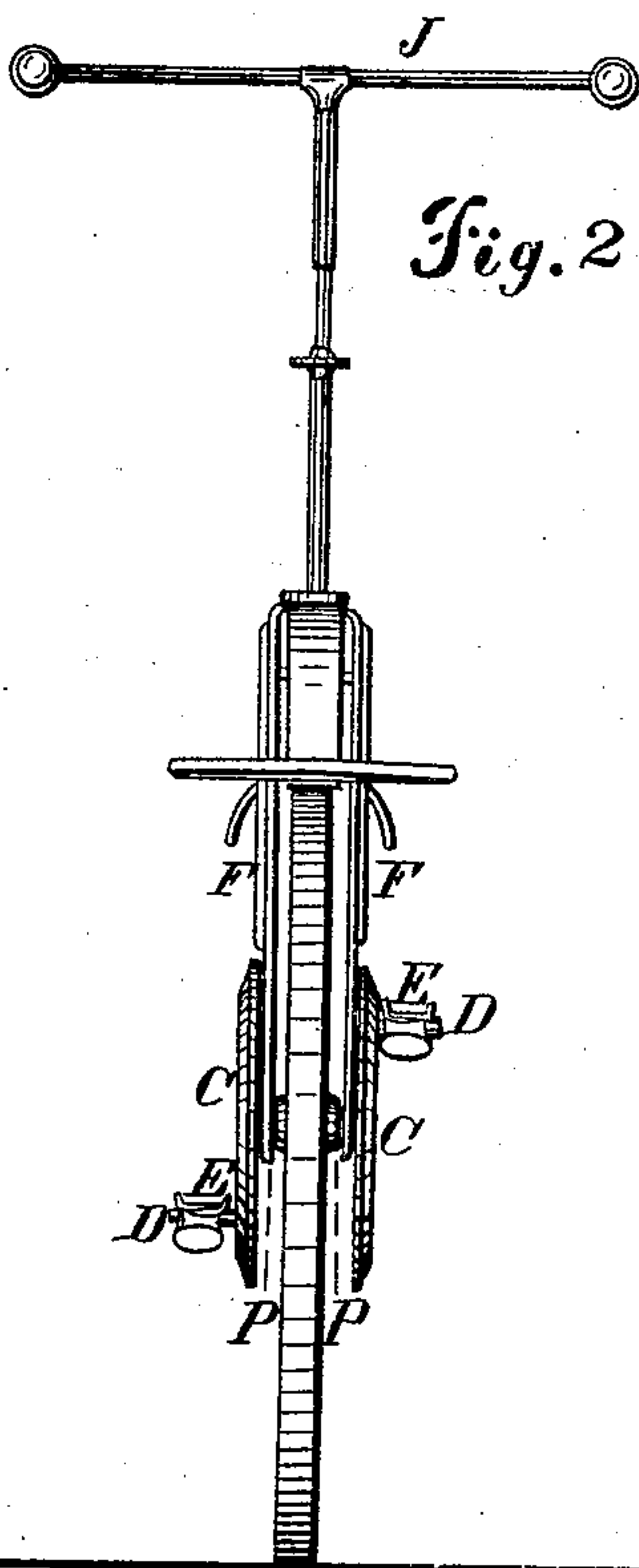
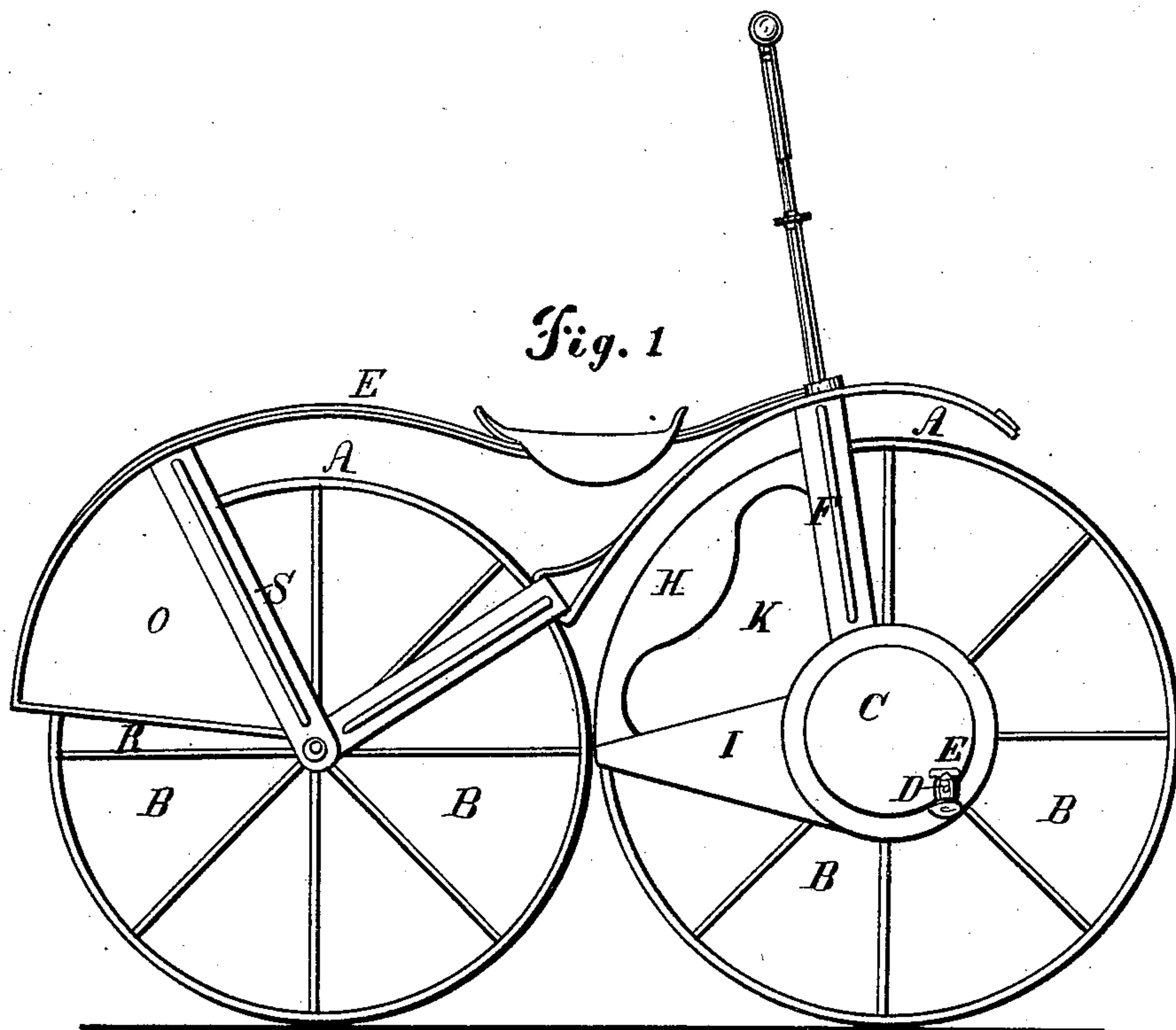


J. H. IRWIN.

Velocipede.

No. 85,527.

Patented Jan. 5, 1869.



Witnesses:

L. L. Coburn
J. P. Cullen

Inventor:

J. H. Irwin.

UNITED STATES PATENT OFFICE.

JOHN H. IRWIN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN VELOCIPEDES.

Specification forming part of Letters Patent No. 85,527, dated January 5, 1869.

To all whom it may concern:

Be it known that I, JOHN H. IRWIN, of the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Velocipedes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, and the letters and figures marked thereon, which form a part of this specification, and in which—

Figure 1 represents a side elevation of my velocipede, and Fig. 2 a front elevation of the same.

The velocipedes heretofore in use have been driven by an ordinary wrist-crank, and it has been found that there is great danger of one getting his feet caught between the crank and the wheel, and, more particularly, between the crank and support or standard which passes out over the wheel to make the attachment to.

In mounting said velocipedes when in motion it is difficult, especially for inexperienced persons, to catch the foot-piece on the crank with their feet and avoid the difficulty above referred to. One is also liable to get his feet and legs through between the spokes of an open-wheel velocipede, and injure them, more especially children and persons learning to ride. Furthermore, there is considerable resistance of the air to the spokes of an open-wheel velocipede, as it is driven rapidly. There is also great inconvenience experienced from the liability of the drive-wheel to strike the rider's legs as he turns the wheel, and soil and injure his clothes, and at the same time frequently, in his desire to avoid the rapidly-revolving wheel, causes him to lose his balance and fall. The wheels of the velocipede being uncovered throw sand and mud upon the rider, and cause great annoyance.

I have made several improvements for the purpose of overcoming the above difficulties; and my invention consists, first, in attaching to the drive-wheel of a velocipede a disk-crank; second, in providing the velocipede with a web-wheel, constructed as hereinafter more fully described, instead of an open wheel; third, in the shield, placed over that part of the drive-wheel which is beneath the rider's seat.

To enable those skilled in the art to under-

stand how to manufacture and use my invention, I will proceed to describe the same with particularity.

The same letters of reference refer to the corresponding parts in the different figures.

A A represent the wheels of the velocipede. There may be two or more, since I do not confine my invention to a two-wheel velocipede, which are made of the ordinary size, but the space between the spokes, if the wheel is constructed with spokes, is filled with canvas or thin sheet metal B, or the interior of the wheel may be constructed of thin metal, and the spokes dispensed with.

The object of this construction, which I call a "web-wheel," is to prevent any injury to the rider from his getting his feet or legs through the wheel, and also to prevent the resistance of the air upon the spokes of an open wheel, as the wheel revolves rapidly.

To the hub P of the drive-wheel I attach the disks C, to which are attached the wrist-pins D, on which are hung the foot-pieces E, in which the rider places his feet to drive the velocipede.

As the rider mounts the velocipede he has simply to place his foot against the side of the disk C, and it serves as a guide to his foot, so that it is sure to be taken by the foot-piece as it comes around, and there is no danger of having the foot caught between it and the wheel or the standard F.

H is a shield, which is held over the drive-wheel A by being attached to the guide or standard F and the rod or plate I, which do not revolve with the wheel, but pass behind the disks C, and have a bearing on the hub P.

The direction of the velocipede is controlled by turning the drive-wheel in the desired direction, which is done by means of the handle J; but whenever this wheel is turned from a direct line, either by the rider or from any other cause, the rear part of the wheel would strike the rider's leg were it not for the shield H; but with the shield H over the wheel it strikes the rider's leg, and not only protects it from the wheel, but by bearing his leg against the shield he can thereby assist in guiding the velocipede, and at the same time it will serve to assist him in retaining his balance.

By buttoning a canvas or leather, K, to the

shield H and its attachments it forms a mud-protector, covering that part of the wheel which would otherwise throw mud or sand upon the rider.

I might make the shield of such shape as to dispense with the canvas K; but it could not be as readily cleaned as when made with a removable canvas. I also extend the saddle-piece L over the rear wheel of the velocipede, and attach thereto the removable canvas or leather O and rod R.

The canvas O is made removable by buttoning onto the standard S, saddle-piece P, and rod R, for the purpose of cleaning, or removing altogether if there is no necessity of using it.

Having thus fully described the construc-

tion and operation of my invention, what I claim, and desire to secure by Letters Patent, is—

1. The disk-crank C, in combination with a velocipede-wheel, when said crank is constructed and operating substantially as and for the purposes specified.

2. The wheel A, when constructed substantially as herein described, in combination with the velocipede.

3. The safety-shield H, or its equivalent, in combination with a velocipede-wheel, when operating substantially as described.

J. H. IRWIN.

Witnesses:

L. L. COBURN,
J. F. CALLAN.