

(No Model.)

J. H. SMITH.
STICKY FLY PAPER.

No. 476,087.

Patented May 31, 1892.

Fig. 1.

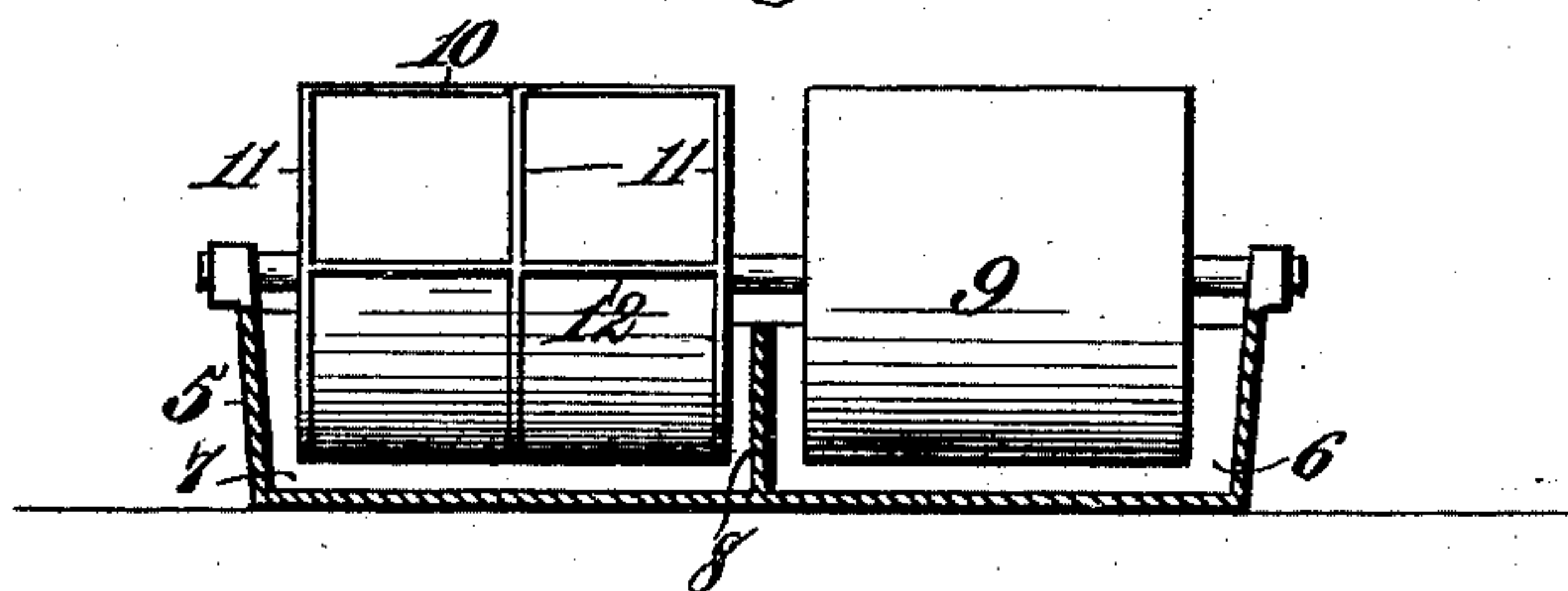


Fig. 2.

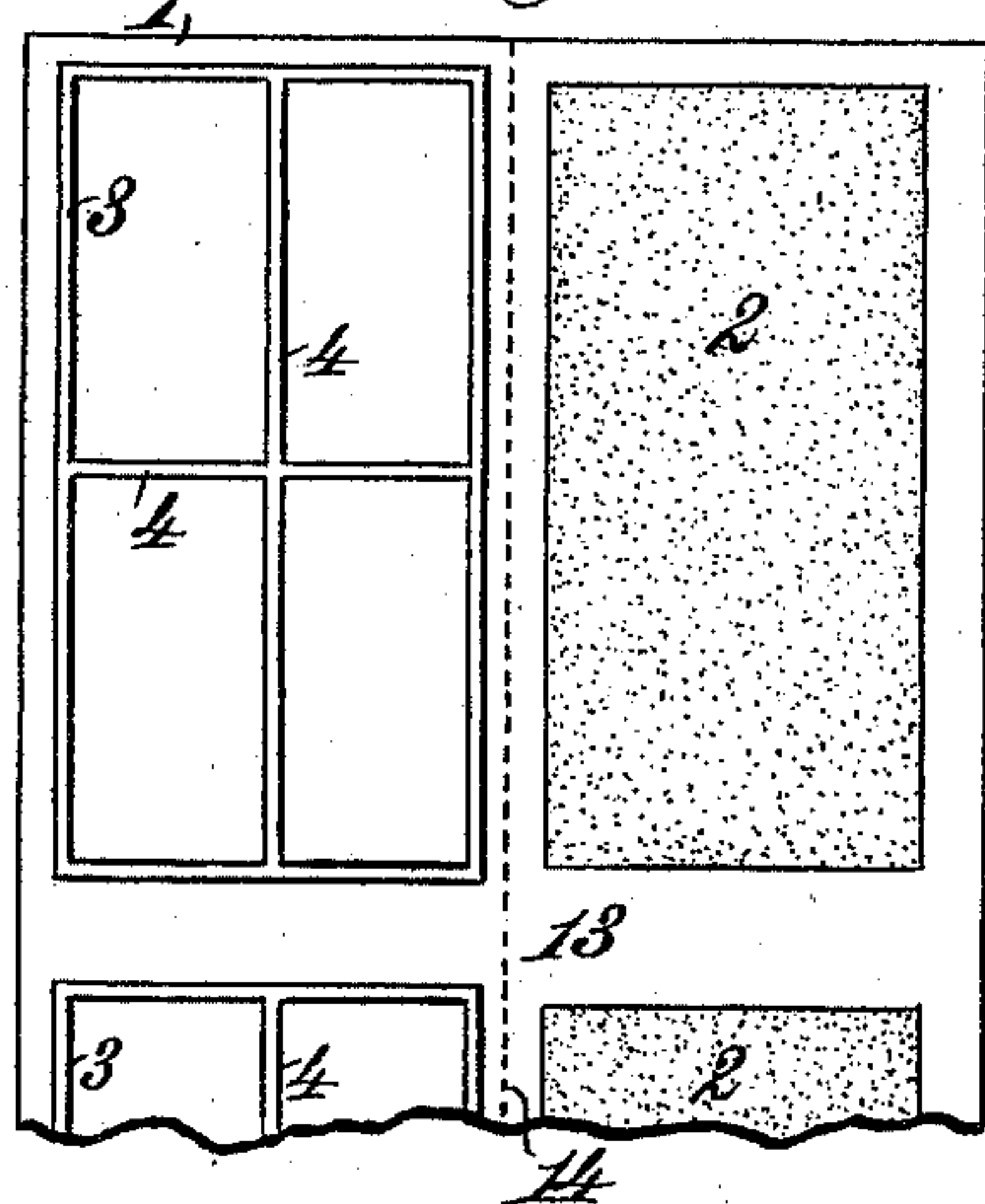


Fig. 4.

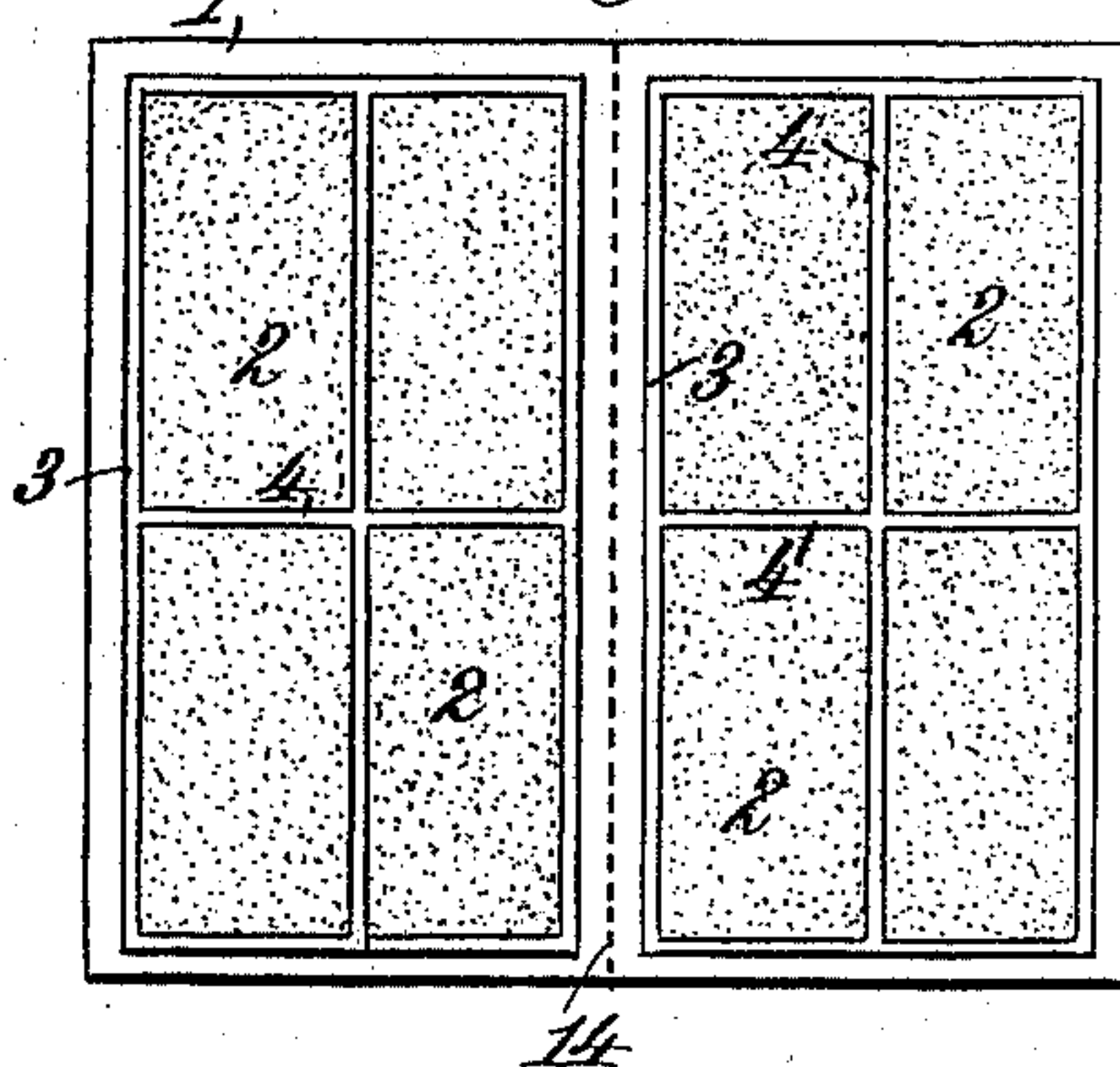
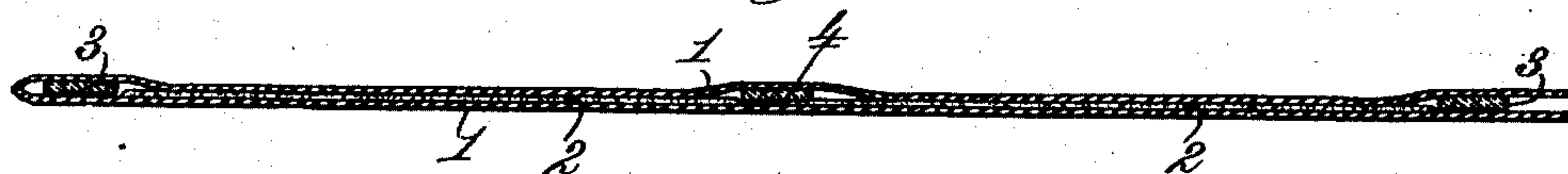


Fig. 3.



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UNITED STATES PATENT OFFICE.

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STICKY FLY-PAPER.

SPECIFICATION forming part of Letters Patent No. 476,087, dated May 31, 1892.

Application filed January 23, 1892. Serial No. 419,065. (No model.)

To all whom it may concern:

Be it known that I, JAY HUNGERFORD SMITH, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented new and useful Improvements in Fly-Paper, of which the following is a specification.

This invention relates to the article of trade known as "sticky fly-paper," in which a sheet of paper is partly or wholly covered on one side with a suitable soft and sticky substance for catching flies, moths, and various insects.

Heretofore in the manufacture and preparation of sticky fly-paper for packing and transportation each sheet has been doubled over or folded through its center, so that the sticky face will be on the inside, and thereby protected to some extent from atmospheric influences and shielded from contact with extraneous matters and objects until the paper is unfolded and opened out for use as a means for entrapping insects. When exposed, however, to the action of heat or moisture, and especially in warm damp weather, the sticky fly-catching material is liable to spread beyond the edges of the paper, so that all or most of the sheets in the box or package will become sticky on their outer sides, thus rendering the paper unpleasant and difficult to handle, and consequently worthless as a merchantable article. It has been sought to remedy these difficulties by various expedients in the manufacture of the sticky fly-paper and in the modes of packing it for transportation. To prevent penetration of the paper background by the sticky mixture applied to one side, a parchment paper impervious to such mixture has been employed. For a similar purpose, also, the sheet of paper has been sometimes prepared with a coat of sizing on the side upon which the sticky fly-catching mixture is spread to prevent it from soaking through the paper. In order to facilitate handling of the paper, and to some extent confine the sticky material within its proper field, so as to prevent or obstruct its spreading to or beyond the edge of the paper, a clear or uncoated margin is in some instances left around the entire sheet, and within this margin is sometimes arranged a layer or strip of some resinous or moderately adhesive com-

pound to serve as a retainer for the sticky fly-catching material. It has also been proposed to surround the field of sticky substance with a raised border of some such material as strawboard, thick paper, fiber, sawdust, sand, or the like to form a spacing medium between the sticky faces of two contiguous sheets and a guard to retain the sticky compound in place.

My invention consists in a sheet of sticky fly-paper in which the field of soft sticky substance is intersected by bars or strips of more adhesive material than that composing the field, whereby the efficiency of the sticky paper as a fly-catching device is increased and any tendency to sagging of the field is more perfectly prevented.

In the annexed drawings, illustrating the invention, Figure 1 is a sectional elevation of a form of apparatus adapted for use in applying the field of sticky substance and the border and cross-bars of more adhesive material to a strip or sheet of paper. Fig. 2 is a view of a portion of a strip of paper after it has been partially prepared, showing a longitudinally central line of perforations, with a plain surface of sticky fly-catching material on one side of the central line and a border and cross-bars of more adhesive material on the other side, which at this time has no fly-catching material thereon. Fig. 3 is a cross-section of a sheet of fly-paper cut from said strip and folded along the central line of perforations in readiness for packing, transportation, and sale, and whereby the folding of the sheet causes a portion of the sticky or adhesive material on each side of the line of fold to be partially transferred to the other side or portion. Fig. 4 is a view of a sheet of my improved sticky fly-paper opened out or unfolded in readiness for use.

Referring to the drawings, the numeral 1 designates a sheet of sticky fly-paper prepared according to my invention, the field of soft and sticky fly-catching substance being represented at 2, while 3 designates a border of more adhesive material than that used for covering the field. By means of the border 3, surrounding the soft fly-catching compound or mixture 2 on all sides and composed of a material having more body and adhesiveness

than that used for the field, the softer and less adhesive fly-catching material is retained in place, so as to be prevented from flowing to the edge of the paper. This more adhesive border 3 also offers a greater obstruction for preventing a fly from crawling off the paper if quite close to the edge. It also imparts an increased body and thickness to the marginal portions of the prepared paper, so as to brace or sustain the sheet, prevent curling of the edges, and cause the superposed sheets in a package or box to maintain a substantially horizontal position that will obviate any tendency to sagging at the center, where- by the material composing the field in each sheet might be subjected to undue pressure and thereby displaced or injuriously affected. Besides surrounding the field 2 of soft sticky fly-catching material with a more adhesive border 3, as above described, it will be of considerable advantage to intersect the field 2 with one or more bars or strips 4, having greater adhesiveness and body and composed of the same material as that employed to form the border. These bars or strips 4 are especially useful in sheets of large size to more perfectly brace and sustain the field, obviate any tendency to sagging, and to assist in maintaining a proper parallelism of the superposed sheets when packed for transportation. The bars or strips 4 of increased adhesiveness may be disposed in any preferred manner and may be extended either wholly or partly across the field 2, and may be arranged either parallel with or at any desired angle to each other. In each sheet of paper the field is intersected by two bars or strips 4 of greater adhesiveness disposed at right angles to each other, as shown, and extended across the field.

For the purpose of applying the soft and sticky fly-catching material 2, the surrounding-border 3 of greater adhesiveness, and the bars or strips 4 onto the paper, I may employ an apparatus comprising a tank or trough 5, having two parallel compartments 6 and 7, separated by a central partition 8, as shown in Fig. 1. In one of the tank-compartments, as 6, will be mounted a plain-faced roller 9, immersed in a soft sticky and semi-liquid material suitable for forming the field or main portion of the coating to be applied to the paper. The other tank-compartment 7 will have mounted therein a roller 10, provided at each end and in the center with annular projections or ribs 11 and having transverse or longitudinally-arranged ribs or projections 12 disposed at suitable intervals, the said ribs 11 and 12 corresponding with the required position of the border 3 and bars or strips 4 of highly-adhesive material to be formed on the paper. In the tank-compartment 7 will be placed a composition or mixture of greater adhesiveness and more body than the soft sticky material with which the compartment 6 is supplied. The paper to be treated is fed to the rollers 9 and 10 in a continuous strip,

which is cut into suitable lengths or sheets after it leaves the coating apparatus. The rollers 9 and 10 may be rotated by any suitable means. On one side of a central longitudinal line dividing the paper strip the roller 9 deposits a coating of the soft sticky substance contained in the tank 6, and which may be of any well-known character suitable for forming the field 2 of a sheet of fly-paper. At the same time the projecting ribs 11 and 12 of the roller 10 will deposit on the strip of paper on the opposite side of the said central longitudinal line a sufficient quantity of a more adhesive material to form the border and bars or strips 4 in the field. After the paper strip has passed the rollers 9 and 10 it will be cut into suitable lengths and each sheet or separated portion of the paper strip will be folded along the central longitudinal line hereinbefore mentioned. By this folding of the sheet along its middle a reciprocal transfer of portions of the soft sticky fly-catching material 2 and the more adhesive material composing the border 3 and bars 4 will take place, and thus the sheet of fly-paper will be supplied on each side of a central longitudinal line with a sticky field 2, surrounded by a border 3 of more adhesive material and intersected by the bars 4, which are also more adhesive than the material composing the field. Each of the rollers 9 and 10 will be preferably provided at proper intervals with open spaces or depressions of well-known construction, whereby at suitable intervals on the continuous strip of paper will be left uncoated spaces 13, through which the strip of paper is to be separated into sheets.

While the continuous strip of paper is being passed through the coating apparatus a series of perforations 14 may be formed by any suitable means along its central longitudinal portion, as shown in Figs. 2 and 4, for the purpose of facilitating the folding of the sheets and to enable them to be more readily divided or severed at the middle, if desired, after the folded sheet has been opened out or unfolded for use.

The continuous coated strip of paper may be cut into suitable lengths or sheets by means of automatic cutting devices, and an automatic folding mechanism may be employed for folding the several sheets; but it is not deemed necessary to illustrate or describe these devices, as they form no part of the present invention.

The folded sheets of sticky fly-paper prepared according to my invention with borders of more adhesive substance than that employed in the field are adapted to be packed in suitable boxes or packages and transported and stored without danger of becoming spoiled by oozing of the soft sticky material at their edges, as the surrounding border of increased adhesiveness will so unite the edges of the paper as to form a perfect safeguard to prevent escape of the softer inclosed material.

What I claim as my invention is—

A sheet of sticky fly-paper having a field of
soft sticky fly-catching material intersected
by bars or strips of more adhesive material
and surrounded by a border of material which
5 is more adhesive than that composing the
field, substantially as described.

In testimony whereof I have hereunto set

my hand and affixed my seal in presence of
two subscribing witnesses.

JAY HUNGERFORD SMITH. [L. s.]

Witnesses:

WM. H. FARRAND,

WM. C. LOWREY.