I. W. COOPER.

PAINTING-MACHINE.

No. 182,416. Patented Sept. 19, 1876.

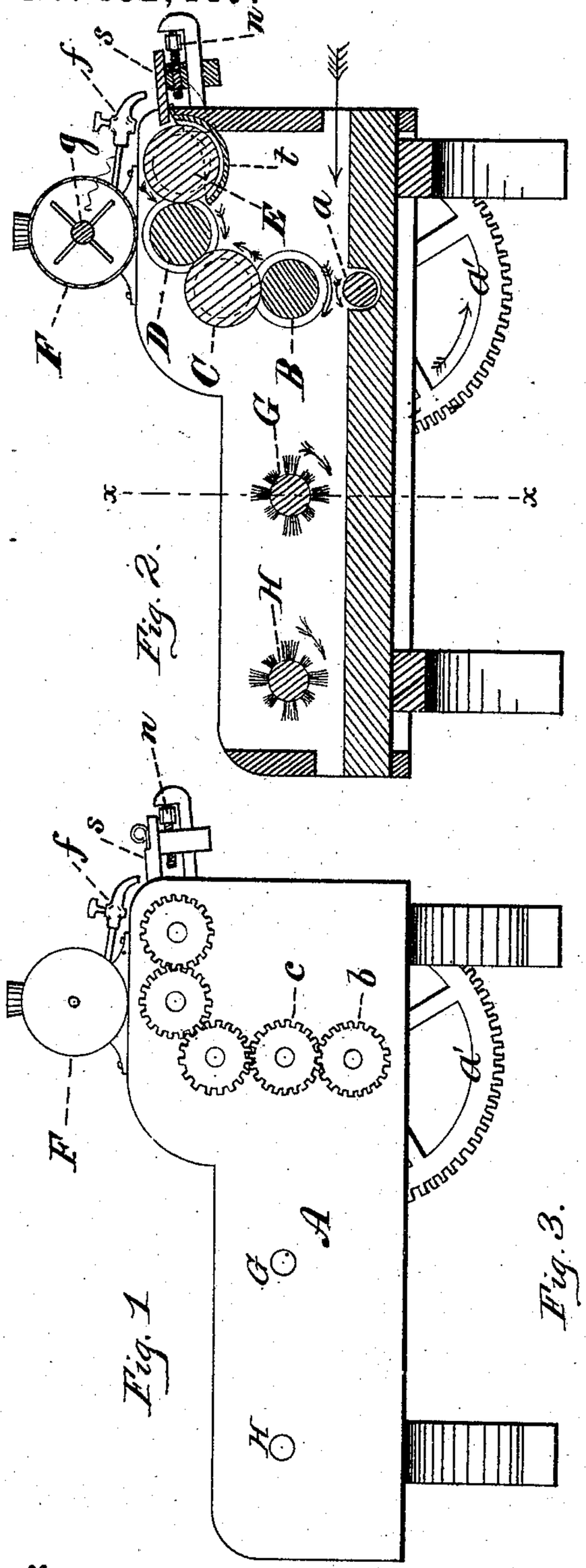

Fig. 1.

Fig. 2.

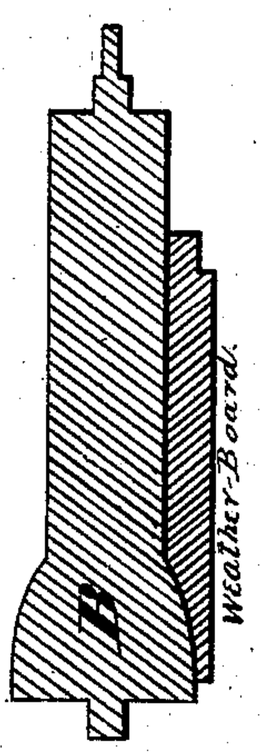

Fig. 4.

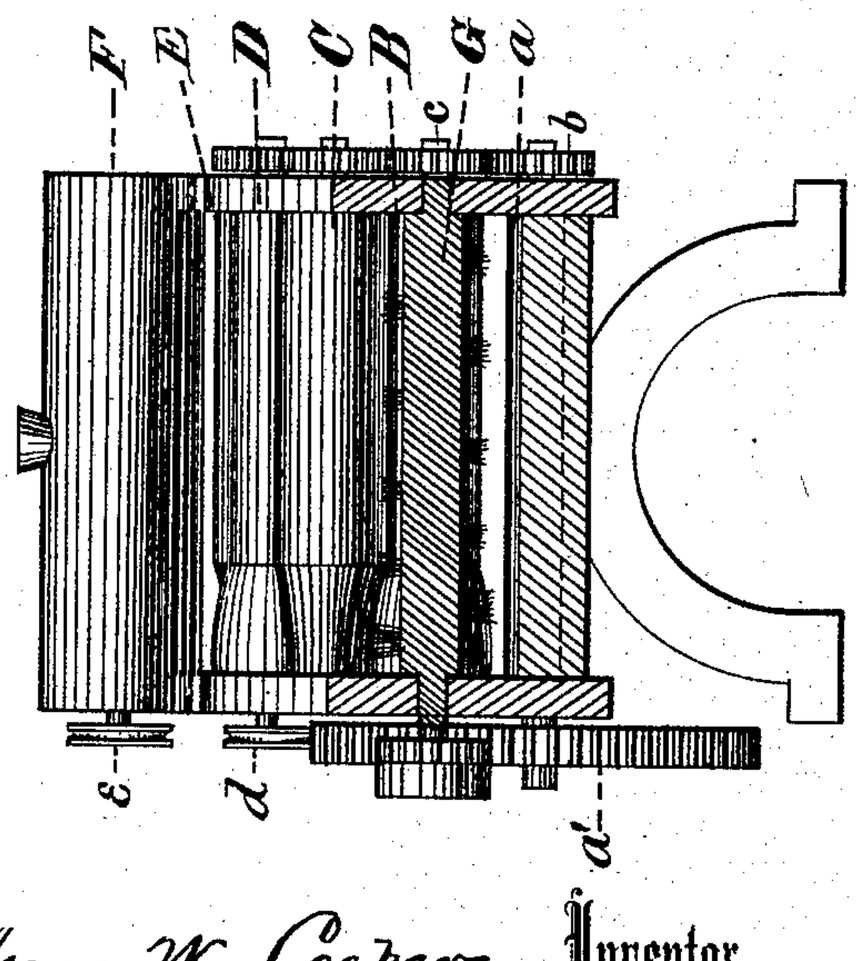

Fig. 3.

Witnesses

Thos. A. Watterson,

F. A. Pollock

By

Isaac W. Cooper, Inventor

Connolly Rose & Wolfe

Attorneys

UNITED STATES PATENT OFFICE.

ISAAC W. COOPER, OF SPRING CHURCH, PENNSYLVANIA.

IMPROVEMENT IN PAINTING-MACHINES.

Specification forming part of Letters Patent No. **182,416**, dated September 19, 1876; application filed May 6, 1876.

To all whom it may concern:

Be it known that I, ISAAC W. COOPER, of Spring Church, in the county of Armstrong and State of Pennsylvania, have invented certain new and useful Improvements in Painting-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation. Fig. 2 is a longitudinal vertical section. Fig. 3 is an end view at line *x x*. Fig. 4 is a detail, showing the conformation of lower roll to the board.

The invention relates to painting-machines, and refers particularly to those designed to paint weatherboarding, while at the same time having facilities for painting plain boards. It consists in the general arrangement of the various parts, as hereinafter fully shown, and in the peculiar form given the paint-distributing rolls and finishing-brushes, whereby a weather-board of the present style is finished at one pass through the machine.

In an ordinary machine it is impossible to paint these concave-chamfered boards, while the machines for painting any special form will not paint any other kind.

My invention admits either plain or chamfered boards to pass, and the result is equally pointed in both cases.

Referring to the drawings herewith, my invention is as follows: An open box, A, set on standards carries the whole mechanism. The bottom of box A is slotted transversely for the reception of the feed-roller *a*, which projects slightly above the top surface of the bottom of the box. At one end of the feed-roller *a* a large pinion, *a'*, is fixed, to which power is communicated in any desirable way. At the opposite end of the feed-roller *a* is fixed a small pinion, *b*. Immediately above the feed-roller *a*, at a distance fixed by the thickness of the board to be painted, is a painting-roller, B, having at its end a pinion, *c*, gearing with pinion *b*. This roller B is constructed with a plain cylindrical surface of sufficient length to cover the widest lumber to be painted, and having at its end a convex surface conforming to the concave chamfer in the weatherboarding, so that in case the latter is not used, plain boards can be painted as well. Immediately above the roller B is another roller, C, having such outlines as will cause its surface at all points to meet the surface of B at all points in revolving. In front of roller C a third roller, D, revolves, and in form like roller B. In front of this again is a fourth roller, E, formed like C. All four rollers are geared together by pinions of the same size, and therefore run at the same speed. The object of several rolls is to obtain perfect distribution of the paint. They may be covered with yielding material or not, as desired. Roll E is fed with paint as follows: Above it on the frame there is a cylindrical tank, F, out of which projects a faucet, *f*, discharging the paint from the tank onto an inclined platform, which runs down into a trough, *t*, under roll E, and close to it at all points. The paint runs into this trough, and the roll E revolving takes it up and carries it in the direction of the arrows. As too much paint would be thus taken and cause waste and dripping from the other rolls, I control this feed of the paint by means of the sliding scraper *s*, which is adjustable by means of the nut *n*. Scraper *s* has its inner edge corresponding in outline with roller E. By approaching the scraper to the roll by nut *n*, the amount of paint to be carried over by roll E to roll D may be accurately regulated. On one end of roll D, outside the frame, is a band-wheel, *d*, from which a band passes up around a similar wheel, *e*, fixed to a shaft, *g*, which traverses the tank. The shaft *g* carries a number of paddles upon it, and when the machine is put in motion the paddles serve to keep the paint and oil thoroughly incorporated. The slide *s* has one or more shut-off gates attached to it at the plain surface of roll E. Their purpose is to entirely scrape the roll of paint at that portion which is not wanted, as when a narrow board passes through the lower part. Gearing with the large pinion *a'*, at a distance sufficient to be clear of the roll B, is a small pinion, whose shaft, extending through to the other side of the frame, carries a revolving brush, G, about the same form as roll B, and touching the same horizontal tangent. Fur-

ther out, and geared to this by a band and pulley, is a second brush, H, of the same form. Their object is to evenly spread and smooth the paint delivered to the board by roll B.

Thus constructed, the machine operates as follows: Power is communicated to pinion *a'*, and the various rolls and wheels revolve as indicated by arrows. Paint is fed to the trough, is taken up by roll E, by it fed to roll D, thence to roll C, thence to roll B, which, coming in even contact with the weather-surface of the board, leaves the paint on it as it revolves. As this would leave more or less of a dabbled appearance to the work, it is smoothed down by the revolving brushes G and H, whence it passes out of the machine finished. To paint plain rectangular boards, the adjustable gate is closed down on the chamfered end of roll E, and then the paint is delivered only on the plain surface. This avoids waste of material. The machine is light and portable, and can be set anywhere.

What I claim, and desire to secure by Letters Patent, is as follows:

1. The apparatus for painting and finishing weather-boards of plain and chamfered or beveled surface, consisting, essentially, of the following elements, to wit: The table A, feeding-roller *a*, mixing and delivery tank F, receiving-roller E, painting-roller B, having its surface cylindrical and enlarged, as shown, intermediate rolls C D, and finishing-brushes G, &c., substantially as shown and described, and for the purpose set forth.

2. In combination with the receiving-roll E, and painting-roll B, having their surfaces respectively diminished and enlarged, as shown, the intermediate distributing-rollers C D, having their surfaces respectively diminished and enlarged to correspond with each other, and with the rolls B E, and having their peripheries partly cylindrical and partly enlarged and diminished, as shown, whereby boards of both plain and chamfered surfaces, or either, may be painted, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of April, 1876.

ISAAC W. COOPER.

Witnesses:
THOS. J. MCTIGHE,
SAMUEL ANDERSON.