

(No Model.)

A. B. BURTON.

BRACING THE PILES OF PIERS.

No. 296,313.

Patented Apr. 8, 1884.

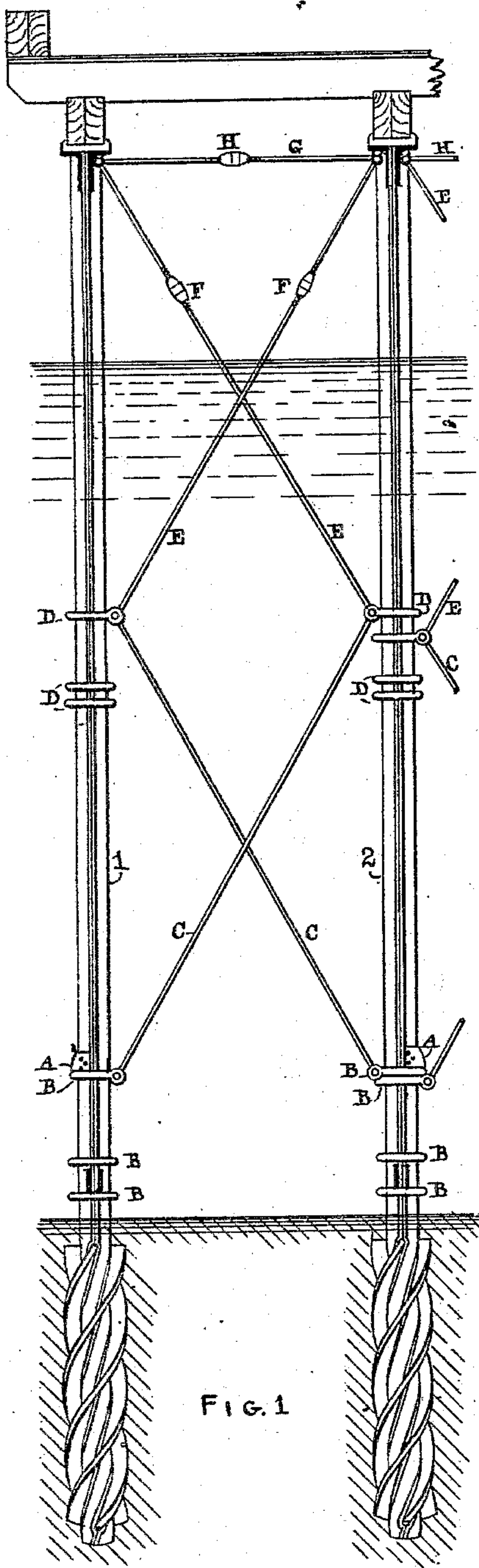


FIG. 1

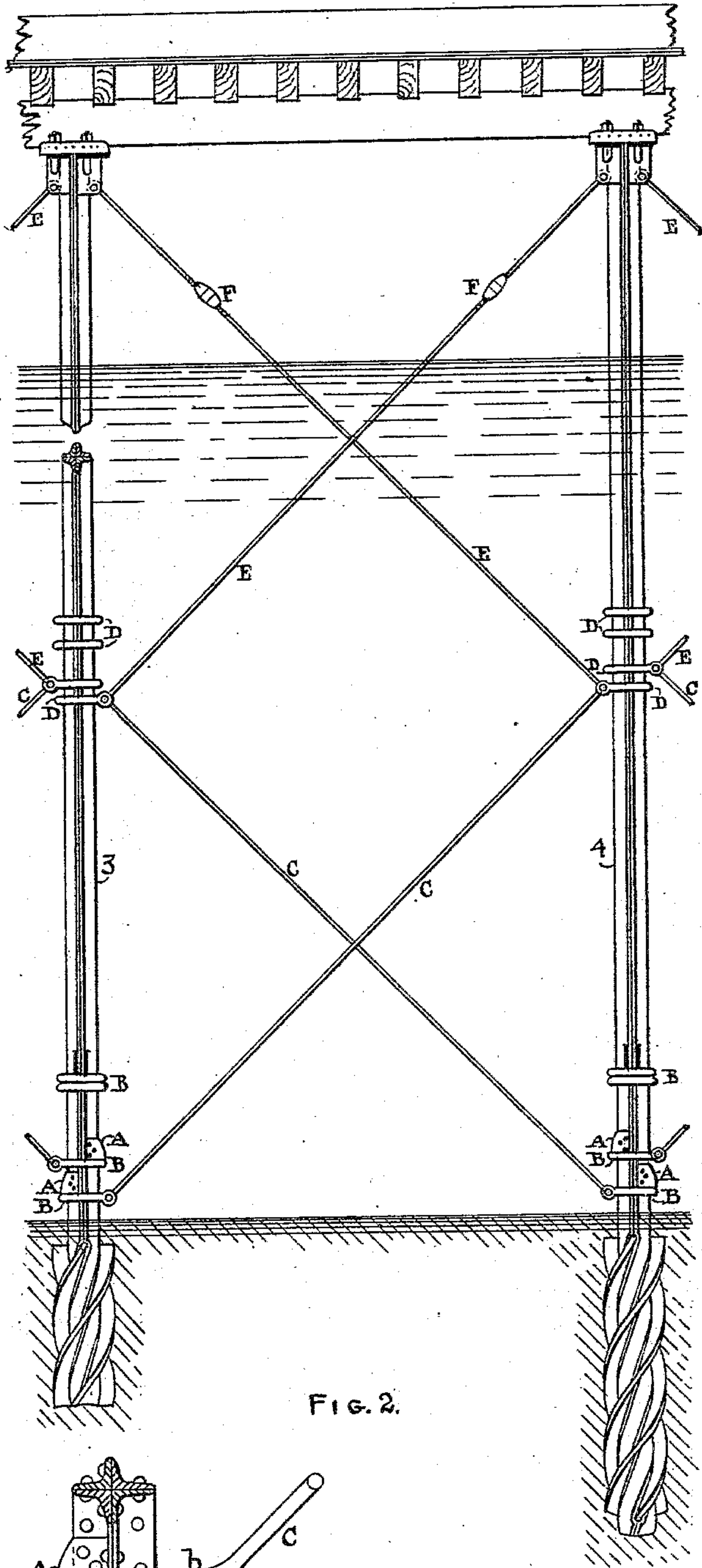


FIG. 2.

WITNESSES,

Joseph Sullivan

John E. Elmendorf

FIG. 3,

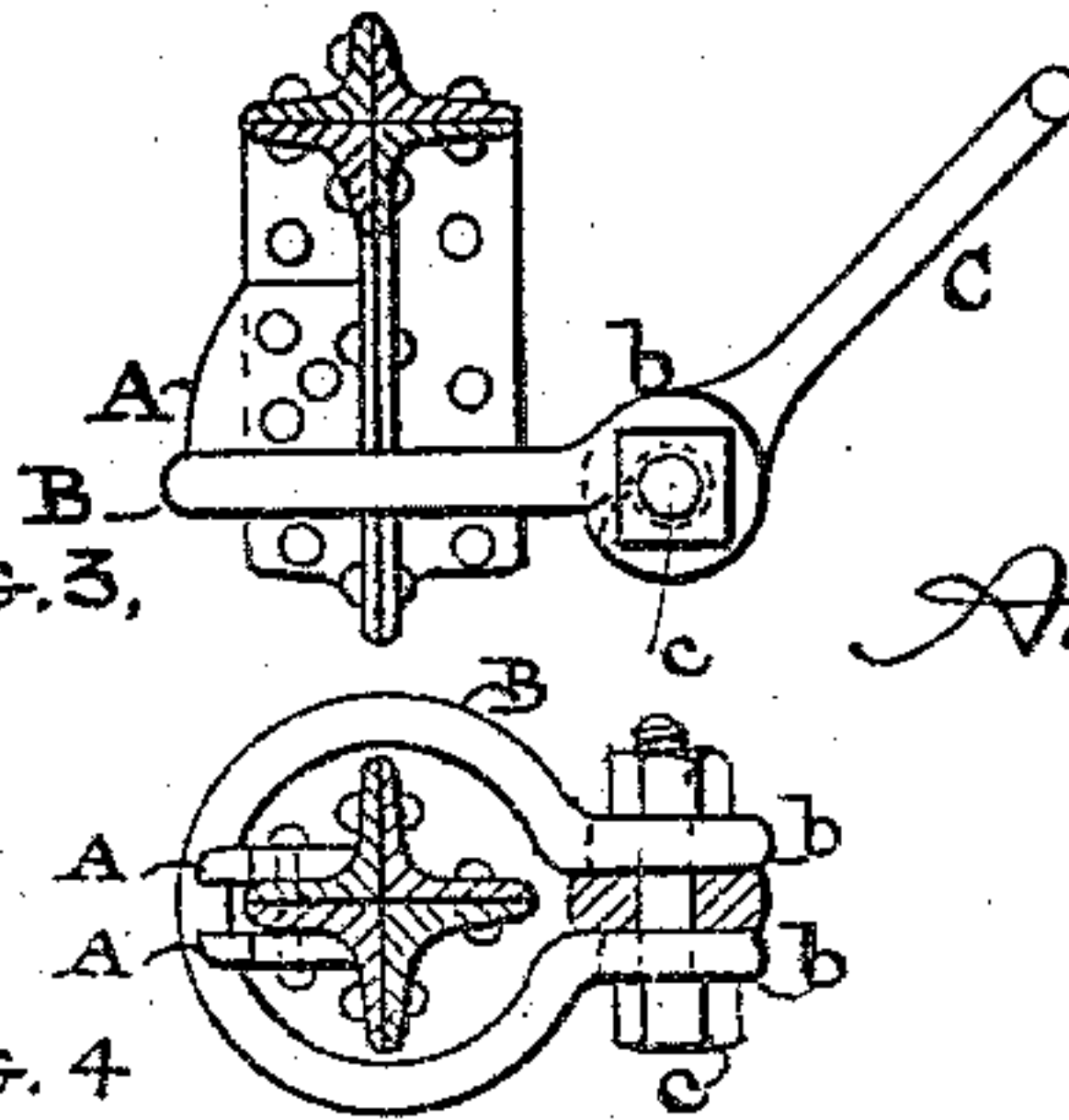


FIG. 4

INVENTOR,

Aaron B. Burton

UNITED STATES PATENT OFFICE.

AARON B. BURTON, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS,
TO THE DRIVEN SCREW POST AND PILE COMPANY, OF SAME PLACE.

BRACING THE PILES OF PIERS.

SPECIFICATION forming part of Letters Patent No. 296,313, dated April 8, 1884.

Application filed August 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, AARON B. BURTON, of the city, county, and State of New York, have made and invented certain new and useful
5 Improvements in Bracing the Piles of Piers, Docks, &c., of which the following is such full, clear, and exact description as will enable others skilled in the art to make and use the same, when taken in connection with the
10 accompanying drawings, in which—

Figure 1 is a side view of a portion of a structure having my improved bracing. Fig. 2 is an end view of the same. Figs. 3 and 4 are detail views.

15 This my invention relates to bracing for piles of piers, docks, bridges, and all structures to be erected under or partially under water; and it consists of a loose ring-fastening for the lower end of the bracing about
20 the pile, with a bracket on the pile for the ring to catch on, and the various combinations hereinafter specified and claimed.

To the pile, at or a short distance above the ground-line, are arranged brackets A A, which are preferably attached before the pile
25 is driven, the proper place, as near the ground-line as possible, having been determined by measurement.

The anchor-ring B is made of sufficient size
30 to encircle the pile and pass outside the brackets A A, and in this anchor-ring B are the eyes *b b*, Figs. 3 and 4, through which a bolt, as *c*, passes to secure the bracing-rod C, the other end of which may be attached to another pile or portion of the structure; or, as
35 shown in the drawings, it may be attached to a ring, D, of like form as B, encircling another pile, and free to move upward and downward thereon, there being also attached
40 to the ring D another bracing-rod, E, the other end of which rod is secured to the pier or another pile, or the one about which B is, and is so arranged with a turn-buckle, F, that it may be drawn up tight, and the ring B be
45 thereby drawn against the bracket A, the ring D at the same time tightly drawing on the pile about which it is and holding it firmly.

The drawings show four anchor-rings B on each pile, excepting "1," on which there
50 are three, and the necessary brackets A there-

for, and the corresponding rods C and E and rings D, to make a bracing in each direction toward which there is a pile to brace to. At the top of the piles there is a rod or brace, G, with the turn-buckle H, intended to hold
55 the tops of the piles steady and keep them from turning, when screw-flange piles are used and the superstructure is of such a class as not to hold them from turning.

The bracing is shown with screw-piles; but
60 it may be used equally well with other forms. The bracing is shown with only one free ring D in each run of bracing. There may, however, be any number of free rings desired in each run of bracing, the rods being increased
65 in the same number as the free rings.

The lower ring B may be held in its place by other appliances than the bracket. A set-screw, a key, &c., may be used to hold it in
70 its place.

The manner of application is as follows: The piles having been placed as they are to be used, and having brackets A A thereon at or near the ground in which they are placed, the anchor-ring B, with the rod C attached,
75 is dropped down about one pile, and the free ring D, having the other end of the rod C attached thereto, is dropped down about the adjacent pile, the rod E being also attached to the ring D, and both rings B and D are al-
80 lowed to descend their respective piles until the ring B passes the bracket A, when the rod E is secured to the turn-buckle F and drawn tight, so that the free ring D is drawn up, and the ring B is drawn against the bracket A,
85 and the run of bracing made tight. Should there be more free rings and rods in a run of bracing, the operation of placing the other free rings would be the same as with one free ring D. By this arrangement all necessity of
90 sending down divers to secure the lower bracing is avoided, and the bracing may be made close to the surface of the ground in the deepest water.

What I claim, and desire to secure by Letters
95 Patent, is—

1. The combination, with a pile, of an anchor-ring and attached bracing, substantially as specified.

2. The combination, with a pile, of a bracket, 100

anchor-ring, and bracing, substantially as specified.

3. The combination, with two piles, of a bracket, anchor-ring, free ring, and bracing,
5 substantially as specified.

4. The combination, with two or more piles, of two or more brackets, two or more anchor-

rings, two or more free rings, and bracing, substantially as specified.

AARON B. BURTON.

Witnesses:

J. J. SULLIVAN,

JOHN E. ELMENDORF.