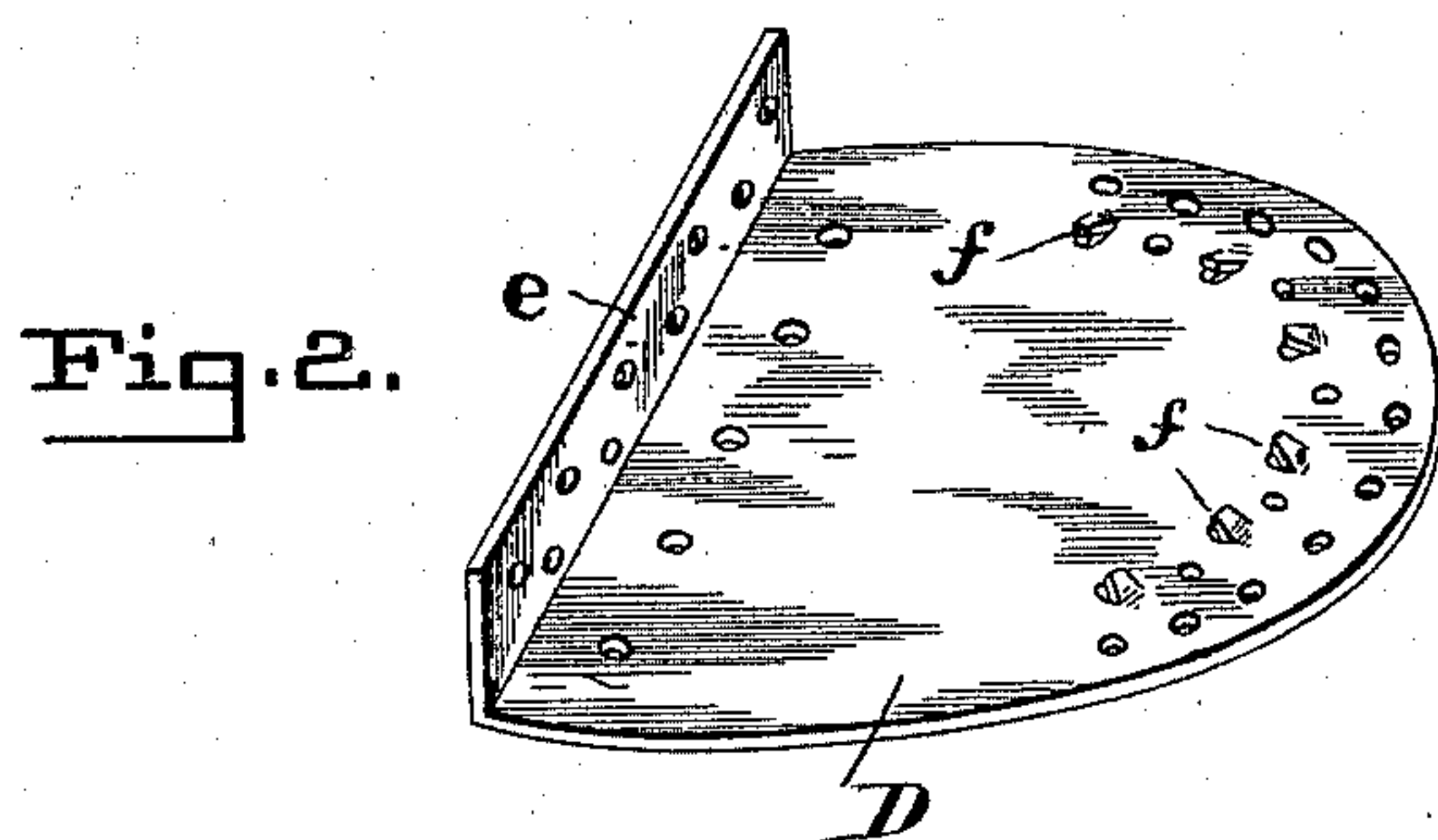
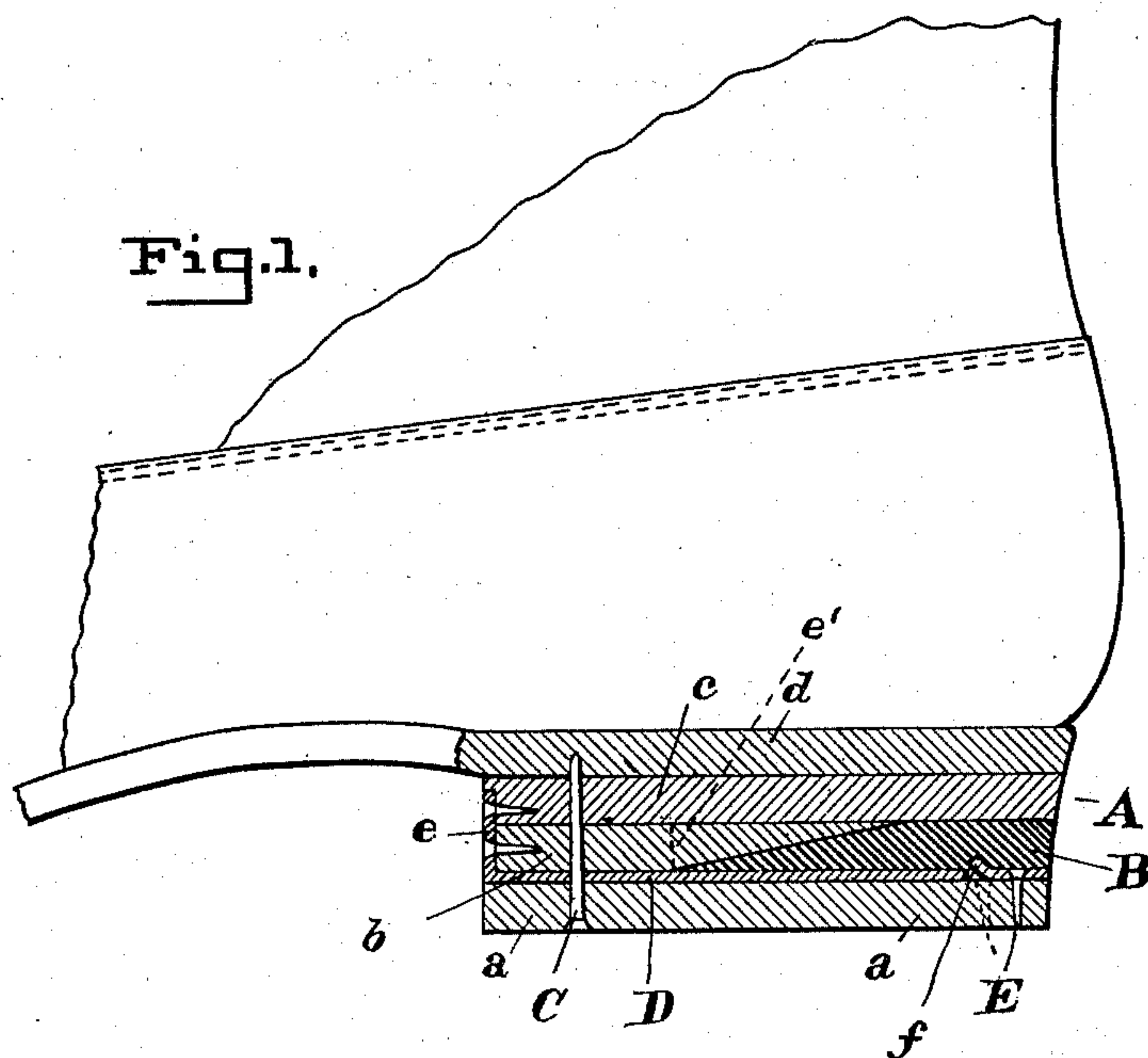


(No Model.)

M. MURRAY.  
HEEL.

No. 500,816.

Patented July 4, 1893.



Witnesses:—

Arthur O. Babendreier.  
Alvan Macauley.

Inventor:—

Michael Murray

By Chas B. Mann  
att'y

# UNITED STATES PATENT OFFICE.

MICHAEL MURRAY, OF BALTIMORE, MARYLAND.

## HEEL.

SPECIFICATION forming part of Letters Patent No. 500,816, dated July 4, 1893.

Application filed March 25, 1893. Serial No. 467,604. (No model.)

*To all whom it may concern:*

Be it known that I, MICHAEL MURRAY, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Heels for Boots or Shoes, of which the following is a specification.

My invention relates to an improvement in heels for boots or shoes, and has for its object to provide a heel which shall be yielding and elastic at the rear part where the heel first touches the ground, in walking, but which shall be firm and rigid when the foot is flat upon the ground.

To this end it consists of a construction which I shall presently describe.

In the accompanying drawings, Figure 1, is a vertical section of the heel, longitudinally of the shoe. Fig. 2, is a detail plan view of the metallic strengthening plate shown in Fig. 1.

It is well known in this art to substitute a lift of rubber or other elastic material for one of the intermediate leather lifts, and in this way to secure a yielding tread. One of the difficulties has been to securely fix the rubber lift to the adjoining lifts and to firmly secure the top lift of leather. Cement soon gives away because of the great strain the heel has to bear. Nails driven through to secure the lifts in position interfere with the elasticity of the rubber-lift, besides the continual compression and expansion of the rubber will eventually work the nails loose. By means of the construction herein described, the heel may be securely fixed to the shoe, the desired elasticity secured, and the top lift of leather permanently fastened.

Referring to the drawings, the letter A, indicates the heel of which *a*, *b*, *c*, and *d*, are the lifts—*a*, being the top-lift. It will be seen that the intermediate leather lift, *b*, is shorter than the others and occupies only the front part of the heel. The rear is occupied by a piece of rubber, *B*, preferably wedge-shaped, which is inserted with its large end to the rear end of the heel and its smaller end or edge extending toward the front of the heel. It does not extend entirely to the front, however as space enough is left between the edge of the wedge and the front of the heel to leave a solid front and to permit one or more lines of nails, *C*,

to be driven through the several lifts of the heel, without penetrating the rubber. The wedge is cemented on its slanting sides to the surfaces of the adjoining lifts.

It will be seen that the forward end of this heel is as solid as that of the ordinary heel and only the rear is elastic.

By this construction the rear of the heel will yield and cushion the fall of the foot, but when the whole shoe is placed upon the ground a firm footing is had, because the forward end of the heel is inflexible.

To increase the stability of the heel, a plate *D*, of spring metal is interposed between the top-lift, *a*, and the flat surface formed by the rubber wedge, *B*, and the intermediate leather lift, *b*. At its forward end the plate, *D*, has an upturned flange, *e*, which fits in a recess in the front of the heel, so that the outer surface of the flange will be flush with the front of the heel. A line of nails, *E*, secures the plate to the top-lift, *a*. The spring of the plate lends an added elasticity to the heel and in case the top-lift becomes worn through, will act as a wearing-plate to protect the soft rubber cushion. The plate also serves another function. In walking the front of the heel is often struck against some obstruction as a stone, and unless the top-lift is firmly secured it will be knocked off. By employing plate, *D*, with its upturned flange the force of any blow struck against the front edge of said top-lift, *a*, will be distributed and will be resisted by that part of the heel against which the upturned flange rests.

Instead of wedge-shaped, the rubber pad or cushion may be a flat piece with parallel top and bottom surfaces as would be the case were the tapered part of lift, *b*, cut off as indicated by the dotted line, *e'*.

Tangs, *f*, are struck up from the plate, *D*, so that they point from the rear toward the front of the heel. The tangs project into the rubber cushion and serve to keep it from sliding out from its position.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A heel for boots or shoes comprising an unyielding top-lift; a number of unyielding intermediate lifts, one of which is shorter than



the others and occupies the forward end only of the heel; a rubber section fitted at the rear of said short lift between the adjoining lifts and secured thereto; and a line of nails passing through the forward ends of all the lifts, including the short lift, and wholly in front of the rubber section, substantially as described.

2. A heel for boots or shoes comprising an unyielding top-lift: a metallic plate secured to the inner side of the top-lift and having its forward end upturned and engaging against the front end of the heel; a number of unyielding intermediate lifts, that one of which, adjacent the metallic plate being shorter than the others and occupying the forward end only of the

heel; a rubber section fitted into the heel at the rear of the short lift between the adjoining lift and the metallic plate, and secured in position therein by tangs struck up in the metallic plate; and a line of nails passing through the forward ends of all of the lifts including the short lift and wholly in front of the rubber section, substantially as described.

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

MICHAEL MURRAY.

Witnesses:

A. MACAULEY,

CHAS. B. MANN, Jr.