

June 13, 1933.

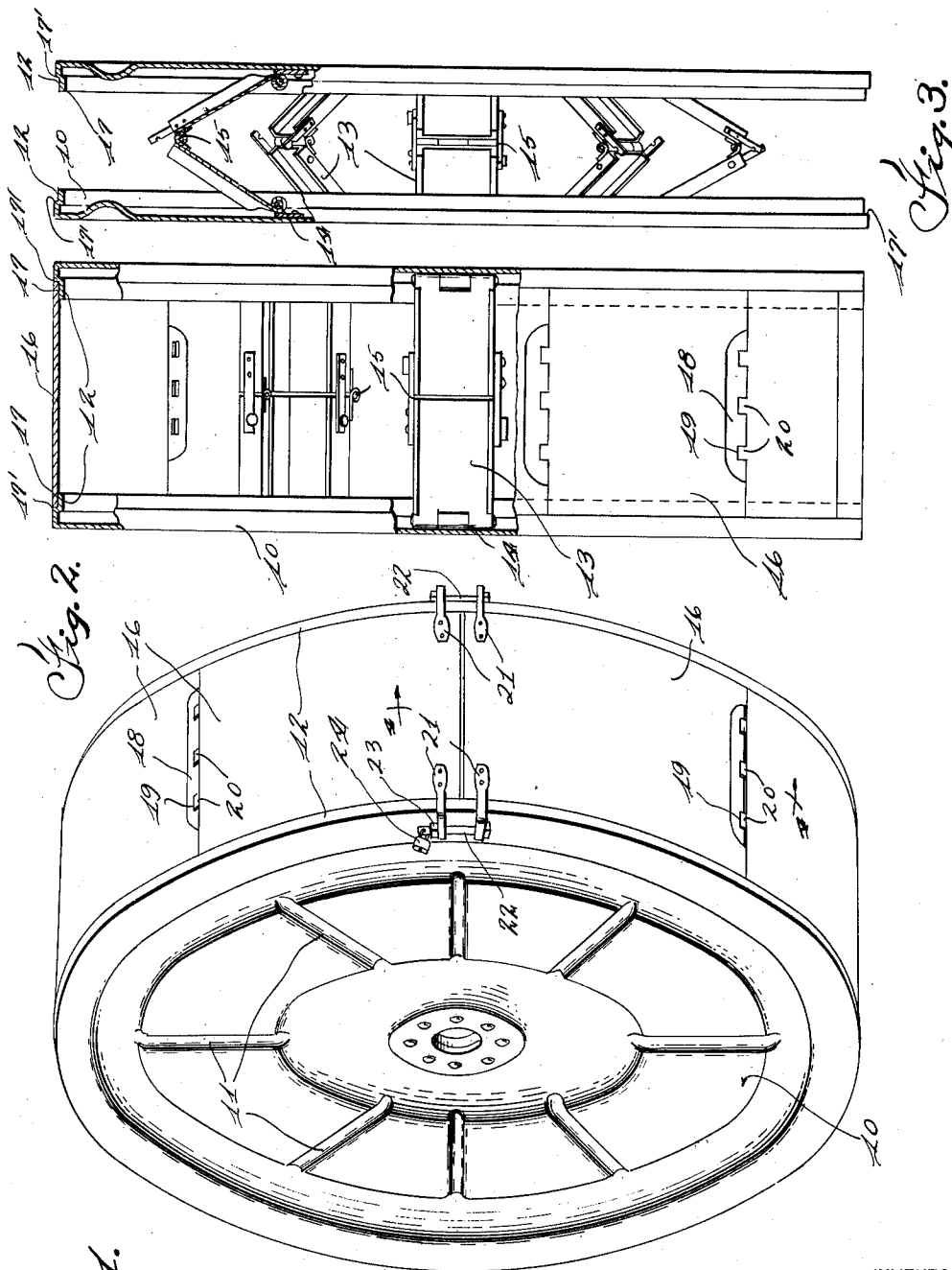
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1,913,477

REEL

Filed Dec. 23, 1929

3 Sheets-Sheet 1



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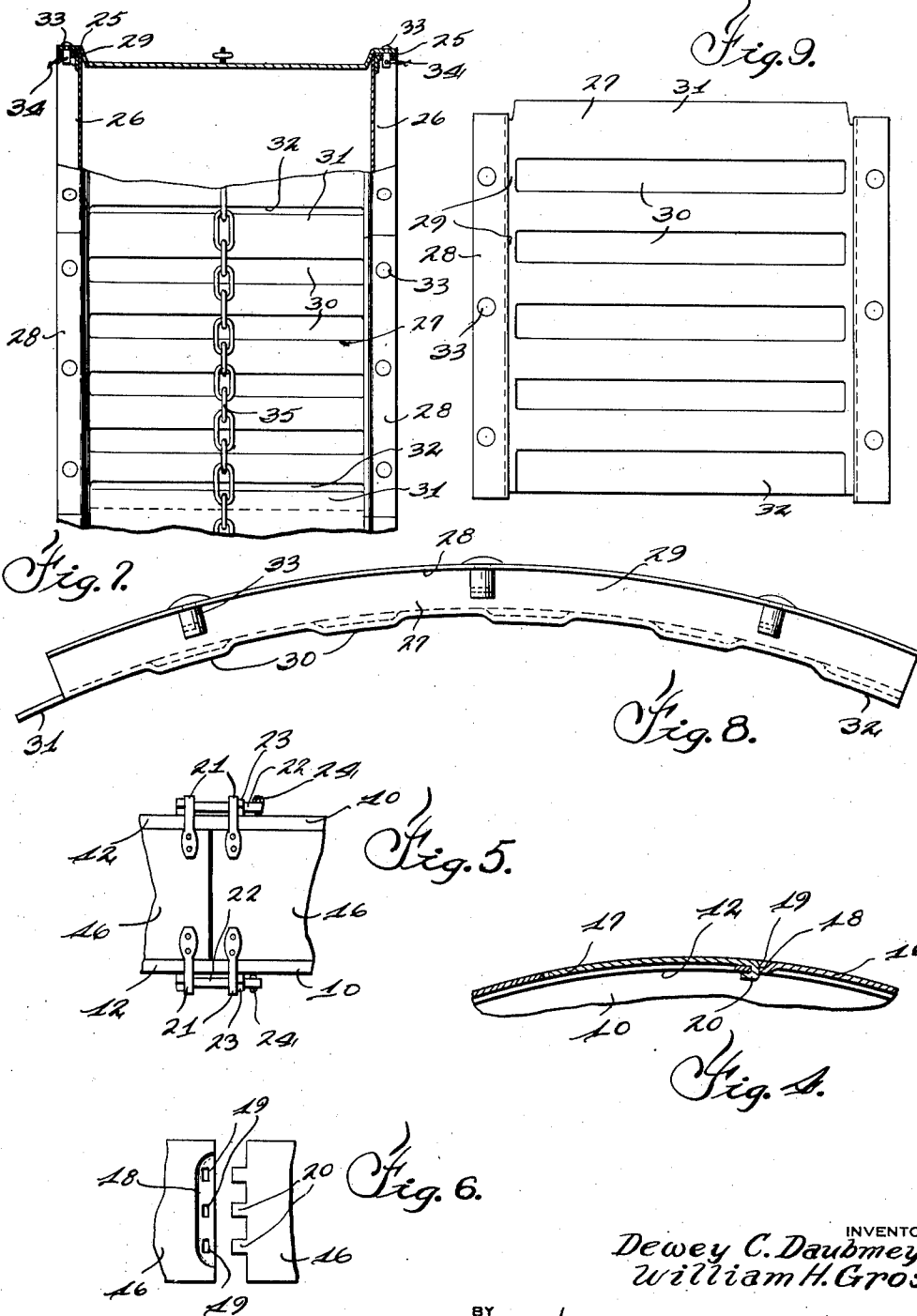
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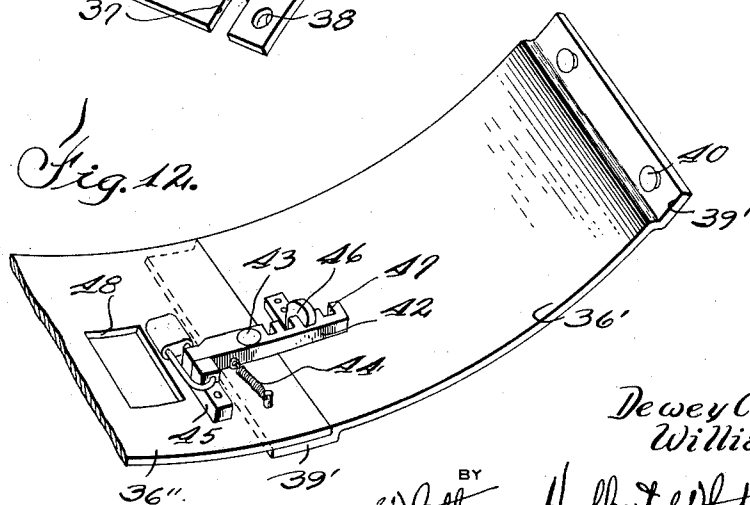
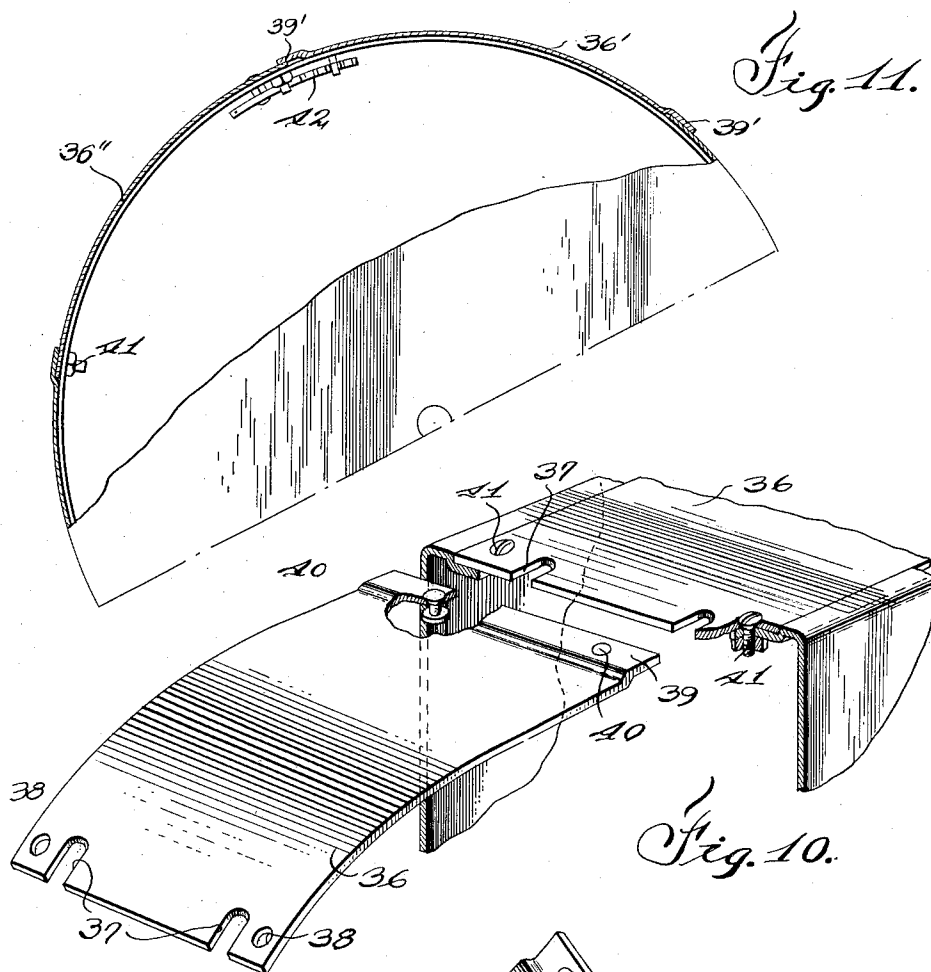
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REEL

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3 Sheets-Sheet 3



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REEL

Application filed December 23, 1929. Serial No. 416,066.

This invention relates to reels and more especially to collapsible metallic reels of sufficient size and strength to render them capable for use in carrying heavy electric cables and the like used principally by public utility companies such as electric light and telephone companies. This application is in part a division of our application Serial No. 103,911 filed April 22, 1926.

One of the primary objects of this invention is to provide a reel of the character described which may be cheaply and economically manufactured; assembled with facility and dispatch; which will be strong and durable, withstand the wear and tear of ordinary usage; and which may be quickly and easily collapsed when empty to facilitate handling and shipment.

Another object of this invention is to provide a reel of the general character herein referred to provided with a peripheral covering or sheathing for enclosing and protecting the cable wound on the reel and capable of easy attachment and of being locked in place and one which may be removed with facility and compactly stored to enable the same to be economically handled and shipped.

The several objects of the invention as well as several structural embodiments by means of which the above named advantages may be carried into execution, will be made more apparent as this description proceeds, especially when considered in connection with the accompanying drawings wherein:

Figure 1 is a perspective view of a reel constructed in accordance with this invention with the cover plates or sheathing plates in place;

Figure 2 is an elevational view partly in section of the reel illustrated in Figure 1;

Figure 3 is a view partly in vertical section and partly in elevation of the reel with the cover plates removed and the reel partly collapsed;

Figure 4 is a fragmentary elevational sectional view taken substantially on the plane indicated by line 4-4 in Figure 1;

Figure 5 is a fragmentary plan view show-

ing one form of locking means for the cover plates or sheathing;

Figure 6 is a separated fragmentary elevational view of the adjacent ends of a pair of cover or sheathing plates showing the interconnecting means therefor;

Figure 7 is a view partly in section and partly in elevation of a reel showing another form of cover plate or sheathing;

Figure 8 is a side elevational view of one of the cover plates detached;

Figure 9 is a top plan view of the cover plate illustrated in Figure 8;

Figure 10 is a fragmentary separated perspective view of a portion of the reel showing a pair of sheathing or cover plates of a slightly modified form of construction;

Figure 11 is a fragmentary view partly in section and partly in elevation of a reel showing the manner in which the form of cover plates shown in Figure 10 are assembled with the reel and showing the manner in which the last two plates to be assembled are locked in place, and

Figure 12 is an inverted fragmentary perspective view showing the underside of the last two plates and showing more in detail the locking means.

Referring now particularly to the drawings and more especially to Figures 1 to 6 inclusive, it will be noted that the form of reel illustrated, which is substantially similar to that illustrated in our aforesaid copending application, comprises a pair of side plates 10 provided with suitable strengthening ribs or depressions 11 and laterally bent stepped flanges 12. The side plates 10 are connected by means of drum members 13, the ends of which are hingedly connected as at 14 to the respective side plates while each drum member consists of a pair of sections hingedly united at the center of the reel as indicated at 15. Thus the drum members may each be folded radially outwardly to permit the side plates 10 to be moved toward one another to collapse the reel.

The reel is shown partly collapsed in Figure 3 and when completely collapsed is materially reduced in size so as to facilitate compact storage and economical handling and

shipment thereof. When the reel is in normal or uncollapsed condition, the drum members are in extended position as illustrated in Figure 2 and when the cable is wrapped thereon the drum members are maintained in this position and the accidental collapsing of the reel is prevented.

The sheathing or cover plates consist of a plurality of plate-like members 16, which when assembled are adapted to close the peripheral opening of the reel and to protect the contents of the reel from the elements and also from pilferage. The cover plates are mounted and supported upon the inwardly stepped portion 17 of the flanges 12, lateral movement of the cover plates being prevented by reason of their abutment against the circumferential shoulders 17' provided by the stepping of these flanges 12. One end of each cover plate 16 is provided with a depressed portion 18 which extends along the edge but stops short of the side edges thereof as most clearly illustrated in Figure 6. This depressed portion of each plate is provided with a plurality of apertures 19 with which a corresponding number of return-bent tongues 20 provided on the other edge of the next adjacent plate section, are adapted to engage. By forming each plate with a depression 18 in which the apertures 19 are located the plates 16, when assembled, and interlocked as suggested in Figures 1 and 4 will present a substantially even and continuous outer surface or contour.

In assembling the plates 16 with the reel they are placed upon the flanges 17 and the tongues or projections 20 of each plate are caused to engage the apertures 19 of the next adjacent plate, this being repeated until all of the plates have been positioned in this manner. The meeting edges of the last two plates are adapted to be connected by any desired type of locking means and in Figure 5 we have illustrated one simple manner of locking these cover plates in place. For this purpose each plate is provided with a pair of brackets 21 suitably apertured for the reception of bolts 22. By passing a bolt 22 through a pair of brackets 21 and threading a nut 23 on to the end of the bolt the last pair of plates may be drawn together thus holding the several plates 16 arranged about the periphery of the reel, firmly in place. The cover plates may be locked against unauthorized removal by means of locks 24.

In Figures 7, 8 and 9 a slightly modified form of sheathing or cover plate is illustrated. In this form of construction the peripheral flanges 25 of the side plates 26 of the reel extend outwardly instead of inwardly as in the previously described construction. The sheathing for the reel consists, as in the previously described construction, of a plurality of cover plates 27 but in this form each cover plate is provided with a longitu-

dinal flange 28 at the side edges thereof, which flanges are arranged above and out of the plane of the main or body portion of the body plate. These flanges 28 of the cover plates are adapted to rest upon the flanges 25 of the side plates 26 as most clearly shown in Figure 7 and when thus positioned, the main portion of the cover plates is within the periphery of the reel. The flanges 28 are connected to the body of the cover plates by angular portions forming shoulders 29 which obviously, engage the side plates 26 to prevent any relative lateral movement of the cover plates. The flanges 28 being superposed upon the side flanges 25 of the side plates 26 act to reinforce these side flanges and to provide rims of double thickness upon which the reel may be rolled when necessary. By dropping the body portion of the cover plates below the outer periphery of the reel liability of the cover plates becoming damaged by coming in contact with objects on the ground during rolling is minimized.

As shown in Figures 8 and 9, the body portion of each cover plate may be, and preferably is, provided with ribs or depressions 30 which act to strengthen and otherwise reinforce the cover plates. One end of each cover plate is provided with a tongue or extension 31 which is adapted to overlie a corresponding depression 32 on the adjacent edge of the next cover plate. Thus when complete assembled on the periphery of the reel, the cover plates coact and cooperate to prevent the removal of one another.

One convenient means for securing this form of cover plate in place on the reel consists in providing each cover plate with a plurality of pins or projections 33 and locating these pins in the flanges 28 and forming a corresponding number of apertures in the flanges 25 of the side plates 26. Each pin may be apertured as shown whereby after the plate has been placed in position upon the reel, wires or other types of seals 34 may be passed through the apertures as most clearly illustrated in Figure 7. By arranging the distance between the apertures and between the pins uniform throughout the periphery of the reel and providing a number of apertures equal to the total number of pins in the several cover plates, the assembling of the cover plates with the reel may be commenced at any peripheral point as will be obvious.

If the reel is left with cable thereon at some secluded or unprotected spot, pilferage of the cable may be guarded against by passing a logging chain or the like 35 around the center of the reel and locking the same in place. It will obviously be impossible to remove the chain or other similar securing means because with the ends thereof locked together such a chain cannot be slid off the reel laterally owing to the shoulders 29.

As best seen from Figure 10 in which a modified form of construction is illustrated, each cover plate 36 may be provided at one end with a pair of open-ended slots 37 and a pair of apertures 38. The other end of each cover plate is provided with an offset flange or tongue 39 carrying a pair of headed elements 40.

Flat headed bolts 41 are passed through the apertures 38 of each cover plate 36 to bolt that end of each cover plate to the flanges of the side plates of the reel. Thereafter the headed elements 40 of the adjacent end of the next cover plate are engaged in the open-ended slots 37, the offset flange of end 39 of this cover plate overlying the bolts 41 to prevent their unauthorized removal. Thus, after the cover plates are successively assembled with the reel in the manner just described, it will be obvious that each plate when assembled prevents the removal of the preceding plate.

The plates are thus assembled until the last cover plate indicated by the reference character 36' in Figure 11. This cover plate has an offset flange or end portion 39' at both ends thereof. The reference character 36'' indicates the first cover plate to be attached, which cover plate is not provided with an offset portion at either end. The cover plates 36'' and 36' carry a locking mechanism seen best from examination of Figure 12. Pivotaly mounted on the underside of the cover plate 36' is a rack bar 42, the same being pivotaly connected to the plate as at 43. A spring 44 normally urges the rack bar to the position illustrated in which it abuts a stop 45. The other cover plate 36' carries a keeper 46 which is adapted to engage in any of the notches 47 of the rack bar 42. When the last cover plate 36' has the headed elements 40 at its one end engaged in the slots 37 of the preceding cover plate, the other end of this plate may be locked by pressing the cover plate radially inwardly, the keeper 46 engaging the pivoted rack bar 42 and causing the same to swing, whereupon the keeper will snap past the same. Thereafter the spring 44 will return the rack bar 42 to the position illustrated in Figure 12 where one of its notches 47 engages under the keeper. This will lock this cover plate in place. A hand hole 48 is provided by means of which a suitable instrument may be inserted to engage the end of the rack bar to swing the same about its pivot to release the plate 36' when it is desired to remove the cover plates.

While several embodiments of the invention have been illustrated herein somewhat in detail, it will be readily apparent to those skilled in this art that various changes of the essential and all of the non-essential details may be resorted to without departing from the spirit and scope of this invention and to this end reservation is made to make

such changes as may come within the purview of the accompanying claims.

What we claim as our invention is:

1. In a reel having side plates and laterally extending apertured flanges on the peripheries of said side plates, a peripheral covering comprising a plurality of interconnected sections supported upon said flanges and projections carried thereby adapted to engage said apertures for securing said sections in place.

2. The combination with a collapsible metallic reel including side plates having laterally extending flanges, of a peripheral covering comprising a plurality of independent detachably interconnected sections supported upon said flanges and locking means for the last section to be assembled.

3. In a reel having side plates having laterally extending flanges, a peripheral covering comprising a plurality of independent individually attachable cover plates, said plates having overlapping end portions whereby the assembling of successive cover plates prevents the removal of the preceding cover plate and means for securing said plates in place.

4. In a reel having side plates having laterally extending flanges, a peripheral covering comprising a plurality of cover plates, interconnecting means carried by said plates whereby the assembling of successive cover plates prevents the removal of the preceding cover plate and means for locking the last cover plate to be assembled comprising a pivoted rack bar and a keeper, one of said parts being carried by the last cover plate to be assembled, said rack bar and keeper being engaged by a radial inward movement of said last cover plate.

5. A peripheral closure for a collapsible metallic reel having peripherally flanged side plates comprising, a plurality of separate individually applied metal cover sections supported on the flanges of said side plates, interengaging means on the adjacent ends of said cover sections, and means for securing said cover sections in place to completely close the periphery of said reel.

6. In a reel having side plates and laterally extending apertured flanges on the peripheries of said side plates, a peripheral covering comprising a plurality of independent sections supported on said flanges, interengaging means on the adjacent ends of said sections, and projections on the edges of said sections adapted to engage said apertures for securing the interengaging sections in place on the reel.

7. A closure for a reel having side plates and laterally extending peripheral flanges comprising, a plurality of cover sections each section having side flanges arranged out of the general plane of said sections and resting

on the flanges of said side plates to locate said sections within the periphery of said side plates, and means for securing said cover sections in place.

5 In testimony whereof we affix our signatures.

DEWEY C. DAUBMEYER.
WILLIAM H. GROSS.

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