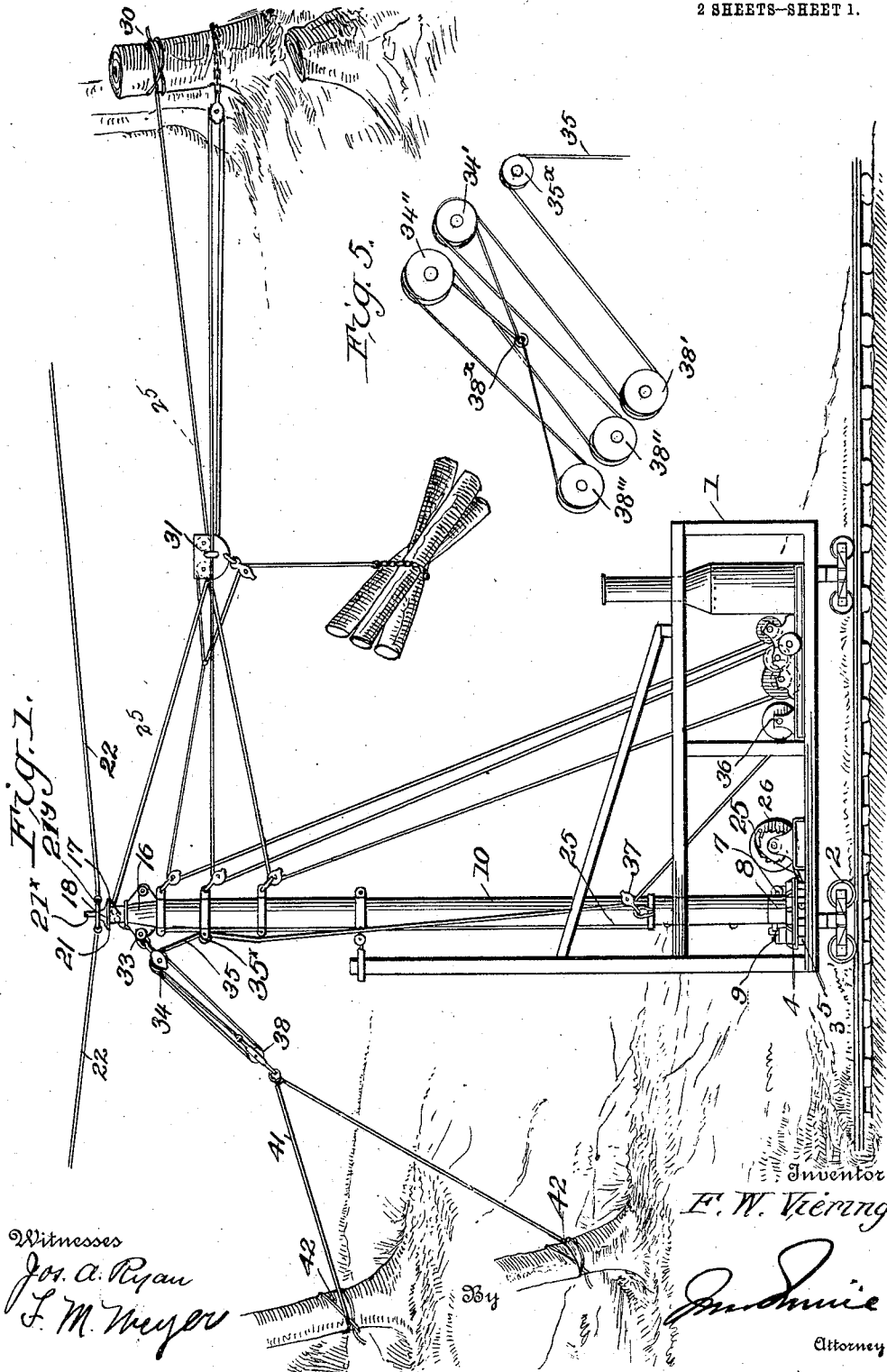


F. W. VIERING.
 APPARATUS FOR TRANSPORTING LOGS.
 APPLICATION FILED APR. 12, 1912.

1,066,345.

Patented July 1, 1913.

2 SHEETS—SHEET 1.



Witnesses
 J. A. Ryan
 J. M. Meyer

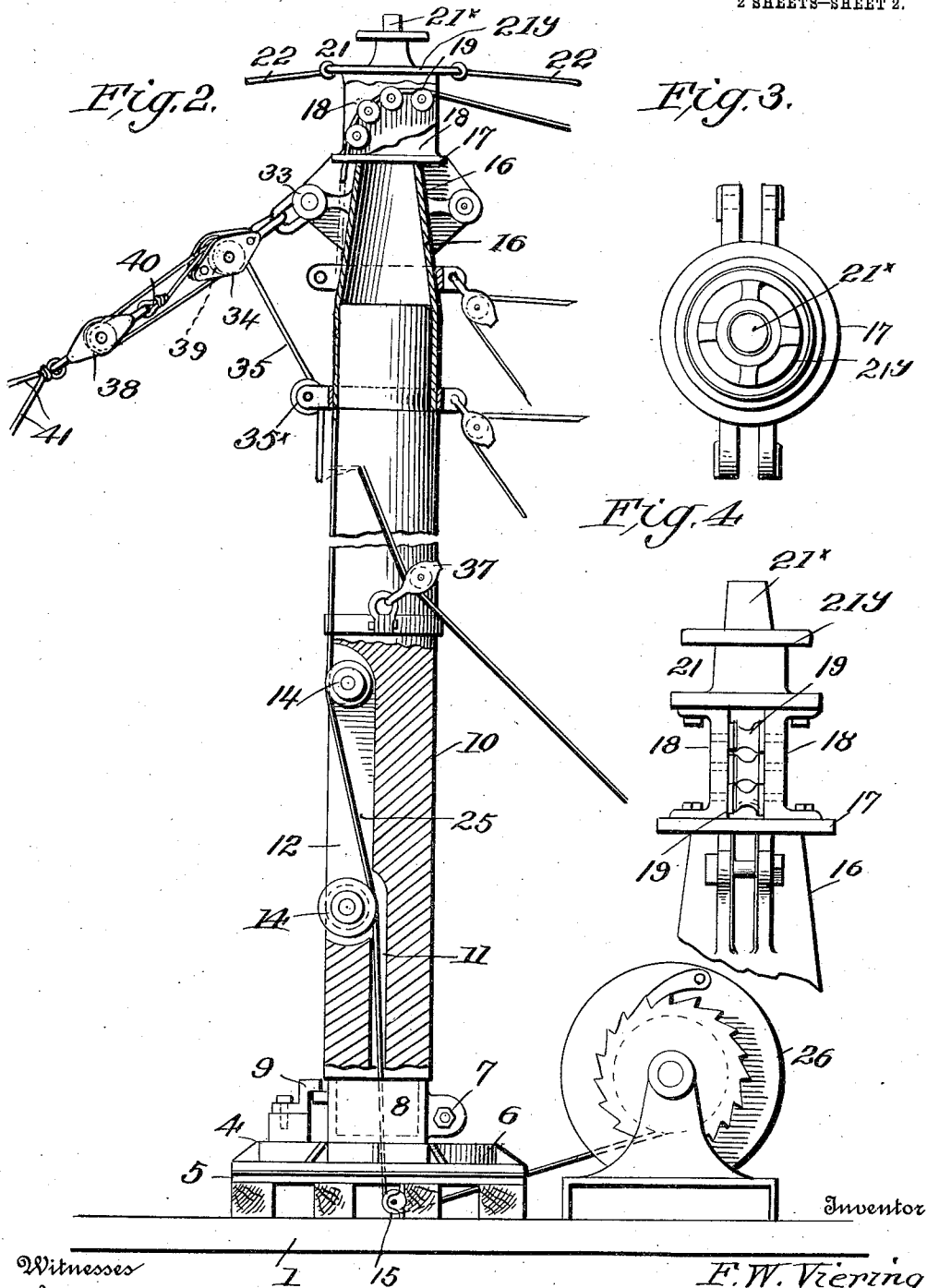
Inventor
 F. W. Viering
 Attorney

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By

F. W. Viering
 Attorney

UNITED STATES PATENT OFFICE.

FREDERICK W. VIERING, OF DAVIS, WEST VIRGINIA.

APPARATUS FOR TRANSPORTING LOGS.

1,066,345.

Specification of Letters Patent.

Patented July 1, 1913.

Application filed April 12, 1912. Serial No. 690,457.

To all whom it may concern:

Be it known that I, FREDERICK W. VIERING, citizen of the United States, residing at Davis, in the county of Tucker and State of West Virginia, have invented certain new and useful Improvements in Apparatus for Transporting Logs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in means for transporting logs.

In my prior Patent, No. 1,015,103, dated January 16, 1912, I illustrated and described a mast provided with a cap constructed in such manner as to necessitate the main cable being passed over a guide pulley attached to a support located to one side of the apparatus. My present invention is primarily designed to avoid this contingency, and the improvement is directed to the features which will permit of the main cable passing direct from the housing at the top of the mast to the guide pulleys in the lower portion of the mast and thence to the operating drum.

My invention also comprehends improvements in the means employed for bracing the mast in opposition to load strain when hauling logs.

The invention also relates to the specific details of construction and arrangement of parts which will be hereinafter described and particularly pointed out in the claims.

In the drawings: Figure 1 is a side elevation illustrating the application of my invention. Fig. 2 is an enlarged elevation of the mast, parts being shown in section. Fig. 3 is a detail plan view of the mast cap. Fig. 4 is an end elevation of the same. Fig. 5 is a diagrammatic perspective view of the arrangement of the blocks and the bracing cable adjacent the top of the mast.

1 indicates a car, supported on wheels 2, and adapted to travel on the track 3. On the car is a base 4, comprising a lower stationary section 5, preferably supported on

sills, and a rotatable upper section 6, having hinged at 7 a mast socket 8, locked in position by a latch 9.

Fitted in the mast socket is a mast 10, formed at its lower end with a vertical opening 11, the upper portion of which merges into an open slot 12. In the slot 12, are two guide rollers 14, over which a main or cable track 25 passes, and below the opening, and suitably supported below the lower stationary section 5 is a guide roller 15.

On the upper end of the mast 10, is secured a cap 16, formed with a flange 17, on which are bolted two parallel vertically disposed spaced plates 18, between which a series of rollers 19 are mounted. To the upper ends of the plates 18, is bolted a tip 21, having a trunnion 21^x which receives a support 21^y, for the upper ends of guys 22. The lower ends of the guys 22 are staked or otherwise anchored to hold the mast steady when the apparatus is set up for operation. Each roller 19, is mounted in a different vertical and horizontal plane than the adjacent roller to form a gradual curved track for the main cable, the periphery of the lowest of said rollers being slightly beyond the plane of the outer surface of the mast, as clearly shown in Fig. 2.

The inner end of the main or cable track 25, is wound on a drum 26, from whence it passes over the guide pulley 15, and thence through the vertical opening 11, and over the guide pulleys 14, and up along the outer surface of the mast to the rollers 19. From the rollers 19, the main cable extends above the plane of the forest being worked, and is secured to a stump or tree as indicated at 30.

Mounted to travel on the main or cable track 25, is a carriage 31, which is operated from the car, in substantially the same manner, shown and described in the beforementioned patent.

The cap 16 is provided with a lateral eye 33, which supports a block 34, including two pulleys 34' and 34'' around which the cable 35 passes. The cable 35 comes from a drum 36, and is guided under a pulley 37, on the mast, and thence around a pulley 35^x, swiveled to the mast below the block 34. From pulley 35^x, the cable 35 passes around pulley 34', thence around pulley 38' mounted in a

block 38, thence around pulley 34'', in block 34, and its free end is fastened to an eye 38^x on block 38. Block 38, is secured to guy cables 41, the ends of which are anchored to supports or stumps of trees as indicated at 42.

In operation, the carriage 31, is drawn out on the cable track by operating the drums, and the hoisting cable is lowered and the logs are secured. When the logs are elevated great strain is placed on the cable track, which has a tendency to pull the top of the mast in direction of the load. As the logs are drawn up toward the carriage, the drum 26 is rotated to take up as much slack as possible on the cable track, which materially increases the pull on the upper end of the mast. To overcome this tremendous pull at the top of the mast, it is of the utmost importance that powerful means be provided to counter-act the tendency to draw the mast down. Hence, it is essential that the bracing cable be under such perfect control to regulate its tension to accommodate different loads when hauling toward the mast. Now, when a load is raised, the drum 36 is rotated, and because of the arrangement of the bracing cable, and its connections between the upper end of the mast and the guys 41, the mast is braced in opposition to the load strain exerted by the load on the cable track. Therefore the pull on the mast by the bracing cable can be regulated according to the load pull on the opposite side of the mast, during any period of the operation of hauling logs, which is of considerable importance, in that it insures stability of the parts, and permits of a ready means for releasing the strain on the cables when the apparatus is not in use.

The cable 35, performs a dual function. It acts as a brace to resist the strain, due to the weight of the logs being hauled, and it acts as a means for moving the car on the track to change the position of the apparatus. If it be desired to move the car, the carriage operating cables, and the main cable are slackened, and the operating drum 36 is rotated to wind the cable 35. The winding of the cable 35, will advance the car on the track to the desired position, and then by tightening the previously released cables, the cable 35 again becomes a brace for the mast.

I have found by practical experience the construction and arrangement of parts described enables me to perform the operation of hauling logs with a great deal of expedition, and with greater degree of surety of bracing and steadying the parts. I am also enabled to quickly shift the guy cables 22, and the main cable 25, and turn the mast and operate over an area disposed at various angles from the car. By placing cable 25, as shown and described, I am enabled to

change the position of the cable with considerably less trouble and expense, and can at the same time remove logs from a much larger area than is possible with apparatuses now in use.

What I claim is:

1. The combination of a rotating mast formed at its lower end with a vertical opening and a slot communicating therewith, guide rollers mounted in the slot, a cap on the upper end of the mast, said cap having two vertical spaced apart members, a series of rollers arranged between the two spaced apart members, each roller being arranged in a different horizontal and vertical plane than the adjacent roller to form a gradual circular track, a cable passing through the vertical opening and over the guide rollers in the slot and thence over the series of rollers in the cap, means for securing the cable track at a point remote from the mast, means for adjusting the cable track, means including a bracing cable extending from the mast for bracing the latter and for changing the position of the mast, a guy secured to a support remote from the mast for holding the bracing cable taut, and means for operating the bracing cable to regulate its tension.

2. The combination of a rotating mast formed at its lower end with a vertical opening and a slot communicating therewith, guide rollers mounted in the slot, a cap on the upper end of the mast, said cap having two vertical spaced apart members, rollers arranged between the two spaced apart members to form a gradual circular track, a cable track passing through the vertical opening and over the guide rollers in the slot and thence over the rollers in the cap, means for securing the cable track at a point remote from the mast, means for adjusting the cable track, a block secured to the same side of the mast along which the cable passes to the pulleys in the housing, a guide pulley secured near the lower part of the mast, a drum, a bracing cable extending from the drum and around the last mentioned pulley and through the block, a second block on the bracing cable through which said bracing cable passes and means for securing the end of said bracing cable to one of said blocks, guys extending from said second mentioned block, and means securing the guys.

3. The combination of a rotating mast formed at its lower end with a vertical opening and a slot communicating therewith, guide rollers mounted in the slot, a cap on the upper end of the mast, said cap having two vertically spaced apart members, rollers arranged between the two spaced apart members to form a track, a cable track passing through the vertical opening and over the guide rollers in the slot and thence over the

rollers in the cap, a bracing cable, a pulley secured to the mast over which the shifting cable passes, a block swiveled to the mast and through which the bracing cable passes, a second block through which the bracing cable passes, a guy extending from the second mentioned block, means for securing the outer end of the guy cable at a point remote from the mast, and a drum for winding and unwinding the bracing cable to adjust said cable to brace the mast.

4. The combination of a rotating mast, guide rollers near the bottom of the mast, a cap on the upper end of the mast, said cap having two vertically spaced apart members, rollers arranged between the two spaced apart members to form a track, a cable track passing around the rollers near the bottom of the mast and over the rollers in the cap, a bracing cable, a block swiveled to the mast and through which the bracing cable passes, a second block through which the bracing cable passes, means secured to the second block and to a support located at a point remote from the mast to hold the bracing cable when same is drawn taut, and a drum for winding and unwinding the bracing cable to adjust said cable to brace the mast.

5. The combination of a mast, a rotatable base for said mast, a trunnion at the top of the mast, a guy holder loosely supported on the trunnion and forming a bearing for the top of the mast, stationary guys extending from the guy holder, a main cable pulley near the bottom of the mast, a main cable pulley near the top of the mast, a main cable drum adjacent the bottom of the mast, a main cable extending from the drum and over the main guide pulleys, means for securing the main cable at a point remote from the mast, a carriage on the main cable, means for moving the carriage on the main cable, a block having pulleys connected near the top of the mast and extending therefrom in the opposite direction from the main cable, a second block having a pulley arranged in substantial alinement with the first mentioned block, a bracing cable passing around the pulleys in the two blocks and secured to one of said blocks, a guy secured to the second mentioned block and anchored at its lower end at a point remote from the mast, a drum adjacent the base of the mast to receive the bracing cable, and an engine to operate the drums.

6. In combination, a rotatable mast, means for bracing the mast, a cable track extending from the mast, a carriage mounted to travel on the cable track, a block including a pulley near the top of the mast, a bracing cable passing over the pulley in the block, a drum adjacent the bottom of the mast on which the lower end of the bracing cable is wound, a stationary guy secured at a point remote from the mast for holding the

cable taut to brace the mast against the pull of the bracing cable by the drum, and an engine for rotating the drums.

7. In combination, a car, a mast, means for rotatively mounting the mast on the car, a trunnion at the top of the mast, a guy holder loosely mounted on the trunnion, stationary guys extending from the guy holder, said guy holder serving as a bearing for the upper end of the mast, a main cable pulley near the top of the mast, a main cable pulley near the bottom of the mast, a main cable passing over the main cable pulleys and having its outer end anchored at a point remote from the car, a drum adjacent the bottom of the mast to receive the inner end of the main cable, a bracing cable drum adjacent the bottom of the mast, means for adjustably securing the upper end of the bracing cable near the top of the mast, a guy cooperating with the bracing cable to support same, the lower end of the guy being anchored at a point remote from the car, a carriage on the main cable, cables for operating the carriage, drums for receiving the latter cables, and an engine to operate the drums.

8. The combination of a rotating mast, guide pulleys arranged on the mast to form a gradual circular track, a main cable drum adjacent the bottom of the mast, a main cable passing from the drum and over the guide pulleys and forming a track, means for anchoring the main cable at a point remote from the mast, a block secured to the opposite side of the mast from which the track extends, a second drum, a bracing cable extending from the second mentioned drum and through the block, a second block through which the second mentioned cable passes, means for securing the outer end of the cable to one of said blocks, a guy secured to the second mentioned block and anchored at its lower end at a point remote from the mast, a carriage on the track, cables for moving the carriage on the track, and drums for operating the latter cables.

9. The combination of a rotating mast, a guide pulley near the bottom of the mast, a trunnion at the top of the mast, a guy holder loosely mounted on the trunnion to form a bearing for the upper end of the mast, means for bracing the guy holder, a guide pulley near the top of the mast, a main cable passing around the guide pulleys near the top and bottom of the mast and extending from the latter to form a track, a drum on which the main cable is wound, a bracing cable, a drum which receives the bracing cable, a block swiveled to the mast and through which the bracing cable passes, a second block through which the bracing cable passes, means securing the outer end of the bracing cable to one of the blocks, a guy secured to the second mentioned block

and anchored at its outer end at a point remote from the mast, and an engine for rotating the drums.

10. In combination, a mast, a cable track
5 extending directly from the mast and anchored at a point remote from said mast, a carriage on the cable track, cables for operating the carriage, a bracing cable extending from the opposite side of the mast from
10 which the cable track extends and independent of the latter, means for anchoring the bracing cable at a point remote from the mast, a guide at the top of the mast, around which the bracing cable passes, a drum adjacent the mast to receive the bracing cable,
15 and an engine for adjusting the bracing cable.

11. In combination, a mast, a guide pulley at the upper end of the mast, a cable track passing over the guide pulley and extending therefrom and anchored at a point remote from the mast, a drum on which the inner portion of the cable track is wound, a carriage on the cable track, cables for operating the carriage, drums for receiving the
20 latter cables, a bracing cable extending from the mast in an opposite direction from that of the cable track, means for anchoring the bracing cable at a point remote from the mast, a guide near the top of the mast over which the bracing cable passes, a drum on which the inner portion of the bracing cable is wound to regulate the tension of the
25 same, and an engine for operating the drums.

12. In a transporting apparatus, the combination of a mast, a cable track extending from the mast and anchored at a point remote therefrom, a guide near the top of the
40 mast over which the cable track passes, means including a drum on which the cable track is wound for regulating the tension of said cable track, a carriage operating on the cable track, means for operating the carriage, and power operating means including
45 a bracing cable wholly independent of and disconnected from the cable track for bracing the mast in opposition to a load supported by the carriage.

13. In a transporting apparatus, the combination of a mast, a cable track extending from the mast and secured at a point remote from said mast, a carriage mounted to travel on the cable track, bracing means including blocks, a cable and a fixed guy, one
55 of the blocks being supported on the mast,

and the other block supported on the fixed guy, the cable passing through the blocks and fastened to one of the latter, and power operated means for regulating the tension
60 on the last mentioned cable.

14. In a transporting apparatus, the combination of a mast, a guide near the top of the mast, a cable track secured at a point remote from the mast and extending over the
65 guide at the upper end of the mast, a drum adjacent the bottom of the mast and around which the free end of the cable track passes a portion of the cable track between the drum and the guide at the top of the mast
70 being substantially parallel with the latter, a bracing cable extending from the upper end of the mast, a fixed support to hold the bracing cable in position, and a drum around which the free end of the bracing
75 cable is wound, whereby the mast may be braced in opposition to the strain of a load on the cable track.

15. In a transporting apparatus, the combination of a mast, a single cable track extending directly from the mast and secured at a point remote therefrom, means for adjusting the tension of the cable track, a stationary guy located at a point remote from the mast and on the opposite side of the latter from the cable track, a bracing cable extending from the mast to the stationary
80 guy, and power means for adjusting the stationary cable to brace the mast in opposition to the strain of a load on the cable track.

16. In a transporting apparatus, the combination of a mast, guides on the mast, a cable track extending up the mast and over the guides and thence outwardly from the mast, means for securing the cable track at
95 a point remote from the mast, power operated means for tensioning the cable track, a fixed guy, a bracing cable extending between the fixed guy and the mast and thence down the mast, and power operated means adjacent the bottom of the mast for regulating the tension of the bracing cable to brace the mast in opposition to the strain of a load on the cable track.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK W. VIERING.

Witnesses:

N. McK. WILSON,
E. L. MEYER.