

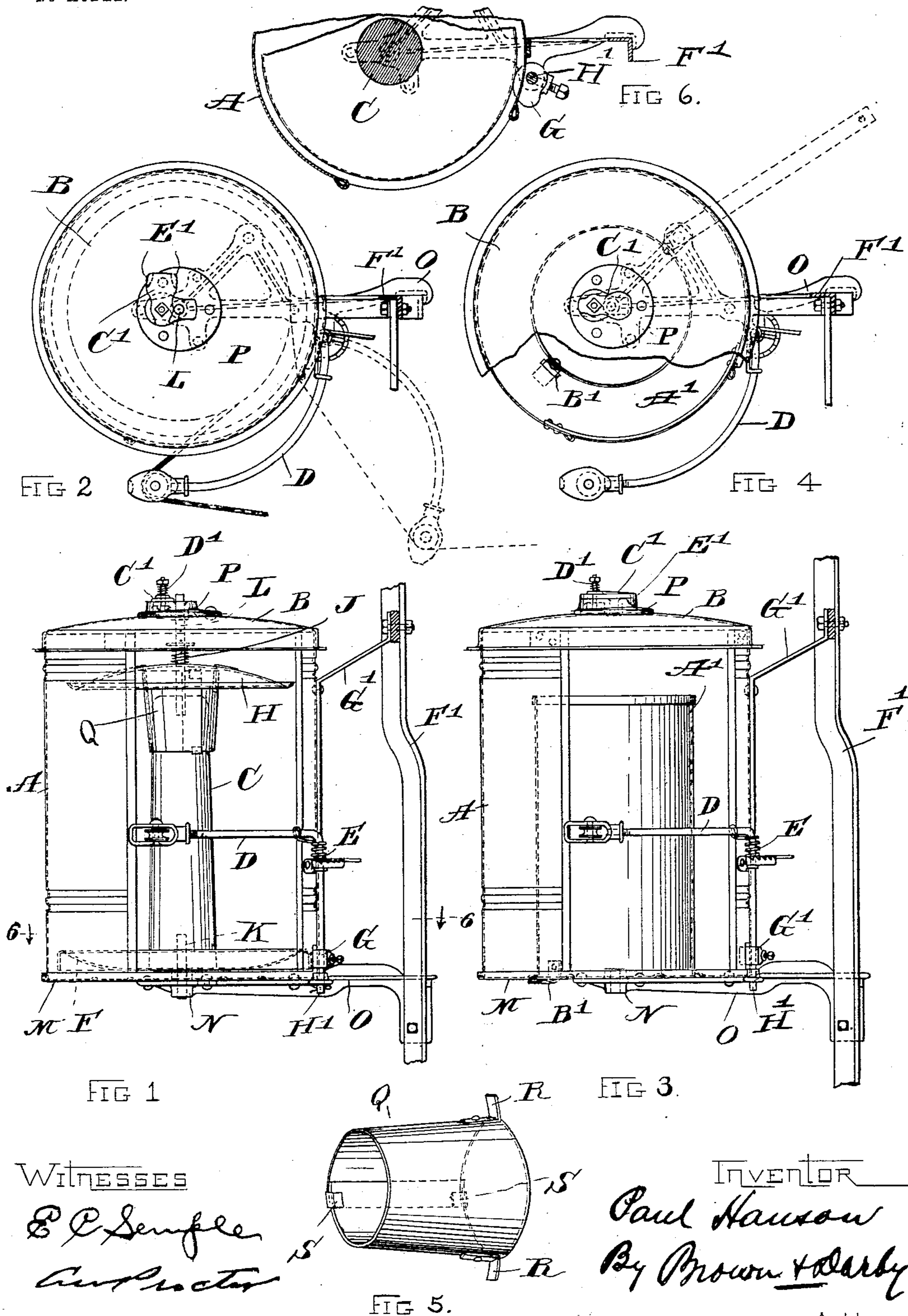
No. 745,835.

PATENTED DEC. 1, 1903.

P. HANSON.  
TWINE CAN FOR GRAIN BINDERS.

APPLICATION FILED JULY 6, 1903.

NO MODEL.



WITNESSES

E. C. Sample  
A. P. Proctor

FIG 5.

INVENTOR

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Attys

# UNITED STATES PATENT OFFICE.

PAUL HANSON, OF ST. PAUL, MINNESOTA.

## TWINE-CAN FOR GRAIN-BINDERS.

SPECIFICATION forming part of Letters Patent No. 745,835, dated December 1, 1903.

Application filed July 6, 1903. Serial No. 164,448. (No model.)

*To all whom it may concern:*

Be it known that I, PAUL HANSON, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Twine-Can for Grain-Binders, of which the following is a specification.

This invention relates to twine-cans for grain-binders, and is designed as an improvement upon the invention set forth, described, and claimed in my pending application, Serial No. 124,487, filed September 22, 1902.

The object of the invention is to simplify and improve the construction of devices of this nature and to render the same more effective in operation.

A further object of the invention is to provide means for preventing the twine from unraveling or unwinding at the end of the cop or ball of twine and becoming wedged around the pintle or gudgeon upon which the center pin which holds the cop or ball of twine is mounted.

A further object of the invention is to provide means whereby the can is adapted for use for grass binder-twine as well as for ordinary Manila binder-twine.

A further object of the invention is to provide a tension device for the twine.

A further object of the invention is to provide means for efficiently supporting the twine-can.

Other objects of the invention will appear more fully hereinafter.

The invention consists, substantially, in the construction, combination, location, and arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally pointed out in the appended claims.

Referring to the accompanying drawings, and to the various views and reference-signs appearing thereon, Figure 1 is a view in side elevation, parts of the supporting-frame broken off and in section, showing a twine-can constructed in accordance with the principles of my invention and adapted for use with grass binder-twine. Fig. 2 is a top plan view of the same. Fig. 3 is a view similar to Fig. 1, showing the construction and arrangement when the can is employed for ordinary

binder-twine. Fig. 4 is a top plan view of the construction shown in Fig. 3. Fig. 5 is a detached detail view in perspective of the sleeve employed for preventing the unraveling or unwinding of the cop of twine at the end thereof. Fig. 6 is a view in horizontal section on the line 6-6, Fig. 1, looking in the direction of the arrows.

The same part is designated by the same reference-sign wherever it occurs throughout the several views.

In the drawings reference-sign A designates the can or casing proper, provided with a top B.

C designates a central pin adapted to receive the cop or ball of twine when grass binder-twine is employed, the cop or ball being slipped or sleeved upon the supporting-pin C.

D designates the tension-arm, through the outer or free end of which the twine is reeled; E, the spring through which tension is applied to said arm in a direction to normally press the free end thereof toward the side of the can; F, the bottom plate secured to the lower end of pin C; G, the cam actuated by the swinging movement of arm D to engage or release or to form a brake for the end plate F, and H the end plate arranged at the upper end of the supporting-pin C and pressed toward the same by means of spring J.

The parts so far described may be of the same construction and relative arrangement, except in the particulars hereinafter to be noted, as set forth in my prior application, above referred to, and in the specific details of construction thereof form no part of my present invention.

In the operation of a twine-can embodying the principles above set forth it has been found that the danger is incurred of the twine unreeling from the cop or ball and wedging in between the upper end of the cop or ball and the under surface of the end plate H and thence winding around the pintle or stud forming the journal upon which the center pin C revolves, thereby requiring an undue strain upon the twine in order to unwind the same or to revolve the cop or ball, and hence frequently resulting in a breakage of the twine.

It is among the special purposes of my present improvement to avoid the objection noted, and I will now describe the means for accomplishing this result.

5 K and L designate gudgeons or dowel-pins fixed in the respective ends of the center pin C and in axial alinement with each other and forming the pivots for the center pin C. The gudgeon K when the can is used for grass  
10 binder-twine passes through an opening in the bottom M of the can or casing and is journaled in a bearing N, formed in a supporting-bracket O. The gudgeon or pin L, fixed in the upper end of the center pin C, passes  
15 through a bearing or opening serving as a bearing formed in a casting or plate P, mounted upon the top or cap B. The spring J, which presses the upper end plate H upon the end of the cop or ball of twine when placed in  
20 position upon the center pin, is mounted upon this gudgeon L.

Q designates a contractible sleeve having lugs R at the upper end thereof arranged to pass through slots or openings formed in the  
25 end plate H and to be bent laterally, so as to form a support for the sleeve Q, as clearly shown in Fig. 1. This sleeve is split, so that the internal diameter thereof can be contracted or expanded, as may be desired, and  
30 fits over the upper end of pin C and projects into the central opening of the cop or ball of twine when placed in position. The respective edges of the split sleeve Q are provided with bent lugs S, the bent lug S on each edge  
35 forming a guide for the other and cooperating edge to guide said edges in the contracting or expanding movements of the sleeve. This sleeve is made exteriorly tapering or conical, the upper end having the largest di-  
40 ameter and fitting or projecting down into the central opening of the cop or ball of twine forms a bearing for the twine and being contractible in internal diameter is adapted for cops or balls having varying diameters of the  
45 internal bore thereof. The provision of this sleeve prevents the twine from becoming unraveled or unwound from the upper end of the cop or ball of twine and wedging in be-  
50 tween the upper end of the pin C and around the gudgeon L, thereby relieving the twine of the strain or pull exerted thereon, which is necessary to rotate or unwind the twine, such as would result if the twine should be-  
55 come wrapped around the pintle or gudgeon L.

In adapting the can to the double purpose of ordinary Manila binder-twine and grass binder-twine, which on account of its in-  
60 creased size or diameter is usually produced in cops or balls of greater size than that of cops or balls of ordinary twine, it is necessary to provide an auxiliary receptacle to receive the ordinary balls of Manila binder-twine and to guide the twine from such balls and aux-  
65 iliary receptacle and from the can.

Reference-sign A' designates an auxiliary receptacle to receive the cops or balls of twine when the ordinary Manila binder-twine is em-

ployed. When this auxiliary receptacle is employed, the center pin C and its end plates H and F and gudgeon-pins K L are removed  
70 from the can or casing A and the auxiliary receptacle A' is introduced into casing A. This auxiliary receptacle may be secured within the can or casing A in any convenient  
75 manner—as, for instance, by means of lugs B' attached to the lower end thereof and arranged to pass through openings or slots in the bottom M of the can or casing A and to be bent outwardly against the under surface of such bottom, as most clearly indicated in  
80 Figs. 3 and 4.

When the can is employed for grass binder-twine, the twine is led directly from the cop or ball through the free end of slack or tension arm D. When, however, the device  
85 is employed for ordinary Manila or similar twine, the twine is not led through the tension or slack arm D; but in accordance with the principles of my invention the twine is led through the opening in the top B, or  
90 rather in the cap P of such top, which when the device is employed for grass binder-twine forms the journal-bearing for the gudgeon or pintle L, such bearing-seat thus performing the double function of a journal-bearing for  
95 said pintle in the one case or as a guide-opening for the twine to pass through in the other case. Pivotaly mounted upon the cap or plate P is a tension-plate C', adapted to swing into position to uncover the opening  
100 in which the gudgeon L is received, as shown in Fig. 2, when the device is employed for grass twine and into position to cover such opening, as indicated in Fig. 4, when the de-  
105 vice is employed for Manila or similar twine. This tension-plate C' is yieldingly pressed toward the cap P in any convenient manner—as, for instance, by means of the spring D'. At its free end the tension-plate C' is pro-  
110 vided with depending lugs (indicated at E') on the opposite edges thereof to form guides between which the twine leads, thereby forming a guide therefor.

The next feature of the improvement embodied in my present application relates to  
115 the manner of mounting and supporting the can upon the machine.

F' designates a convenient part of the harvester-frame—such, for instance, as the rear upright or standard. Suitably bolted or  
120 otherwise secured to this upright is a brace G', said brace being riveted or otherwise secured to the side of the can. A supporting-bracket O is also bolted or otherwise secured to the upright or standard F and extends  
125 into position for the can to rest thereon. This bracket is provided with bosses, one arranged to receive the pivot-pin H', about which arm D swings and which carries the braking-cam G, the other boss or stud  
130 formed in bracket O serving as the journal-bearing for pintle or stud K.

From the foregoing description it will be seen that I provide a twine-can which is sim-

ple, inexpensive, and efficient and adapted for use with either grass binder twine or for ordinary Manila or other twine and which is sufficiently supported and braced and easily carried upon the frame of the machine.

Having now set forth the object and nature of my invention and a construction embodying the principles thereof, what I claim as new and useful and of my own invention, and desire to secure by Letters Patent, is—

1. The combination in a twine-can, of a casing, a pin removably mounted therein and forming a core upon which a cop or ball of twine may be removably slipped endwise, said pin having a pintle or gudgeon at each end thereof, journal-bearings to receive said pintles or gudgeons whereby said pin is supported at each end and is freely revoluble, and means at the end of the pin for preventing the twine when unraveled or unwound from the cop or ball from winding around the pintle or gudgeon at that end, as and for the purpose set forth.

2. The combination with a twine-can, of a pin arranged therein and adapted to receive a cop or ball of twine thereon, and having pivot-gudgeons and end plates, and means arranged to surround the gudgeon in one end of said pin to prevent the twine unreel from the end of the cop or ball of twine from winding around or about said gudgeon, as and for the purpose set forth.

3. The combination with a twine-can, of a pin arranged therein and adapted to receive a cop or ball of twine thereon, and having end plates arranged to engage the ends of the cop or ball, and a sleeve carried by one of said end plates and arranged to receive therein the end of said pin, as and for the purpose set forth.

4. The combination with a twine-can, of a pin arranged therein and adapted to receive a cop or ball of twine thereon, and having end plates arranged to engage the ends of the cop or ball, and a contractible sleeve carried by one of said end plates and arranged to extend into the central opening of the cop or ball of twine, and to receive the adjacent end of said pin, as and for the purpose set forth.

5. The combination with a twine-can, of a pin arranged therein and adapted to receive a cop or ball of twine thereon, said pin having end gudgeons to form axes upon which said pin rotates, end plates for said pin, and a tapering sleeve carried by one of said end plates and surrounding the adjacent pintle, as and for the purpose set forth.

6. The combination with a twine-can, of a pin arranged therein and adapted to receive a cop or ball of twine thereon, and having end pintles upon which said pin revolves, an end plate, a split sleeve supported thereby and arranged to inclose the adjacent pintle and to receive the end of said pin, the edges of said split sleeve having guiding-lugs,

whereby said sleeve is contractible in diameter, as and for the purpose set forth.

7. The combination with a twine-can having a top and bottom, bearings formed in said top and bottom, a pin having gudgeons adapted to be received in said bearings, said pin adapted to receive the cop or ball of twine, and a sleeve arranged to surround one of said gudgeons, the end of said pin arranged to extend into said sleeve, as and for the purpose set forth.

8. A convertible twine-can having a top and bottom, an opening formed through the top, a pin or stud removably mounted in the can and having a pivot-gudgeon in each end thereof, said opening forming a bearing for one of said gudgeons, said opening also serving the purpose of a guide for the twine when said pin is removed, as and for the purpose set forth.

9. A convertible twine-can having a top and bottom, a cap applied to said top and having a bearing-opening therein, a pin having a gudgeon, said opening forming a bearing for said gudgeon, an auxiliary receptacle adapted to replace said pin, said opening also forming a guide for the twine from said auxiliary receptacle, as and for the purpose set forth.

10. In a convertible twine-can, a receptacle having a top and bottom, a cap for said top, said cap having an opening therethrough, a pin or stud removably mounted in the receptacle and having a pivot-gudgeon, said opening forming a bearing to receive said pintle or gudgeon when said pin or stud is mounted within said casing, a tension-plate pivotally mounted upon said can and arranged to be swung into or out of covering relation with respect to said opening, and means for yieldingly pressing said plate upon said can, as and for the purpose set forth.

11. A convertible twine-can having a top, an opening formed through said top, a pin or stud removably mounted in the can and having a pivot-gudgeon, said opening forming a bearing to receive said gudgeon when said pin is arranged within the can, a tension-plate pivotally mounted upon said can to swing into covering or uncovering relation with respect to said opening, said tension-plate having guiding-flanges on opposite edges of the free end thereof, as and for the purpose set forth.

12. The combination with a twine-can, of a frame part or standard, a brace secured to said standard or frame part and connected to the can, a bracket also connected to said standard or frame part and forming a support for said can, said bracket having a journal-bearing, and a pin having a pivot-gudgeon arranged to be received in said journal-bearing, as and for the purpose set forth.

13. The combination with a twine-can, of a standard, a brace connected thereto and secured to said can, a bracket also connected to said standard and forming a support for

said can, said bracket having journal-bearings, a pin having a gudgeon arranged to be received in one of said bearings, and a pivotally-mounted slack-arm associated with said  
5 can, the pivot of said arm being journaled in the other bearing in said bracket, as and for the purpose set forth.

In witness whereof I have hereunto set my hand, this 29th day of June, 1903, in the presence of the subscribing witnesses.

PAUL HANSON.

Witnesses:

E. C. SEMPLE,  
S. E. DARBY.