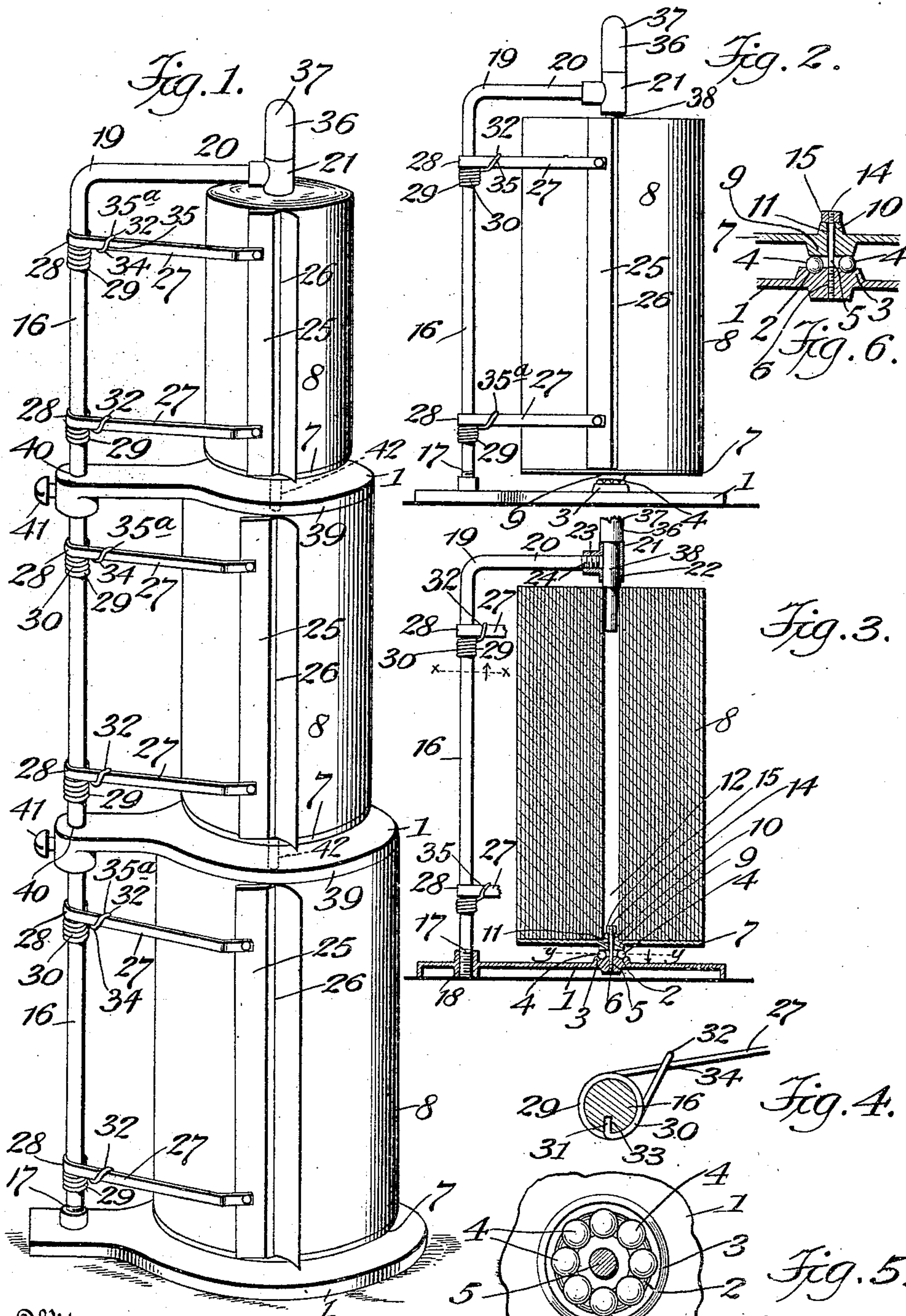


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PAPER CUTTER.  
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# UNITED STATES PATENT OFFICE.

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## PAPER-CUTTER.

No. 908,313.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, MEYNARDIE NELSON, a citizen of the United States, and resident of Littleton, in the county of Halifax and State of North Carolina, have invented certain new and useful Improvements in Paper-Cutters, of which the following is a specification.

This invention relates to paper-cutters, and it has particular relation to an improved cutting device, adapted to be used in stores, for carrying rolls of wrapping paper and cutting the desired lengths of paper from the rolls.

The object of my improvements is to provide a simple device of the character set forth which will be inexpensive in construction, effective in use, convenient and durable, and which will reduce to a minimum the frictional resistance to be overcome in cutting a piece of paper from the roll.

In the drawings—Figure 1 is a perspective view of a multiple vertical-series cutter embodying my improvements. Fig. 2 is a side view of a single cutter embodying the same features of construction. Fig. 3 is a vertical cross-section taken through Fig. 2. Fig. 4 is a detail horizontal sectional view, taken on the line  $x-x$ , Fig. 3. Fig. 5 is a detail horizontal sectional view, taken on the line  $y-y$ , Fig. 3. Fig. 6 is a detail sectional view showing the detachable connection between the lower stationary member and the upper revolving member of the base, and the portion which enters the lower end of the bore of the roll of paper.

Corresponding parts in all the figures are denoted by the same reference characters.

Referring to the drawings, 1 designates a horizontal base, which is preferably constructed of metal and in one piece. In the top of this base is provided an annular groove or channel, 2, preferably in a central raised-portion, as at 3, and a series of balls, 4, are seated in this channel. A cylindrical stud or pin, 5, projects upwardly from the base 1, centrally with respect to the series of balls 4 and above the latter. The stud 5 is in secure connection with the base; the connection may be formed by threading the stud in a threaded opening in the base 1, as at 6, or in any other suitable manner.

7 designates a supplementary revolving base, which may consist of a metallic plate, turnably mounted upon the projecting stud 5 and adapted to support the roll of paper

(shown at 8) in vertical position. The supporting base 7 bears upon the series of balls 4, its under side resting thereon, preferably at a central annular downwardly-extending enlargement, as at 9. From the top of the base-member 7 projects a cylindrical extension, 10, surrounding the opening, 11, in the base 7 for the stud or pin 5 and also surrounding said stud. This extension 10 forms a stud upon the base-member 7, which projects within the bore (shown at 12) of the roll of paper 8 at the bottom, to retain the roll in position. The projecting top-end, 14, of the stud or pin 5, above the extension-stud 10 of the base-member 7, is preferably threaded and carries a nut or tap, 15, whereby the base-members 7 and 1 are detachably but operatively retained together and displacement of the balls 4 either in operation or during transportation of the device is prevented; in lieu of the threaded end 14 and tap 15 a permanent head may be provided upon the stud 5, if desired.

The base-portion of the device, constructed according to my improvements as above described, provides an effective counter-balance or weight against the weight of the roll of paper for retaining the latter in its upright or vertical position; or, if desired, the base 1 may be suitably secured or fastened to a store-counter or other support.

16 designates a standard, which rises from the base 1 at one side the revolving base-member 7. The lower end of this standard may be connected to the base 1 in any suitable manner, preferably detachable; the connection may be by threading the lower end, 17, of the standard 16 into a threaded opening, 18, in the base 1. The standard preferably consists of a metallic cylindrical bar bent at right-angles at its upper end, as at 19, to form a horizontal top arm, 20, projecting above the top of the roll of paper. At its outer end said arm 20 carries a tubular T-piece, 21, the main cylindrical bore, 22, of which registers vertically with the stud 10 of the base-member 7, while its side bore, 23, receives the end of the arm 20. The end-piece 21 may be connected with the arm 20 in any suitable manner; for instance its bore 23 may be threaded upon the end of the arm 20, as at 24.

25 designates the knife or cutter, which is mounted vertically and carried by the standard 16; it may consist of a metal blade hav-



ing an outer longitudinal cutting-edge, 26. The blade 25 is carried by lateral arms, 27, the ends of which embrace the standard 16, as at 28, and have a turning bearing thereon, 5 whereby the blade is pivotally mounted with relation to the standard and with relation to the roll of paper. The cutting-blade is sustained in position, and held with its cutting-edge constantly bearing against the side of 10 the vertically-mounted roll of paper, by means of springs, 29, which may consist of a coil, 30, surrounding the standard 16 and having one end, 31, connected to the standard and the other end, 32, projecting outwardly and against the cutter-arm 27. The 15 bearing-ends 28 of the arms 27 rest upon the spring-coils 30 and are supported thereby. The ends 31 of the springs 29 may simply be sprung into retaining recesses, 33, in the side 20 of the standard 16, and the outer projecting ends 32 of the springs may be turned to pass under the cutter-arms 27, as at 34, and angularly bent to provide an upwardly-projecting end, 35, which bears against the side of 25 the arm 27.

36 designates a holding-pin, which is slidably inserted in the vertical bore 22 of the standard-end 21 and is provided with a supporting or retaining head or handle, 37. 30 The downwardly-projecting cylindrical portion, 38, of this pin 36 is received by the bore 12 of the roll of paper 8 at the top, and operates in conjunction with the stud 10 of the revolving base-member 7 (which supports 35 and carries the roll of paper) to retain the roll at all times in vertical operative position against the tensional bearing of the knife or cutter 25.

It will be noted that in the construction of 40 my improved paper-cutter as herein described, the base-portion, standard, cutting-mechanism, and holding-pin are all readily separable or detachable, for convenience and economy in space in packing and transportation, and that, while the revolving base- 45 member 7 is secured in connection with the fixed base-member 1 by the pin or stud 5 and its tap or head 15 so that the ball-bearing members 4 are retained at all times between 50 the members 1 and 7 and so retained during transportation of the device, the members 1 and 7 may be separated or detached and the balls 4 released when desired.

In the improved multiple vertical-series 55 construction comprised in my invention, as illustrated in Fig. 1, intermediate base-members, as at 39, are carried by the standard 16 at points between the bottom standard-carrying base and the top of the standard, and 60 individual cutter-mechanisms are mounted intermediately of said separate bases. This construction of my invention and improvements enables the carrying of different rolls of paper, as at 8, in vertical series upon one 65 device; the rolls may be of different sizes, as

shown, and placed so that in the series-arrangement of the rolls the lighter or smaller rolls are respectively above the heavier or larger rolls. The base-member 1 of the bottom standard-carrying base will be, in this 70 multiple construction, relatively larger and heavier, to provide a firm rest and proper stability for the vertical series of rolls, and the intermediate base-members 39 may be relatively of a size adapted to the size of the 75 rolls they are designed to carry. These intermediate bases 39 are preferably mounted upon and carried by the standard 16 in an adjustable and separable or detachable manner, for which purpose they can be provided 80 with an eye or opening, 40, in their stationary member 1 at one side their revolving member 7, corresponding to and receiving the cylindrical standard, a set-screw, as at 41, being provided and projecting into said opening 85 40 to engage the standard and secure the base 39 in its supported position; this adjustability enables variation in the position of the bases 39 to provide for variable sizes of the rolls of paper used. In this multiple 90 construction of my invention, the standard 16 is extended vertically with respect to the complete vertical series of rolls 8, and the intermediate bases 39 may carry a cylindrical pin or stud, as at 42, projecting downwardly 95 from the bottom of the fixed bottom-member 1 of the base 39 and entering the top portion of the bore 12 of the next roll of paper 8 underneath. This pin 42 thus serves the same office as the top holding-pin 36; it may, 100 if desired, be simply a downward extension of the stud or pin 5 which is carried by the base-member 1 and upon which the revolving base-member 7 is turnably mounted. If the 105 bases 39 are adjusted in variable position, to provide for variable sizes of the rolls of paper used, a corresponding adjustment for the cutting-mechanisms may be enabled by providing upon the standard a vertical series of the retaining recesses 33 in which the ends 31 110 of the springs 29 are set. This adjustable connection of the springs and cutters with the base also, it will be noted, enables ready and convenient substitution of different-sized cutting-mechanisms. 115

In the construction of the supporting springs 29 and their bearing-engagement with the cutter-arms 27, I prefer to provide the projecting end 35 of the spring arm with a bent point or terminal, as at 35<sup>a</sup>, which 120 will project over the top edge of the cutter-arm 27 and bear upon it to retain the latter to its pivotal seat upon the spring-coil 30, thus preventing vertical sliding displacement of the pivotally-mounted cutter. 125

The operation and advantages of my improvements will be readily understood. Paper-cutters in which the roll and cutter are horizontally placed have the weight of the roll of paper upon the horizontal bearings 130



or axles at each end, which multiplies and increases friction when the roll is revolved to cut off a piece of paper. In a cutter constructed according to my invention, the roll of paper and cutter are both placed vertically and no part of the weight rests on axles or pivots, the whole weight of the roll being borne by the horizontal revolving base-member 7 which rests upon an anti-friction ball-bearing. The studs or pins entering the respective ends of the bore of the roll of paper serve merely as retaining devices for the roll in its turning movement upon its supporting base; there is only one bearing, and that is provided at the bottom anti-friction ball-bearing construction, thus insuring ease of manipulation and a minimum of friction so that very slight power is required to revolve the roll of paper. Convenience and facility in measuring the paper to be cut off is also facilitated by the vertical position of the roll, and the improved construction enables the insertion or removal of a roll of paper with ease and facility. Mashed or tangled rolls of paper can be easily used and operated, as no axle or bearing-rod need be forced through the roll in mounting it upright in the cutting-device. To insert a roll of paper, it is simply necessary to draw back the spring-actuated cutting device and seat the roll with its bottom end upon the revolving base-member 7 with the projecting stud 10 thereof entering the bore of the roll at the bottom, then slide the top holding-pin 36 downwardly into the bore of the roll at the top, and then release the cutting device so that its knife-edge will continuously press by spring tension against the outer surface of the roll; the edge of the paper can then be grasped to turn the roll and the desired sheet cut off against the cutter-edge. There is no strain on the standard or roll-holding members, as the whole weight of the vertically-mounted roll is upon the bottom revolving ball-bearing base-member 7.

I do not desire to be understood as limiting myself to the detail construction and arrangement of parts as herein shown and described, as it is manifest that variations and modifications therein may be resorted to, in the adaptation of my invention to varying conditions of use, without departing from the spirit and scope of my invention and improvements. I therefore reserve the right to all such variations and modifications as properly fall within the scope of my invention and the terms of the following claims.

Having thus described my invention, I claim and desire to secure by Letters Patent:

1. An improved paper-cutter, comprising a horizontal base embodying a revoluble member adapted to carry a roll of paper in

vertical position, an upright standard detachably connected with said base, the upright cutter 25 carried by the horizontal lateral arms 27 detachably mounted upon said standard by means of the end eyes 28 pivotally encircling the standard, and the springs 29 for sustaining or supporting the arms 27 in position upon the standard, said springs being detachably connected with and supported upon the standard at their points of position thereon by means of the ends 31 sprung into the recesses 33 in the standard and respectively consisting of the coil 30 extending from the supporting end 31 and surrounding the standard and the end 32 extending from the coil 30 and projecting therefrom beneath the under side of the cutter-arm 27 and having the angular spring terminal 35 projecting upwardly and over the top of the arm 27, substantially as and for the purpose set forth.

2. An improved paper-cutter, comprising a vertical standard, and a plurality of horizontal bases adjustably secured on the standard and adapted to support rolls of paper in vertical position intermediately of said bases.

3. An improved paper-cutter, comprising a stationary horizontal base, a vertical standard rising therefrom, and horizontal bases carried by said standard intermediately between the stationary base and the top of the standard, whereby rolls of paper may be supported in vertical position upon and between said bases.

4. An improved paper-cutter, comprising a vertical standard, and a plurality of horizontal bases mounted thereon, said bases embodying a stationary under-member and a revolving upper-member adapted to support a roll of paper in vertical position.

5. An improved paper-cutter, comprising a vertical standard, a plurality of horizontal bases mounted thereon and embodying a stationary under-member and a revolving upper-member adapted to support a roll of paper in vertical position, said bases having an upwardly-extending stud or projection for entering the bottom of the bore of the roll of paper and the bases which are intermediately of the rolls of paper having a downwardly-projecting stud or pin for entering the top of the bore of the roll.

6. An improved paper-cutter, comprising a vertical standard, a plurality of horizontal bases mounted thereon and embodying a stationary under-member and a revolving upper-member adapted to support a roll of paper in vertical position, and a plurality of cutting-mechanisms mounted upon and carried by the standard intermediately of said bases.

7. An improved paper-cutter, comprising a vertical standard, a plurality of horizontal bases mounted thereon and embodying a stationary under-member and a revolving

upper-member adapted to support a roll of paper in vertical position upon and between the bases, and a plurality of spring-actuated cutting-mechanisms mounted upon and carried by the standard with relation to the respective rolls which are mounted between the bases.

In testimony whereof I have signed my name in the presence of the subscribing witnesses.

MEYNARDIE NELSON.

Witnesses:

H. F. BONNEY,  
J. R. GLASGOW.