(No Model.)

A. COLLINS.

WIRE SCREEN WORK.

No. 253,979. Patented Feb. 21, 1882.

Fig. 1,

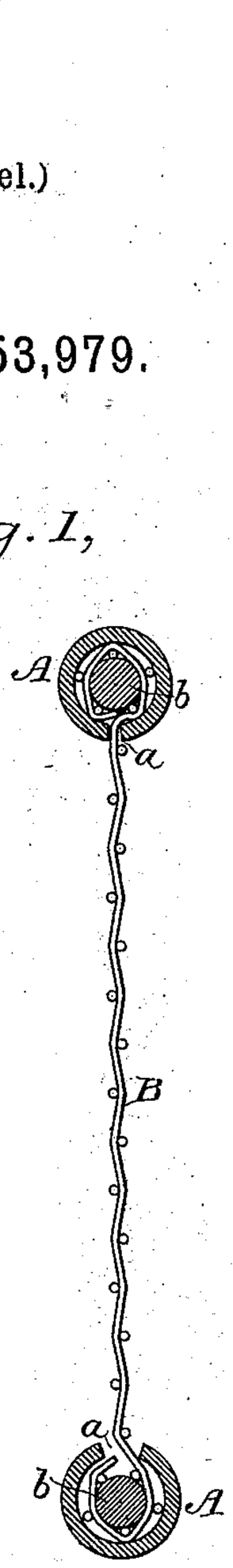


Fig. 2,

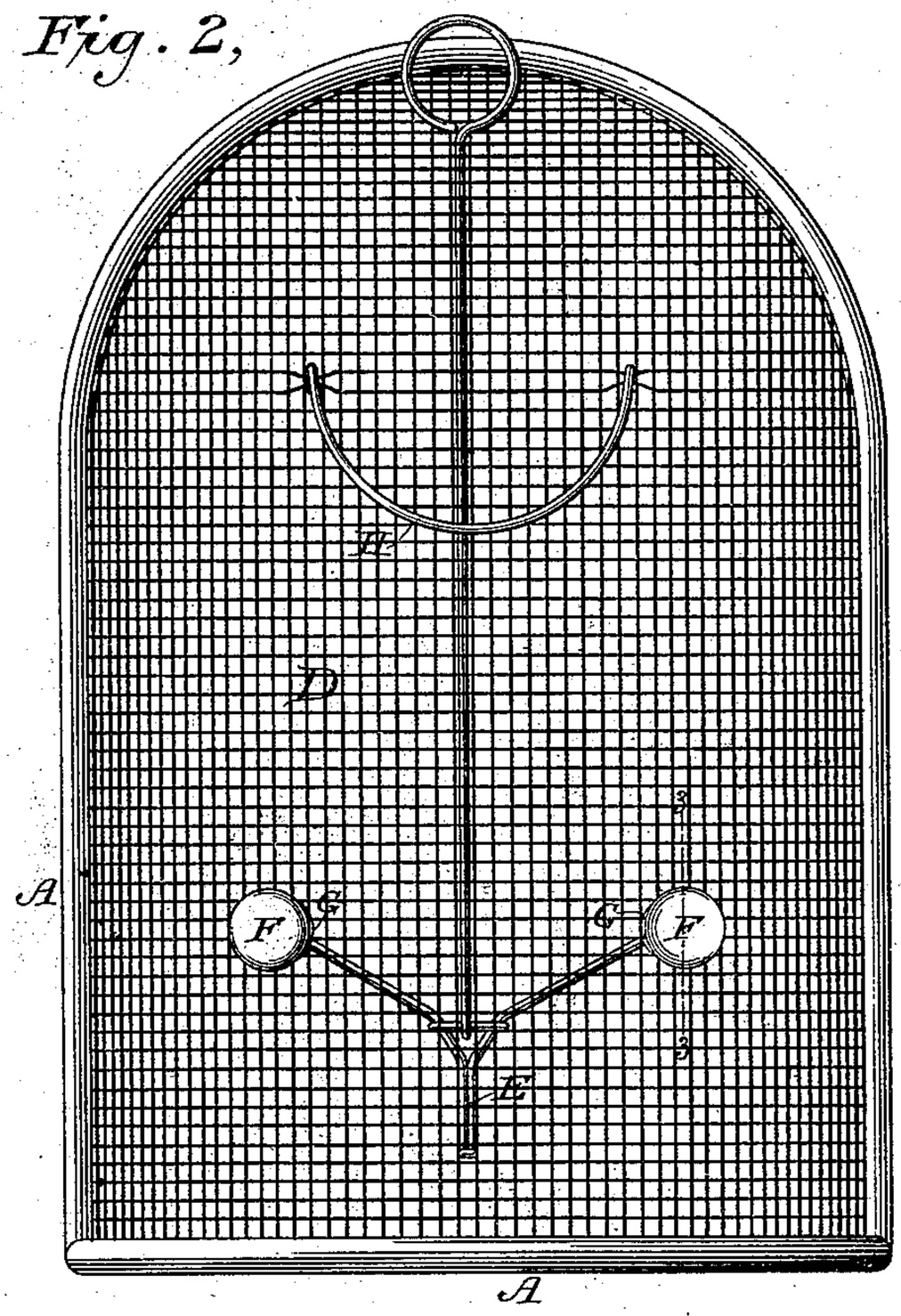


Fig. 4,

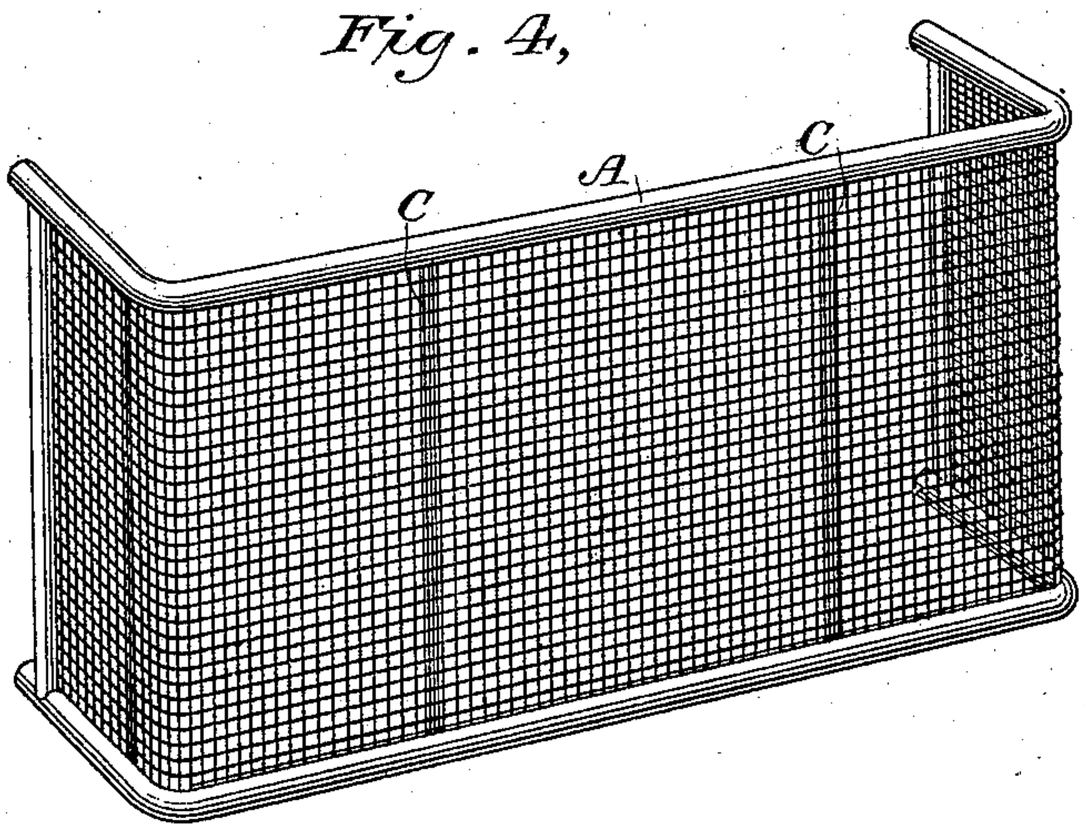
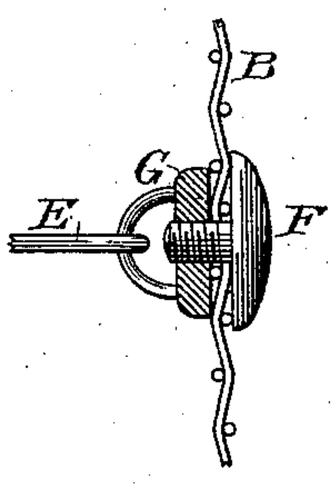


Fig. 3,



WITNESSES

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UNITED STATES PATENT OFFICE.

ARTHUR COLLINS, OF BROOKLYN, NEW YORK.

WIRE SCREEN-WORK.

SPECIFICATION forming part of Letters Patent No. 253,979, dated February 21, 1882.

Application filed June 20, 1881. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR COLLINS, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Wire Screen-Work, of which the following is a specification.

My objects mainly are to economically produce strong, light, durable, smoothly-finished, and ornamental wire screen-work, such as fire-grate guards, fire-place fenders, window-screens, bank-counter guards, &c.

My invention relates to certain improvements in articles of wire screen-work framed with split tubing, and in peculiar appliances to a fire-grate guard by which it may be adjusted for attachment to different grates, as hereinafter fully described, and then specifically claimed.

In the accompanying drawings, Figure 1 is a view showing the screen and its tubular frame in section. Fig. 2 is a front elevation of a fire-grate guard, and Fig. 3 a section on an enlarged scale on the line 3 3 of Fig. 2. Fig. 4 is a view in perspective of a hearth-guard or fire-place fender.

An outer frame or inclosing support for a screen, guard, &c., of reticulated wire is formed of any suitable malleable metal or alloy—such, for instance, as wrought-iron, copper, brass, or other soft and easily-worked alloy—and is of tubular shape, except that there is provided a side opening, slot, or slit from end to end of the frame-tubing. This longitudinal opening may be formed by slitting or cutting out a slot in a tube; but I prefer to make the required split tubing in the ordinary way of forming tubes, except that welding or brazing of the longitudinal joints or seams is omitted, as in this way the frame-tubing may be produced most economically.

In Fig. 1 the slotted tubular frame or split tubing A A and wire cloth or net-work B are shown in section with the slot or opening *a* of one of the tubes or sides of the frame clamped upon and firmly united with the wire net-work, and with the slit *a* in the other tube or opposite side of the frame open or uncompressed upon the wire-cloth.

To give great strength to the screen or guard, facilitate adjustment of the edges of the net-work in the tubular framing, and afford the maximum extent of rough surface to be clamped by the tubing, the margins or extreme edges of the wire-cloth are tied or wrapped about a wire or light rod frame, *b*. By the employment of the light frame *b*, in connection with the split-tubing frame and inside thereof, as shown by Fig. 1, a double frame and very secure double fastening of the net-work, may be secured; for, in addition to the clamping of the net-work at the slots *a* of the split-tube framing, the net-work may be compressed tightly about the internal frame, *b*, and with this frame firmly clamped inside the split tubes by compressing these tubes.

The split tubing may be compressed upon the wire-netting in any suitable way—as, for instance, by hammering, by squeezing with hand-tools, or by the employment of a proper press or swaging-machine. In some cases the framing may be closed upon the wire screen by passing between rolls.

By a suitable compression of the split tubing a very firm hold or bite upon the netting is had, rendering slip or separation impossible; and as the jagged cut edges or margins of the wire screens are inclosed in the tubing, a smooth and neat or ornamental appearance is imparted to the screen-work.

As shown in Fig. 4, brace-bars C C of any desired number may be employed to strengthen the guard or screen. The ends of such bars are made thin enough to enter the tube openings *a a*, to be clamped with the wire screen in the tubular framing, thus rendering riveting, brazing, &c., unnecessary.

When rectangular or square-cornered frames are made the top and bottom and the side or end tubes of the frame are suitably united, as by riveting, brazing, &c.

Fig. 2 represents a grate-guard, D, the framing being made in two parts and the wire screen clamped in the frame in accordance with my method. One curved split tube constitutes the main portion of the frame, its top, and upright sides, and another split tube, united at its ends to the adjacent ends of the main tube, constitutes the lower side or bottom of the framing. To enable this guard D to be adjusted for use with different grates, the swinging hook E is adjustably secured to the wire-work by means of two movable hooked or looped disks or plates, F F, to which the hook is

hinged, and two set-screws or pinch-nuts, G G. In this instance the disks F F have each a threaded tap or female screw for engagement by the threaded studs or set-screws G G, which may be passed through any desired meshes or openings in the screen (see Fig. 3) and tightened up in the disks, so as to locate the hook E at the proper point for supporting the guard properly on the bar of a grate with which it is used. A handle, H, and controlling-rod for operating the hook are provided for obvious purposes.

I do not claim split tubing *per se*, nor do I broadly claim either tubular framing or every way of framing with tubes.

I am aware that prior to my invention wire-net-work racks for railroad-cars had been constructed with the framing-rods and the rough edges or projections of the net-work covered or protected by loosely-fitted or uncompressed split tubes, and I do not claim such construction or, broadly, the combination of wire net-work, framing-rods, and split tubes for covering such rods and the edges of the wire fastened thereto. Neither do I wish to be understood as confining my improvement in framing wire-screens, &c., to the before particularly described articles.

I claim as of my own invention—

1. The combination of the wire cloth or net-work and the split tubing or slotted tubes surrounding the net-work and firmly compressed upon the edges of the net-work to constitute the outer framing or support for the net-work, substantially as and for the purpose hereinbefore set forth.

2. The combination of the wire cloth or net-work and the double frame completely surrounding it, and consisting of the wire or light internal frame and the outer or split tubing frame firmly compressed thereon, substantially as and for the purpose hereinbefore set forth.

3. The combination of the wire cloth or net-work, the split tubing, and the braces, the net-work and braces being clamped in the tubing, substantially as and for the purpose hereinbefore set forth.

4. The combination of the framed wire net-work, the swinging hook E, the movable disks or plates to which the hook is jointed, and the set-screws or pinch-nuts, whereby the guard-supporting hook may be adjusted in the openings or meshes of the net-work, substantially as and for the purpose hereinbefore set forth.

In testimony whereof I have hereunto subscribed my name.

ARTHUR COLLINS.

Witnesses:

J. L. DRUMMOND,

S. H. D. WARD.