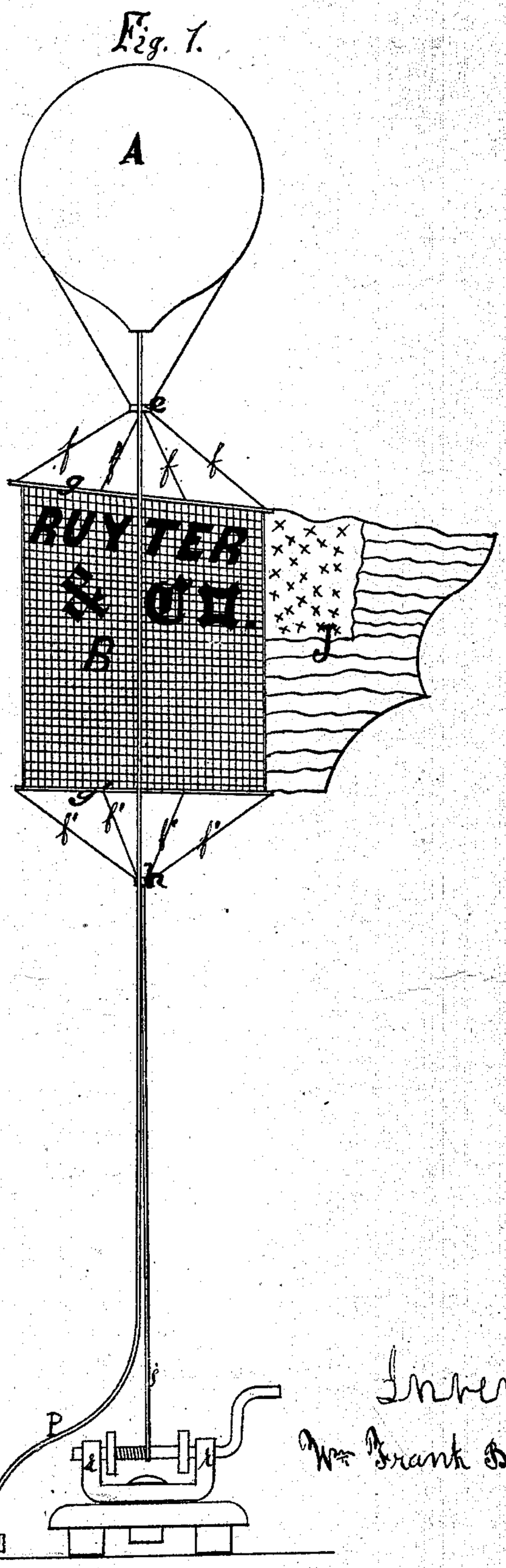
W. F. BROWNE.

Balloon Advertising.

No. 144,436. Patented Nov. 11, 1873.

Fig. 1.



Witnesses
James M. Tully
Jonathan Marshall

Inventor
Wm Frank Browne

UNITED STATES PATENT OFFICE.

WILLIAM FRANK BROWNE, OF NEW YORK, N. Y.

IMPROVEMENT IN BALLOON ADVERTISING.

Specification forming part of Letters Patent No. **144,436**, dated November 11, 1873; application filed October 3, 1873.

To all whom it may concern:

Be it known that I, WM. FRANK BROWNE, of the city, county, and State of New York, have invented some new and useful Improvements in Balloon Advertising, for which I am desirous of securing Letters Patent; and I do declare that the following is a full and exact description thereof, reference being had to the accompanying drawings making a part of this specification.

Figure 1 is a view of the balloon and advertiser in suspension.

My balloon advertiser consists of three important parts: First, a balloon; second, a broad surface of any suitable material secured directly beneath the balloon, on which letters, words, and signs are conspicuously affixed; third, a rope used as an anchor or capture rope. This rope is attached to the bottom of the broad surface on which the advertising is displayed, and its other end is secured to a windlass which rests upon the earth.

Like letters designate corresponding parts in all of the figures.

In Fig. 1, A represents a balloon. B represents a broad surface, on which the advertisements appear. *g g'* are two poles or rods secured to the top and bottom of the advertising-surface. *e* is the concentrating-ring, to which the cords pending from the balloon are attached. *f f f f* are cords connecting the concentrating-ring with the pole *g*. *i* is the anchor-rope. *h* is a concentrating-ring, to which the anchor-rope is secured. *f' f' f' f'* are cords connecting the ring *h* with the pole *g'*. J represents a flag attached to one side of the surface B.

That others may become acquainted with the construction of my invention, I will describe it, as follows:

I employ a balloon or aerial vehicle of sufficient capacity to meet the requirements for which it is employed. This balloon is inflated, in the usual manner, with hydrogen or carbureted-hydrogen gas. Beneath the balloon, and at its concentrating-ring, I suspend a broad surface or sheet, B. This advertising-surface may be made of cloth, but netting is preferable. Two sides of this netting are secured to two rods or poles, *g g'*. To the rod or pole *g* are attached cords *f f f f*, which extend and are fastened to the concentrating-ring *e*. On the bottom of the advertising-surface I attach cords to the rod or pole *g'*, corresponding to those on the top of the advertising-surface. These cords converge at the concentrating-ring *h*. To this concentrating-ring the anchor or capture rope is secured. To one of the perpendicular sides of this advertising-surface I attach a flag or streamer, J, of any desirable pattern. This flag is for a double purpose—to be used as an ornament, and as a vane or rudder. This rudder keeps the opposite edge of the advertising-surface against the wind, thereby relieving the pressure that it would have to sustain were the wind to blow directly against the broad side.

It is not necessary to use the flag or rudder to effect the purpose for which it is employed, as a little more than one-half of the advertising-surface can extend beyond or to one side of the centers of the two concentrating-rings *e* and *h*, thereby presenting a larger surface to the wind upon one side of the central or draft line. With this arrangement one edge of the advertiser will always be presented to the wind, which is a very desirable feature in this invention; for were the wind to blow upon the broad side of the advertiser, it would take a great deal more levitating or ascension power to hold it in position than it now does with the above-described arrangement.

The important feature of this invention consists in using a sheet of canvas or netting, so that its two sides can be used for the purpose of displaying letters, words, or signs at the same time. Another advantage derived consists in presenting the edge of the canvas, netting, or advertising surface to the wind, thereby dividing the wind or air-current by its sharp edge, and allowing it to pass by without yielding perceptibly to its influence.

It is obvious that in my invention I have surmounted the difficulties that others have had to contend with, for it will be seen that I have diminished the area of the wind-pressure to the area of the diameter of the circle of the balloon simply by reducing my advertiser to a sheet, and presenting the edge of that sheet to the wind.

Another feature of this invention consists in using the netting or canvas as a part of the anchor-rope. By this substitution it will be

seen that the full power of the balloon is transmitted through the netting or canvas to the anchor-rope below, thereby keeping the netting taut, and from ruffling in the wind.

I prefer to make this advertising-surface of netting, as the letters can be easily attached and detached; also, it will permit flaws of wind to pass through the meshes without causing a violent twisting or undue motion in the air.

In order to give an idea of the size of the advertiser, I will state here that it will be about forty by sixty feet, making the area of both sides four thousand eight hundred square feet.

The lower end of the anchor-rope is secured to a windlass, for the purpose of letting the balloon up and winding it down when desired, which becomes necessary to do in high winds and stormy weather. In fair weather it could be kept up day and night if it were not for the escape of the gas by exosmosis. Now, to meet the requirements of keeping the balloon up in the air day and night, I supply the deficiency caused by the exosmosis by extending a flexible pipe, P, which may be made of the same material as the balloon, from the earth to the mouth of the balloon. The lower end of this pipe is attached to a gas-pipe, which is provided with, and regulated by, a stop-cock. By turning the stop-cock the gas will flow up through the flexible tube into the balloon above and supply the deficiency, thereby rendering it practicable to keep the balloon up until the inclemency of the weather will necessitate its being drawn down to the earth and secured from danger.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A double advertising-surface, B, of canvas or other suitable material, constructed to automatically present its edge to the wind, in combination with a balloon for advertising purposes, substantially as herein specified.

2. The advertising-canvas B, in combination with the balloon A and anchor-rope *i*, forming the connection between the same, substantially as and for the purpose herein specified.

WM. FRANK BROWNE.

Witnesses:

JONATHAN MARSHALL,

JAMES M. TULLY.