

No. 686,241.

Patented Nov. 12, 1901.

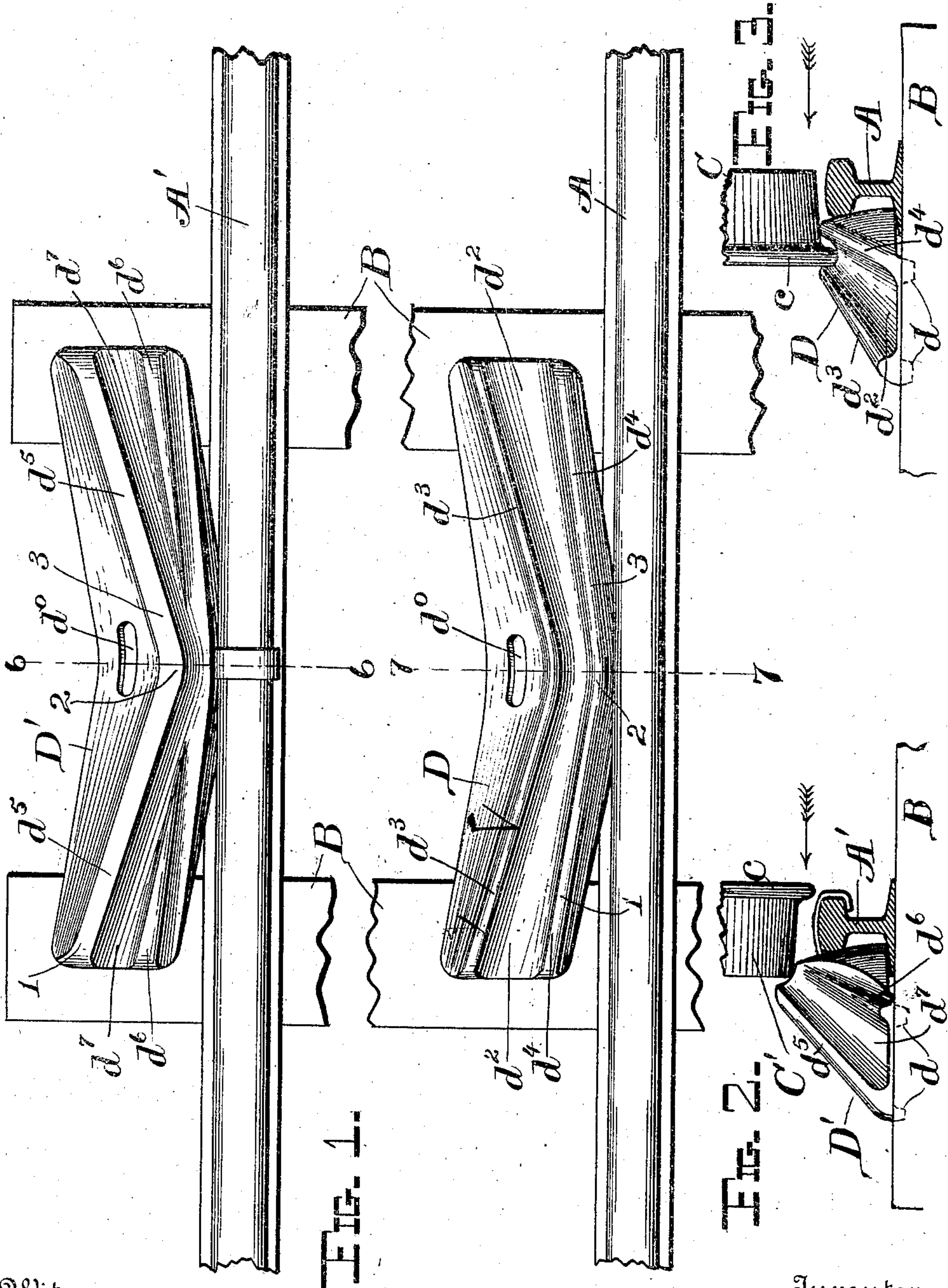
R. E. ALEXANDER.

CAR REPLACER.

(Application filed Feb. 20, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
Kerby C. Bowen
Fred Englert.

Inventor
R. E. Alexander,
by Wilkinson & Fisher,
Attorneys.

No. 686,241.

Patented Nov. 12, 1901.

R. E. ALEXANDER.

CAR REPLACER.

(Application filed Feb. 20, 1901.)

(No Model.)

2 Sheets—Sheet 2.

FIG. 4.

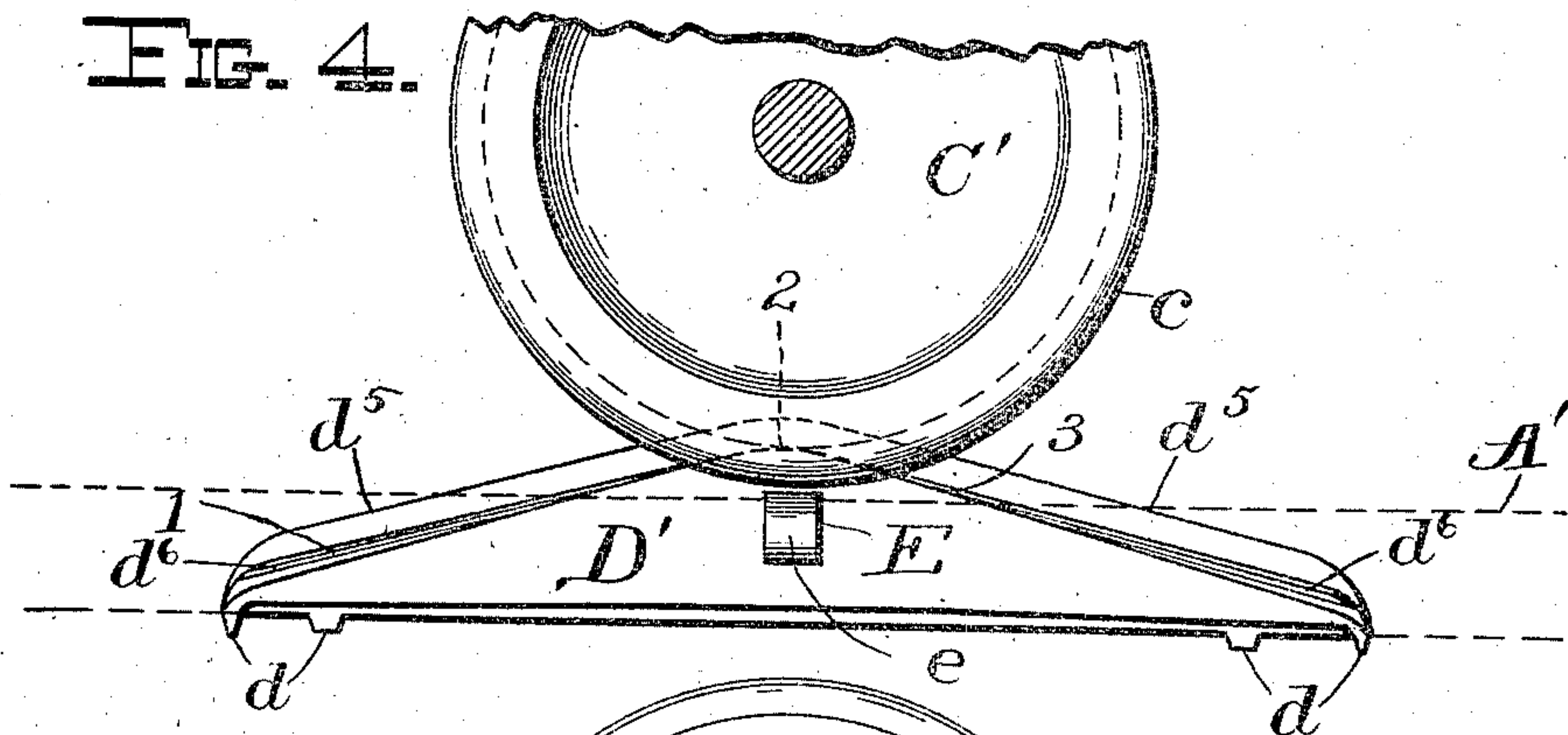


FIG. 5.

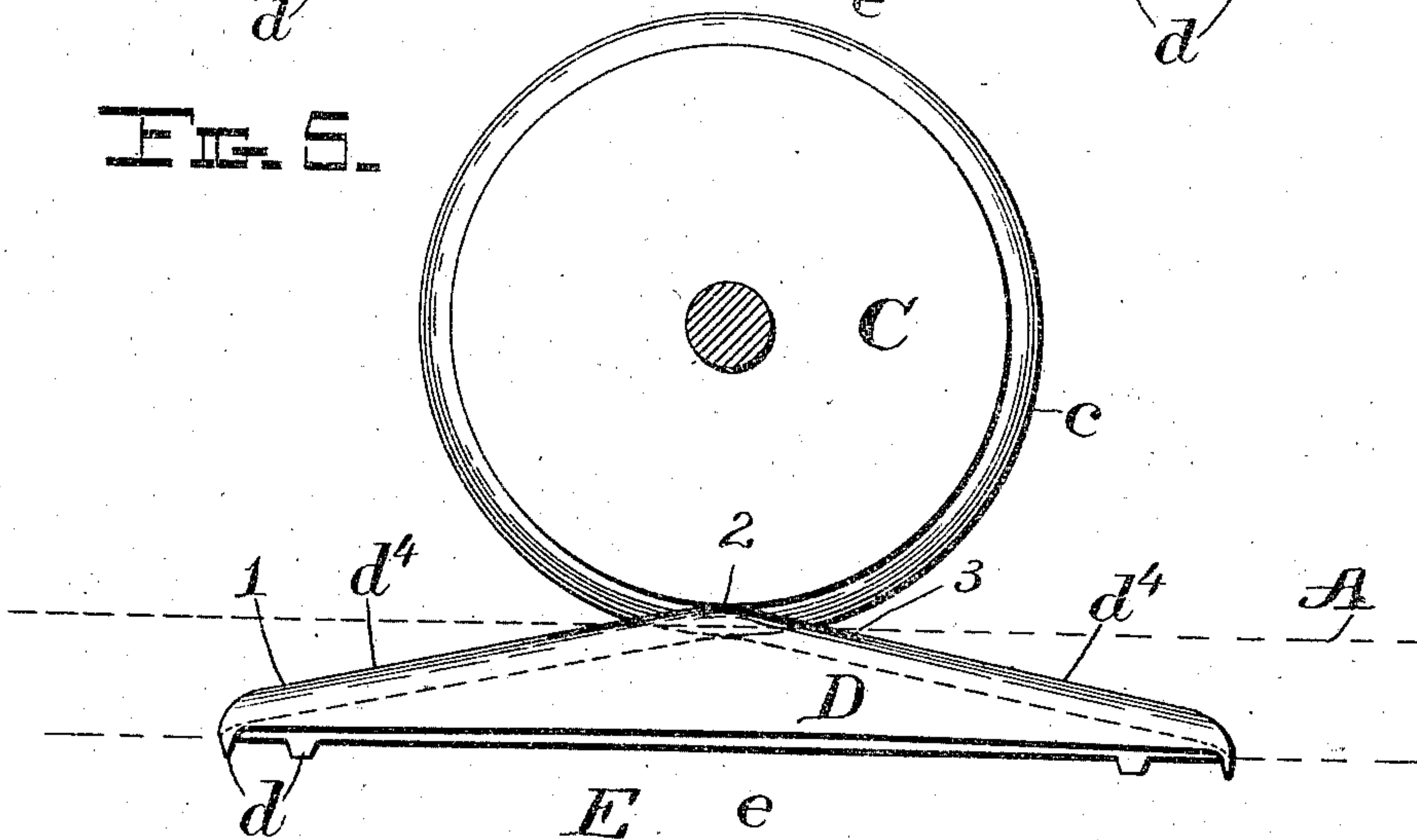


FIG. 6.

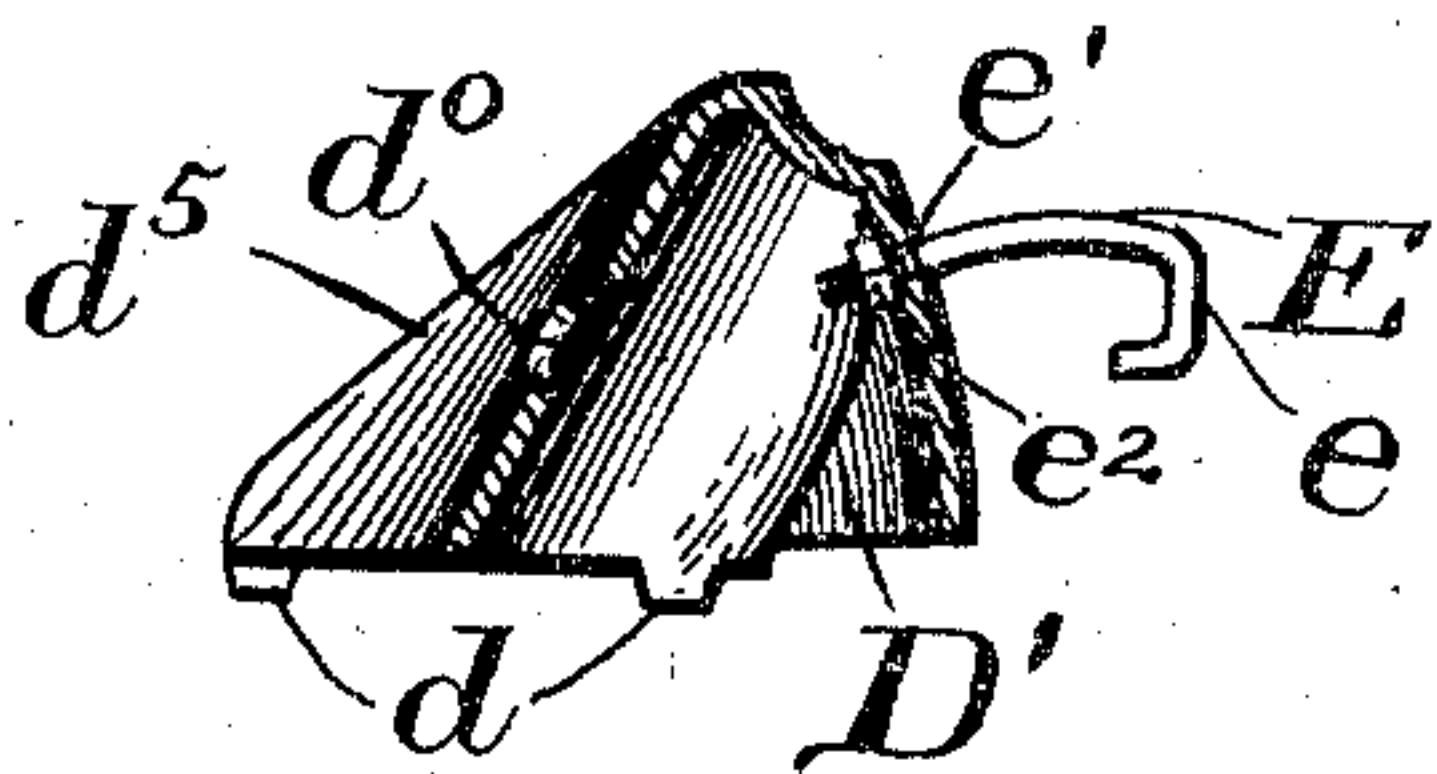
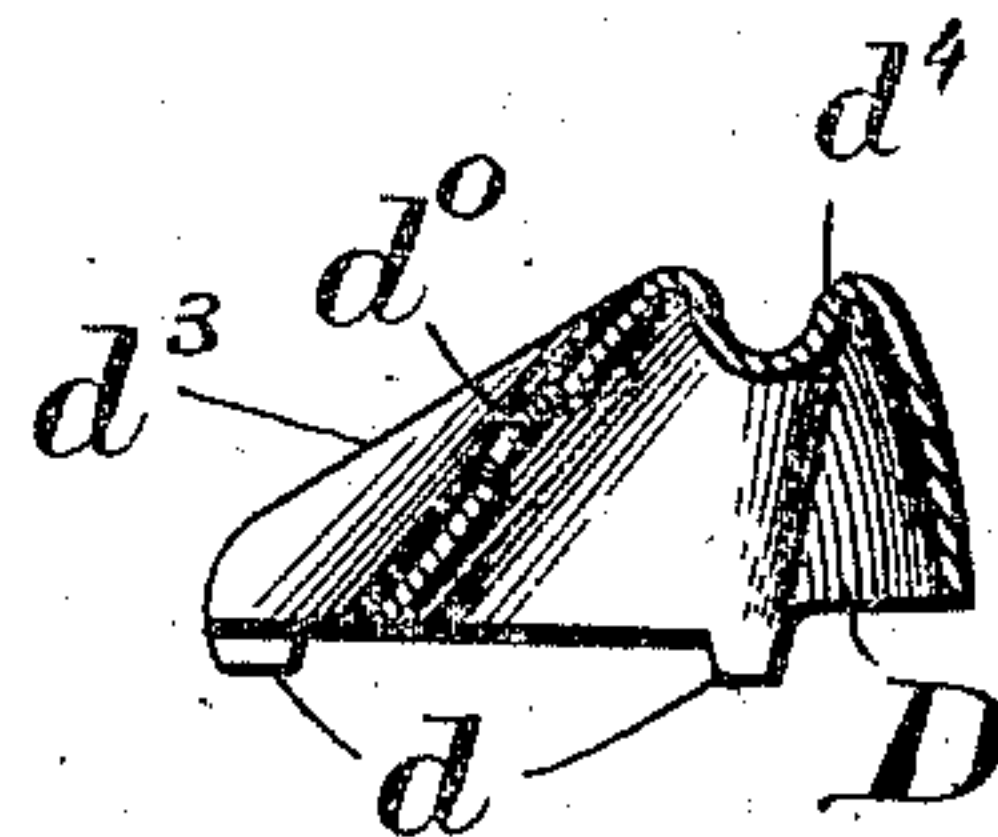


FIG. 7.



Witnesses

Arcey P. Bowen
Fred Engler

Inventor

R. E. Alexander,
by Wilkinson & Fisher,
Attorneys

UNITED STATES PATENT OFFICE.

ROBERT E. ALEXANDER, OF FOREST CITY, PENNSYLVANIA, ASSIGNOR TO
HEITZMAN TOOL AND SUPPLY COMPANY, OF NEW YORK, N. Y., A COR-
PORATION OF NEW JERSEY.

CAR-REPLACER.

SPECIFICATION forming part of Letters Patent No. 686,241, dated November 12, 1901.

Application filed February 20, 1901. Serial No. 48,170. (No model.)

To all whom it may concern:

Be it known that I, ROBERT E. ALEXANDER, a citizen of the United States, residing at Forest City, in the county of Susquehanna and State of Pennsylvania, have invented certain new and useful Improvements in Car-Replacers; 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.

My invention relates to improvements in car-replacers; and the object of the invention is to provide a cheap, simple, efficient, and durable car-replacer which will force the wheels of the derailed car to run over the replacers and ease down upon the rail without a jar and without the sudden shock so common in car-replacers when the wheels are run up to a position slightly above the track and then are allowed to drop on the track, and also to support the car-wheels both on the tread and on the flange when being run up on the replacer. In practice it has been found that not only is the shock disagreeable to the passengers, but frequently the windows are broken, the car is otherwise damaged, and like objectionable results occasioned.

The car-replacer is preferably made of pressed steel.

The invention also consists in certain novel combinations and arrangements of parts, as will be hereinafter described and claimed.

Reference is had to the accompanying drawings, in which the same parts are indicated by the same characters throughout the several views.

Figure 1 represents a plan view of the rails with a pair of car-replacers in the operative position, the cross-ties being broken away to enable the parts to be shown on a larger scale. Figs. 2 and 3 are end views of two car-replacers, respectively, as seen from the left of Fig. 1, the rails being shown in section. Figs. 4 and 5 represent side elevations of the devices shown in Figs. 2 and 3, respectively, looking in the direction of the arrows. Fig. 6 shows a section along the line 6 6 of Fig. 1, and Fig. 7 shows a section on the line 7 7 of Fig. 1.

A and A' represent the track-rails, supported on the cross-ties B of the road-bed in the usual way.

C and C' represent two of the car-wheels which have been derailed, and each of these wheels is provided with the usual flange c.

D and D' represent the two members of the car-replacer, which are preferably made of pressed steel, the member D being placed between the rails and the member D' outside the rail, as shown in Fig. 1. These two members are each symmetrical, so that they may be used to replace a car by moving the latter either from the left or from the right of Fig. 1, as may be most convenient. The inclination of each member relative to the rail should be adjusted to suit the particular position of the derailed wheels. The member D of the car-replacer is provided with a runway or groove d^2 , flaring out at each end and narrowed at the middle, as shown in Fig. 1, which runway or groove is located between the ribs d^3 and d^4 . The height of the rib d^4 at its center or highest portion (indicated by the numeral 2) is somewhat greater than the height of the top of the rail, as shown in Figs. 3 and 5, and then tapers downward toward each end of the member D. The member D' is provided with a heavy strengthening-rib d^5 and inner supporting-ribs d^6 for the tread of the car-wheels. These ribs d^6 terminate in a point just before the central portion 2 of the member D' is reached, as shown in Figs. 1 and 2, and the apex of the rib d^5 is slightly higher than the portion 2, which latter is slightly higher than the top of the rail plus the depth of the flange c, as shown in Fig. 2. The strengthening-rib d^5 is inclined toward the rail at the top and being higher than the apex 2 of the member D' acts as a wedge to force the wheels toward the rails.

Each member of the car-replacer is preferably provided with teeth d to bite into the cross-ties or road-bed, and the member D' is also preferably provided with a hook E, which binds the middle of this member to the rail, as shown in Figs. 1, 2, and 6. This hook may be of any convenient form, such as that shown in Fig. 6, where the hooked end e passes over the rail and under the ball of the

rail, and the other end e^1 is screw-threaded to engage a nut e^2 inside the car-replacer. The hand-holes serve to facilitate adjusting the two members by hand.

5 The operation of the device is as follows: Suppose two of the wheels of a derailed car to be drawn to the replacer from the left in Fig. 1. The flange of the wheel between the rails will enter the runway d^2 in the member
10 D, the tread of this wheel passing on to the rib d^4 . The flange of the wheel on the outside of the rails will be close to the rail and the tread of this wheel will run up on the rib d^6 . As the wheels pass from the lower parts
15 1 to the apices 2 of the members the outside wheels C' , passing up the rib d^6 , will rise above the rail, and the outside of this wheel running against the rib d^5 the flange will be forced over the rail, as shown in Fig. 2, while
20 the wheel C between the rails will ride up the flange d^4 until the tread of said wheel passes above the rail, as shown in Fig. 3. A further motion of the wheels to the points 3 3 will cause the wheel C to run down on the
25 rail A without any appreciable shock or jar, and at the same time the wheel C' will pass over the rail A' and run down thereon, with the flange in proper place between the rails. Thus it will be seen that in each member I
30 provide a rib for supporting the weight of the wheel and for strengthening the replacer, which rib engages on the tread of the wheel, and a runway in which the flange of the inside wheel travels. In this way the strength
35 of the increased thickness due to the supporting-rib of the car-replacer is arranged to support most of the weight of the car, and also this weight is borne on the tread of the wheels, where it is balanced, rather than on
40 the flanges, which are primarily intended as guides only. In the member D the rib d^4 prevents the wheels from prematurely sliding on the track and eases the wheel C down, as at the position 3, (see Fig. 1,) without any
45 jar. Since the greatest lateral strain will be

thrown on the member D', due to the wedging effect of the rib d^5 against the wheel C', the hook E will only be required on this member, and this may very conveniently be placed where it is most needed—just below 50 the apex 2 of the said member.

It will be seen that I provide a strong, light, efficient, and durable car-replacer positive in its action which supports the wheels and guides them over the rails and which requires 55 the car to be lifted but very slightly above the rail and which avoids the jar common in car-replacers as now in general use.

Having thus described my invention, what I claim, and desire to secure by Letters Patent 60 of the United States, is—

1. A car-replacer comprising two members D and D' provided with ribs d^3 and d^4 , and d^5 and d^6 , respectively, the ribs d^3 and d^4 projecting above the apex of the member D, 65 and the rib d^6 disappearing near the apex of the member D', substantially as and for the purposes described.

2. A car-replacer comprising two members each symmetrical with regard to the center 70 and widening from the center toward the ends, one of the said members having continuous ribs with an inclined runway between said ribs, said runway narrowing at the center of the member and widening toward 75 the ends, and the other member having a continuous outer rib, and inner ribs terminating near the apex of the members, with a shoulder above the ends of said ribs sloping toward the rail, and a runway between said 80 continuous rib and said interrupted ribs and terminating in said shoulder, substantially as described.

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

ROBERT E. ALEXANDER.

Witnesses:

F. T. GELDER, Jr.,
RAY E. ALEXANDER.