

(No Model.)

F. C. BALCH.
SURFACE CATTLE GUARD.

No. 432,175.

Patented July 15, 1890.

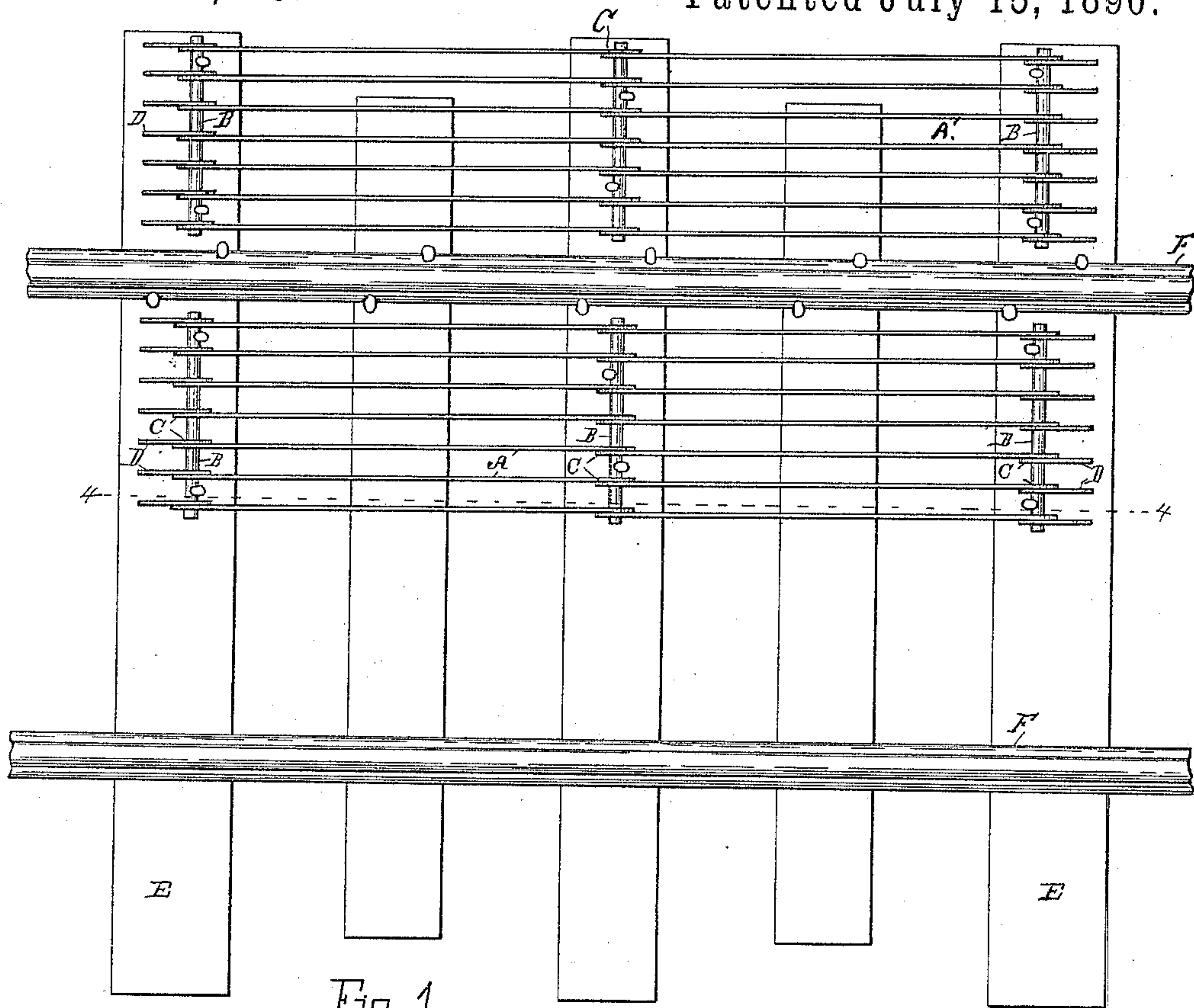


Fig. 1

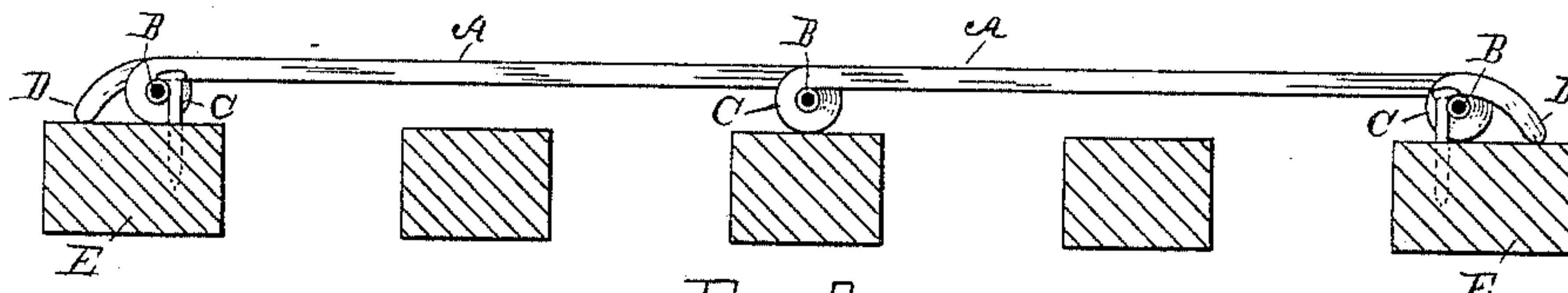


Fig. 2

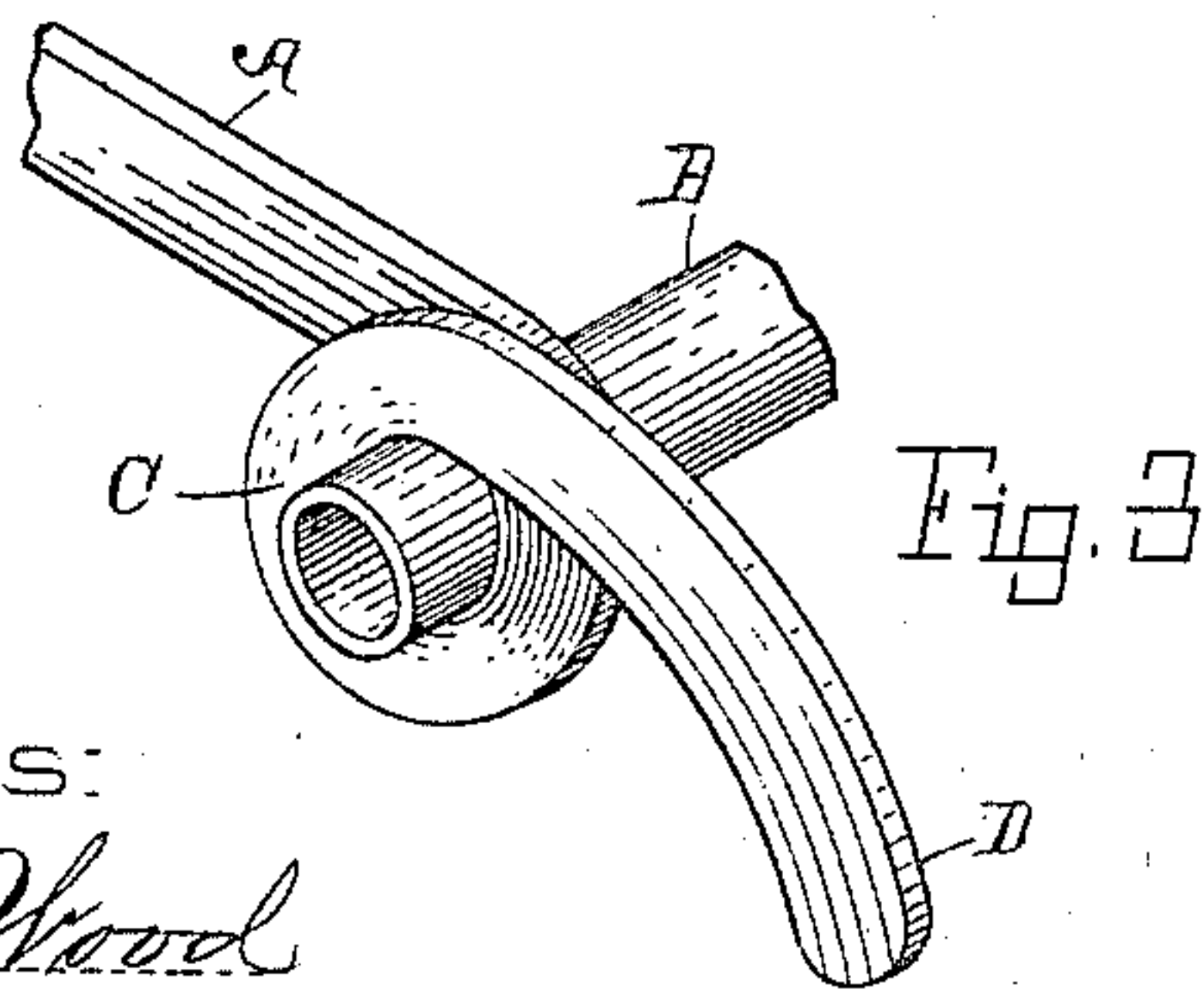


Fig. 3

Witnesses:

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UNITED STATES PATENT OFFICE.

FRANK C. BALCH, OF KALAMAZOO, MICHIGAN.

SURFACE CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 432,175, dated July 15, 1890.

Application filed May 8, 1890. Serial No. 351,008. (No model.)

To all whom it may concern:

Be it known that I, FRANK C. BALCH, a citizen of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented a new and useful Surface Cattle-Guard, of which the following is a specification.

This invention relates to that class of surface cattle-guards which consist of sections composed of longitudinal separated bars which are parallel with the rails of the track and are attached to transverse bars, which latter bars are spiked to the ties.

The invention has for its object the below described and claimed construction, substantially as set forth, designed to effect greater economy, strength, and simplicity in construction.

In the drawings forming a part of this specification, Figure 1 is a plan view. Fig. 2 is a section on line 4 4 in Fig. 1, and Fig. 3 shows enlarged lettered details from Figs. 1 and 2 in perspective.

The sections of the cattle-guard are composed of transverse bars B and longitudinal separated bars A, running parallel with the rails F of the track, said longitudinal bars being looped around the transverse bars and shrunk or cold-pressed thereon, as shown in Figs. 2 and 3 at C. When the sections are placed upon the ties E, the lower periphery of the loops C of the longitudinal bars C rests upon said ties, as shown in Fig. 2. The sections are attached to the ties with spikes, the heads of which catch over the transverse bars.

What I have here termed "transverse bars" B are shown as tubular pipes, and while I prefer this construction it will of course be readily seen that these transverse bars may

be solid and of different shape in cross-section, if desired. The ends of the longitudinal bars A are bent down, as at D, and rest upon the ties; but of course said ends of these bars may or may not be bent down, although the plan shown in Fig. 2 is deemed preferable.

The cattle-guard may be made in as many sections as desired. The design as herein illustrated is that there shall be a section on the outside of each rail F of the track and two sections between said rails. There is only one section shown between the rails in Fig. 1 next to one of the rails and another section on the outside of said rail.

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

1. A surface cattle-guard consisting of sections composed of transverse bars and longitudinal bars looped around said transverse bars, substantially as set forth.

2. A surface cattle-guard consisting of sections composed of transverse bars and longitudinal bars looped around said transverse bars, said loops being shrunk or cold-pressed thereon, substantially as set forth.

3. A surface cattle-guard consisting of transverse bars and longitudinal bars looped around said transverse bars, the lower part of the periphery of the loops in the longitudinal bars resting on the ties of the track, substantially as set forth.

In testimony of the foregoing I have hereunto subscribed my name in presence of two witnesses.

FRANK C. BALCH.

Witnesses:

HARLEY J. FREEMAN,
BELLE C. FREEMAN.