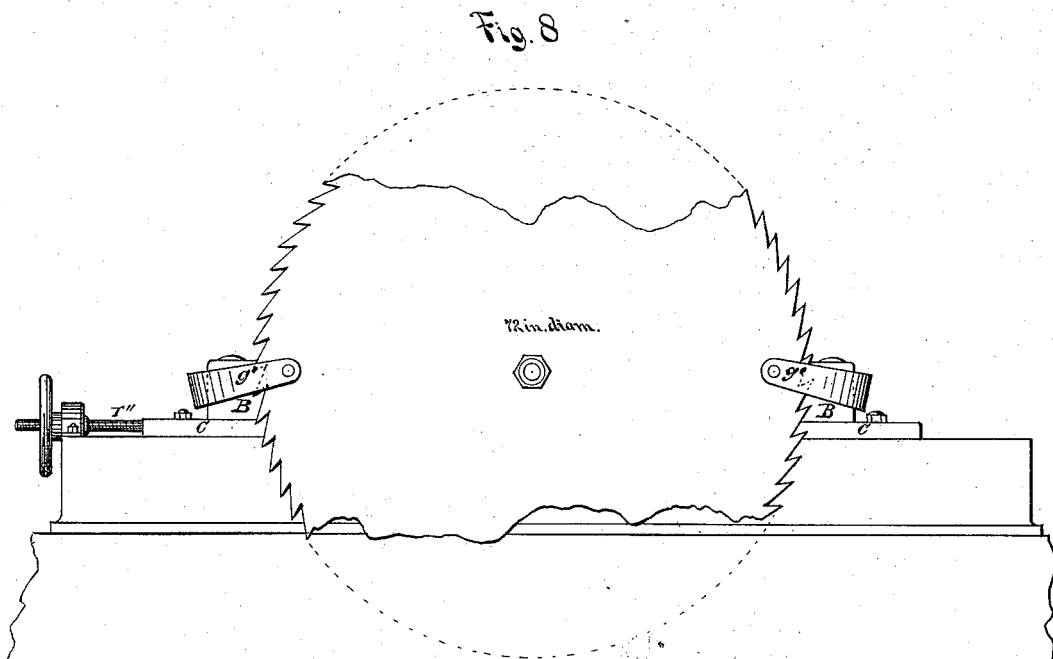
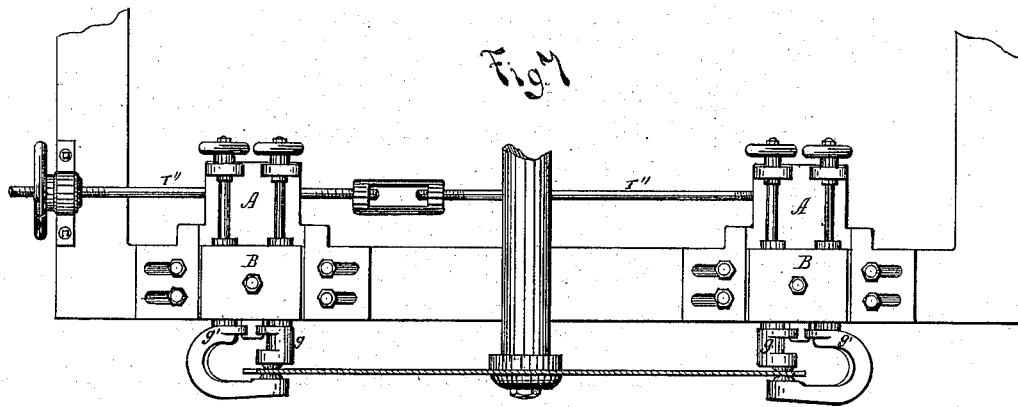
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UNITED STATES PATENT OFFICE.

DONALD J. MURRAY, OF WAUSAU, WISCONSIN.

ADJUSTABLE SAW-GUIDE.

SPECIFICATION forming part of Letters Patent No. 385,131, dated June 26, 1888.

Application filed March 9, 1886. Renewed February 9, 1888. Serial No. 263,504. (Model.)

To all whom it may concern:

Be it known that I, DONALD J. MURRAY, a citizen of the United States of America, residing at Wausau, in the county of Marathon and State of Wisconsin, have invented certain new and useful Improvements in Saw-Guides, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention is an adjustable saw-guide embracing, in brief, the following novel features: an adjustingly-sliding arm-carriage laterally riding upon the counter-dovetail flange-slides of a longitudinally-adjustable bed-plate and reciprocally moved by the obliquely-inclined edges of the top plate of an angle-block, sliding within a slot correspondingly cut underneath the front portion of said carriage-plate, and longitudinally moved by a screw-rod turned within said angle-block, sliding lengthwise the bed-plate between the end of said screw-rod and its wheel-block, the latter being either fixed upon one end of said carriage bed-plate or upon the rear end of the table-husk of the saw-frame; also, said carriage having a rigid box-frame upon its rear end, inclosing a pair of correspondingly-adjustable tube-shafts laterally turning and longitudinally sliding within bearings made through the sides of said box, between the lid and the bottom of which said shafts are clamped by an intermedial and vertically-closing nut-bolt; also, said shafts having each a crank-formed arm upon its saw end, each one made regulatively adjustable with and on each side of the saw-rim by a screw-rod turned within its respective shaft-tube by an end-wheel counter fixed upon the front end of said carriage-plate; also, said shaft-arms furnished on their saw sides with saw-rim bearing and guiding pads of rawhide or wood, each made into a conical roll or bolt, by which to hold it in a corresponding socket made transversely into or through the outer end of each arm, and each directly in line with the other, so as to bring said pads into the same relation to each other on the opposite sides of the saw-rim; also, said shaft-arms having at their box-shoulders each an eccentrically-curved check-stop, checking against one end of a bracket-plate intermedially and horizontally projecting from the back of said box; and, finally, said carriage

bed-plate furnished with longitudinally-adjustive bolt-slots, one or more on each end thereof, all of which and their purposes are hereinafter more fully described, and illustrated by the accompanying drawings, in which like letters designate identical parts of my invention in the different figures, respectively.

The object of my invention is to guide and steady the rims of large saws, generally averaging five feet in diameter, which cut the logs into lumber as they come into the mill. These saws run at about six hundred and fifty revolutions per minute, and so large a plate of steel is inclined to sway from side to side when in motion, more especially when a log is being fed against the saw at the rate of three to ten inches per revolution. The said revolving plate must be held steadily in the line of its cut; otherwise the great resistance would force its rim to one side or the other. A saw in motion, particularly of aforesaid size, seldom runs as a perfectly-plane disk, but always a little dishing on one side or the other, and this serious imperfection in running saws is completely corrected by my guide, which, together with other beneficial results and the means by which these are accomplished, is hereinafter fully described.

Figure 1 is a plan view of said invention, showing the top of the sliding arm-carriage, the box-clamped tube-shafts with their wheel-adjustive screw-rods projecting from their front ends, and said crank-arms upon their rear or saw ends, and said obliquely and reciprocally moving and longitudinally rod-screwed angle-block with its wheel-block fixed upon the front edge of one end of the carriage bed-plate. Fig. 2 is a rear elevation or saw end and side, respectively, of said arm-carriage and its slide-flanged bed-plate. Fig. 3 is the end elevation of the same, looking from the rear of the saw. Fig. 4 is an under view of said carrier-plate and its tube-shaft boxing, showing especially the oblique slide-slot through which the reciprocally-screwed angle-block is adjustably moved. Fig. 5 is a plan view of the arm-carriage bed-plate with the carriage-plate removed, showing the top edges and sides of said carriage-slides, the said angle-block with its reciprocally and adjustively moving and moved screw-rod, and said adjustive and table-fastening bolt-slots. Fig. 6 is a front view of said saw-guide mounted and

adjusted upon the husk of a saw-bearing frame and in operative relation with a rim-guided saw. Fig. 7 is a plan view of said saw-guide mounted and adjusted in duplicate on said frame-husk, and showing how said double guides are made to co-operatively act upon the opposite and counter-running edges of a saw-rim by their mutually-moving longitudinal screw-rod; and Fig. 8 is a side elevation of the same, showing the front side of a saw and its marginal rim included within the crank-arms of the said duplicate guides.

The letter A represents said arm-carriage, which consists of a plate of cast metal of suitable dimensions and of the general shape, as shown. It has mounted upon its rear portion a rigidly-cast box-frame, B, which is provided with a removable and hatch-jointing lid, *a*, having a suitable bolt-hole made through its center, through which the point of the nut-bolt *b* is vertically passed from the box-base, whereby the box-lid is tightly clamped toward or upon the top edges of said box-frame. The side edges of said carriage-plate, at the foot of each end of said rigid box, have a counter-dovetail cut evenly into each, in order that each upper side of said dovetail angles *c* may rest and slidably ride back and forth upon the top edges of the correspondingly-inclined slide-flanges *d* of the bed-plate C of said arm-carriage and securely within the corresponding re-entrant angles of the same. Said bed-plate, which is also cast of suitable dimensions and shape, as shown, has formed upon its top surface, in addition to said slide-flanges, one or more bolt slots, *f*, by which to adjustively bolt said bed-plate in any desired position relatively opposite the rim of a revolving saw upon the husk of the saw-frame table. These three elemental features of said device—namely, the dovetail edges of said arm-carriage plate and the slide-flanges and adjustive bolt-slots of said carriage bed plate—form the principal means whereby said arm-carriage is adjustably placed in proper position to be effectively operated, as hereinafter described, upon a saw-rim. The further means whereby said arm-carriage is reciprocally and adjustively worked in relation to circular saws of large size are as follows: From the saw side of the box of said carriage A horizontally project the cranked arms *g* and *g'*, extending each from its respective end of one of a pair of tubed arm-shafts, *h*, as shown, and respectively placed, the arm *g* inside of said saw-rim and the arm *g'* outside of the same. Through the crank end of each of said arms is bored a corresponding pad-socket, *i*, each countertapering from the oppositely-facing sides toward the outer face of its arm-crank, and so located in each as to bring the said saw-rim bearing-pads *j*—the outer ends of which, whether suitably made and shaped of wood or rolls of rawhide, are thrust into said sockets—directly in line, the one opposite to the other. The tube-shafts *h* of said cranked arms are journaled in suitable

bearings made through the front and rear sides of said carriage or shaft box B, as shown, and are reciprocally and independently slid back and forth by one of the pair of screw-rods *r*, which are each adjustively turned by an end wheel supported each by one of a pair of wheel-blocks suitably fixed upon the front edge of said arm-carriage plate A, as shown, each independently-moved wheel *w* and *w'* respectively shifting back and forth and adjustively setting its particular cranked arm *g* or *g'*, as may be required, to bring each said guide-pad to its proper bearing relation with the other upon opposite sides of the intermedial saw-rim, as shown. In order to still further adjustively control the combined bearing position of said pads against said swerving inclination to one side or the other of the saw-rim during the revolutions of the saw and without shifting either of said arms or pads from their set position against the saw, the arm-carriage has an oblique slot, *m*, cut into the under surface of the front portion of its sliding plate, as shown in Fig. 4, along which slot is reciprocally slid the cap-plate *n* of the intermediary and transversely plate-moving angle-block, *p*, which is directly slid back and forth along the rigid guide groove or trough *q*, made on the front of said carriage bed-plate C, as shown in Figs. 3 and 5, by means of the screw-rod *r'*, which is adjustively turned within said sliding angle-block by the regulative end wheel, W, supported in front of one of the ends of said bed-plate C, and screwing said rod *r'* within said sliding angle-block or supported upon the end of said sliding block-rod, journaled and screwing back and forth in the rear end of said table-husk H of the saw-frame, as shown in Fig. 6 of the drawings. In order to prevent the inclined depression of said cranked arms, together with their bearing and guiding pads, below their properly even and horizontally-diametric position against each side of the continuously-descending saw-rim, the said tube-shafts *h* have one of the eccentric check-stops *u* formed upon the outer end of each just within its arm-crank, which, while allowing each tube-shaft to counterturn outward, thereby getting said cranked arms out of the way of the saw-rim when displacing or un-hanging the saw, completely stop said depression of the guide-pads by checking the end of the horizontal plane edge of each eccentric-stop upon an intermedial bracket-table, *v*, fixed upon the back of said carriage-box B, as shown. In order to still further hold said tube-shafts from turning when adjusted and set in proper position, as aforesaid, said box-lid *a* may be so formed as to its inner surface as to be directly clamped upon the cylindrical surfaces of said shafts, or upon intermedial concave half-boxes bearing on the same by means of the vertically and centrally placed and nutted bolt *b*, the point of which is passed up through the recessed bottom and lid of said box, as shown. In order, also, to hold said

transversely-moving carriage-plate securely at rest upon and within said slide-flanges of its bed-plate, the clamping-plate x is placed and intermedially held by one or more set-screws, 5 y , clamping said plate against the lower side of one of said dovetail angles c of said carriage-plate. In order to still further keep the rotation of said large-sized saws within the true line of their cut, a pair of said saw-guides may be mounted and adjusted upon the said frame-husk on the opposite segmental ends of the saw-rim, as shown in Figs. 7 and 8, and have their respective carriage-plate angle-blocks reciprocally and co-operatively moved, as in 10 the case of said single-mounted guides, by the duplex-acting screw-rod r'' , similarly wheel-turned and regulatively screwed forward and backward by the said single-action rod r' , as shown in the previous figures of the drawings. 15 Therefore, having fully described said adjustable and adjusted parts of my said saw-guide, what I claim as new, and desire to secure by Letters Patent, is—

1. In the adjustable saw-guide herein described, the adjustively sliding and slid arm-carriage, furnished with the rigid box-frame, having the pair of dovetailing angle-slides cut into its basal ends, and the obliquely-cut slot under the front end of its carrier-plate, 25 in combination with the carriage bed-plate furnished with the correspondingly-inclined and carriage-bearing slide-flanges, the end-adjusted bolt-slots, and the front-placed guide-trough, in which is geared the longitudinally-sliding, laterally-engaging, and regulatively-moving angle-block, all made to adjustably co-operate upon the husk-table of a saw-frame, 35

substantially as and for the purposes herein specified.

2. In the arm-carriage of the saw-guide 40 herein described, the combination, with the rigid box having shaft-bearing sides, the nut-bolted clamping-lid, and the crank-checking bracket-plate, of the pair of longitudinally-adjustable and laterally-turning tube-shafts, 45 furnished each on its rear or saw end with a counterfacing crank-arm, and on its front end with a regulatively-turned screw-rod, each said cranked arm having an eccentrically-curved check-stop shoulder, and within a countertapering socket a counterfacing bearing guide-pad, all made to regulatively co-operate upon each and both sides of a saw-rim, substantially as and for the purposes herein specified. 50

3. The combination, with the basal counterfacing angle-slides of the arm-carriage box, containing and clamping the independently-regulative tube-shaft and guide-pad gearing herein described, of the set-screwed clamping-plate intermedially held by the counter-faces 60 of either set of dovetailing slides at each end of said carriage-box, and of the screw-geared angle-block of said bed-plate, the former having its obliquely-edged cap-plate regulatively engaging the correspondingly-oblique under 65 slot of the latter, all substantially as and for the purposes herein specified.

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

DONALD J. MURRAY.

Witnesses:

H. H. FOSTER,
W. D. MURRAY.