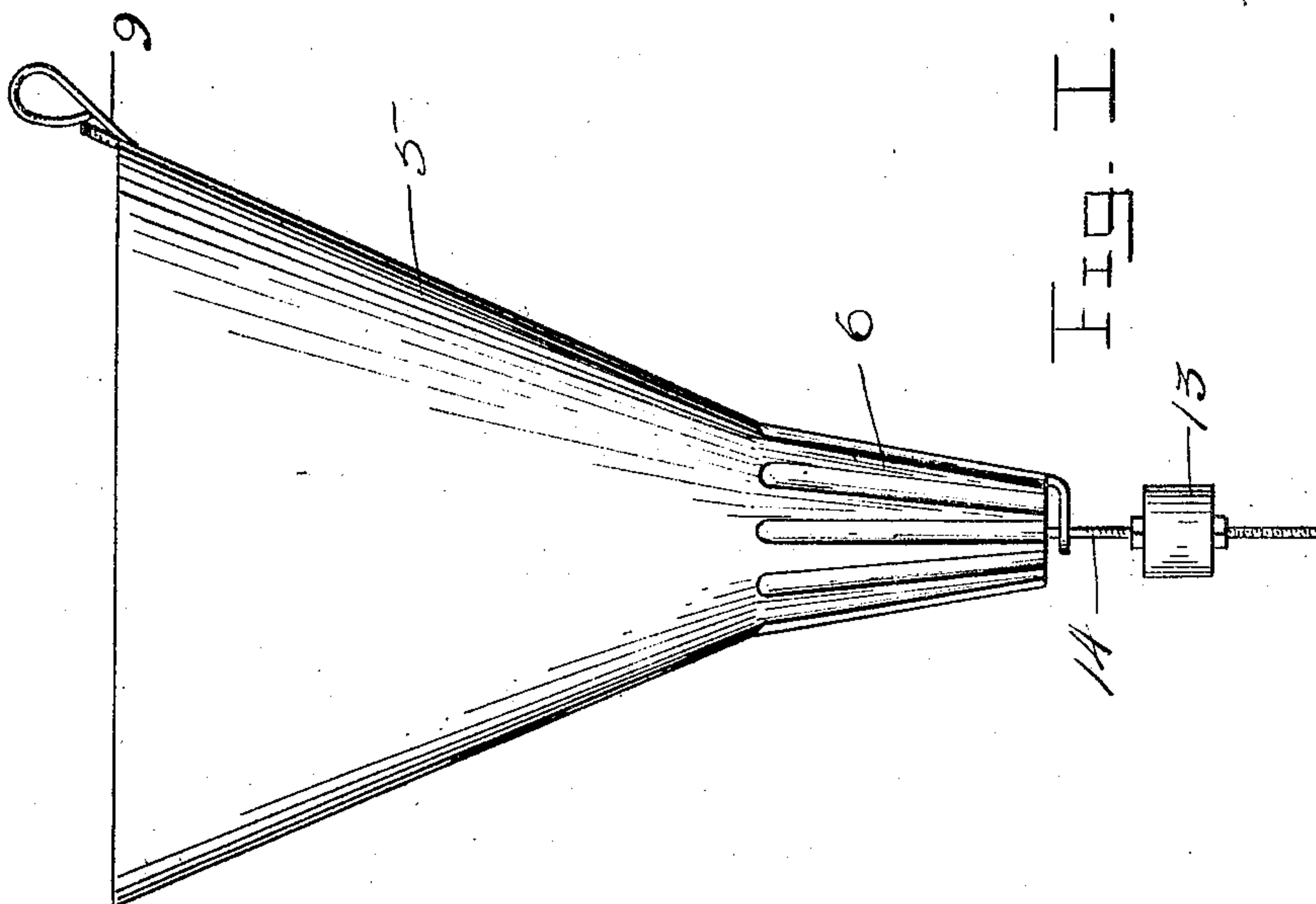
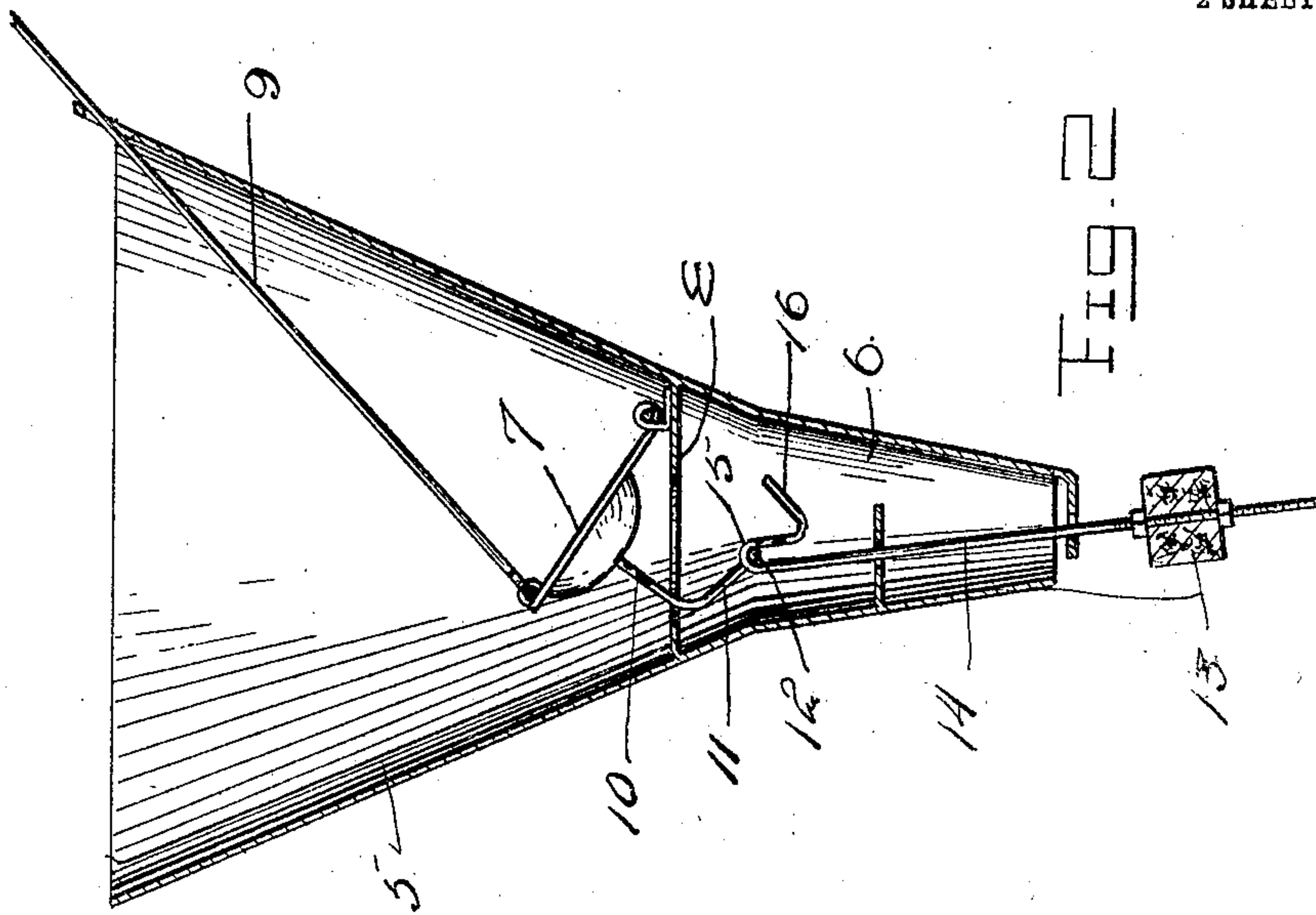


No. 847,081.

PATENTED MAR. 12, 1907.

E. R. KERN.
AUTOMATIC FUNNEL.
APPLICATION FILED APR. 14, 1906.

2 SHEETS—SHEET 1.



Witnesses
J. C. Simpson.
J. C. Jones

Inventor
Engelbert R. Kern.
By *Donald Chandler*
Attorneys

No. 847,081.

PATENTED MAR. 12, 1907.

E. R. KERN.
AUTOMATIC FUNNEL.
APPLICATION FILED APR. 14, 1906.

2 SHEETS—SHEET 2.

Fig. 3.

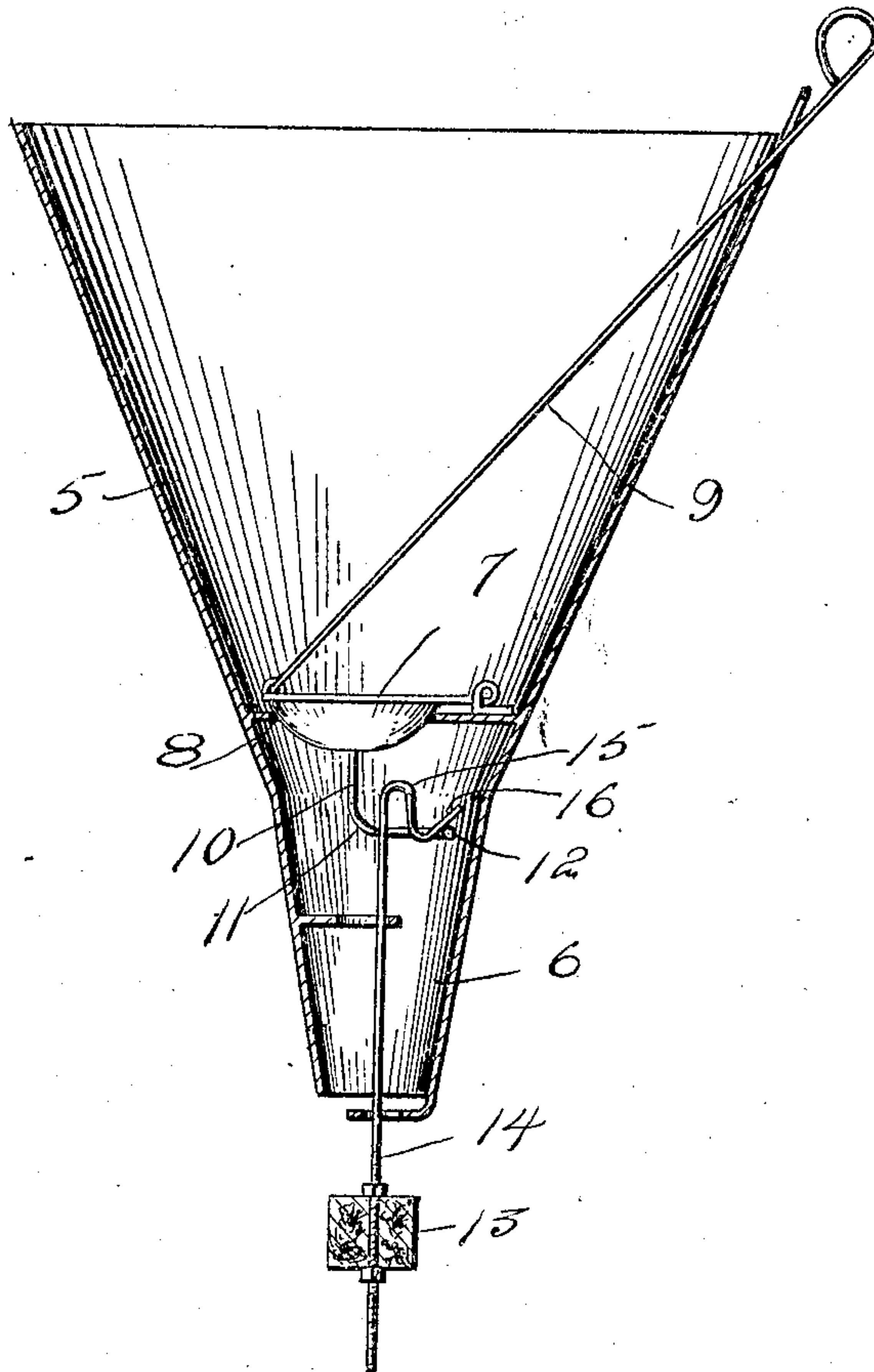
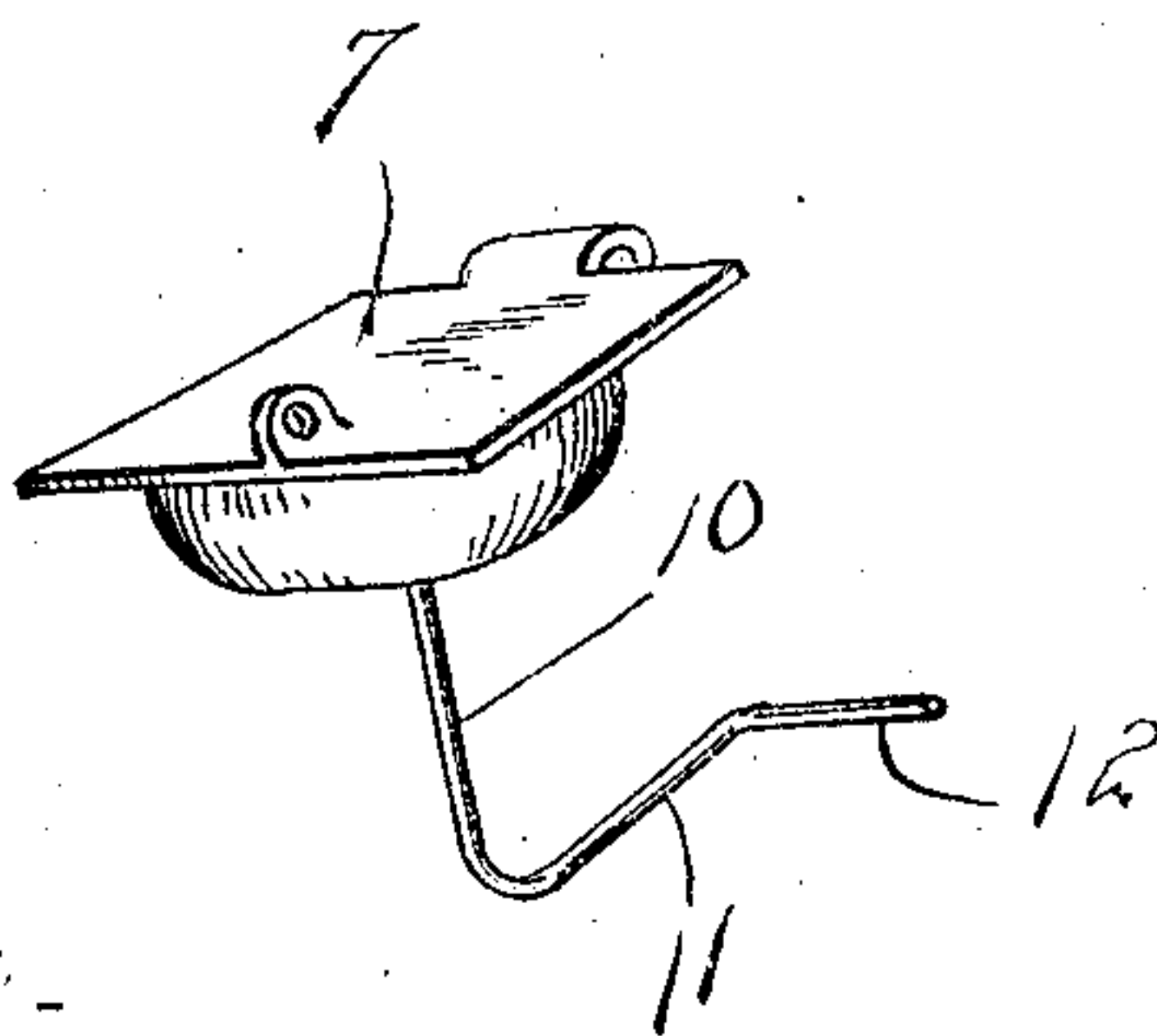


Fig. 4.



Witnesses
J. C. Simpson
J. C. Jones

Inventor
Engelbert R. Kern.
By *Charles C. Handley*
Attorneys

UNITED STATES PATENT OFFICE.

ENGELBERT R. KERN, OF FARIBAULT, MINNESOTA.

AUTOMATIC FUNNEL.

No. 847,081.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed April 14, 1906. Serial No. 311,764.

To all whom it may concern:

Be it known that I, ENGELBERT R. KERN, a citizen of the United States, residing at Faribault, in the county of Rice, State of Minnesota, have invented certain new and useful Improvements in Automatic Funnels; 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 appertains to make and use the same.

This invention has relation to funnels of the kind that are adapted to close automatically when the liquid in the vessel in which the spout is inserted rises to a predetermined height.

It is the object of the invention to provide such improvements as will insure the closing of the funnel with certainty at predetermined points, making the parts durable, not liable to get out of order from use for which they are designed, and to make the closing device adjustable, so as to vary the point of closing.

The invention will first be described in view of the annexed drawings, forming a part of this specification, and then be pointed out in the claim.

Of the said drawings, Figure 1 is a side view of my improved funnel. Fig. 2 is a central sectional view representing the funnel as open. Fig. 3 is a similar view showing the funnel in closed position. Fig. 4 is a detail perspective view of the valve.

Similar figures of reference indicate similar parts or portions, as the case may be, whenever they occur.

5 designates the body of the funnel, which may be of the form shown or any other capable of performing the same functions and having a spout 6 at the bottom, through which the liquid that may be poured in the mouth of the utensil will be discharged.

7 designates a weighted valve hinged to the interior side of the receiving part of the funnel and fitted so as to close down on the valve-seat 8, with which the upper end of the spout 6 is provided.

9 designates a wire or rod connected loosely at its lower end to a projection on the side of the valve and at its upper end passing through a guide-eye formed on the upper edge of the funnel, whereby by drawing upon the wire the valve may be raised and otherwise operated or controlled, as may be required in its use.

10 designates a latch-wire connected with the bottom of the valve and extending thence into the funnel-spout. The said wire 10 is given a round bend just below the valve, as indicated by 11, and terminates in a substantial right-angular lateral bend 12.

13 designates a float arranged below the spout 6 and connected with the lower end of a wire 14, that extends up through suitable guides or bearings into the spout and is provided at its upper part with a return-bend 15, that catches over the lateral terminal 12 of the latch-wire 10. From the bend 15, which forms a kind of hook, the wire 14 extends laterally in substantially a straight line, as indicated by 16.

The construction and arrangement of parts described are such that when the wire 9 is drawn upon the valve will be raised to open position, as shown in Fig. 2, and it will be held in this position by reason of engagement of the portion 12 of wire 10 in the hook formed by the return-bend 15 of the wire 14, the bill portion of which hook holds the portion 12 against swinging on the valve-hinge as a center, it being understood that the wire 14 will be to an extent bound in the bearings, and thus maintained in substantially vertical position. The instant, however, that the float is raised the wire 14 is likewise raised, so that the lateral bend 12 swings out from under the bill of the hook and from engagement with the latter, due to downward tendency of the weighted valve, which latter moves to its seat and closes the spout against further flow of liquid from the funnel. Upon the occurrence of this action the portion 12 passes along the under side of the part 16 of the wire 14 and stops short of its extremity, so that when the valve is again raised through the medium of the wire 9 the portion 12 will have a return movement along the portion 16 of the wire 14, raising said wire, and will then pass into the return-bend 15 in the position illustrated in Fig. 2, at which time the float 13 will carry the wire 14 downwardly into locking position.

It will now be understood that when the utensil is set in open position, as shown in Fig. 2, the funnel may have its spout with the float below it inserted in the vessel which it is proposed to fill, and liquid may be poured through the funnel-mouth until it rises high enough to raise the float. This action will raise wire 14 so as to release hook 15 from the lateral extension of wire 10, and

this allows the valve to fall upon its seat, completely closing the spout against the further passage of the fluid. In this manner the funnel is made to automatically prevent
5 the filling of bottles or any other receptacles of fluid to overflow or to be filled to a higher line than is desired.

Means are illustrated in Fig. 2, such as the nuts and the threads on the wire 14, for ad-
10 justing the float to cause the funnel to cut off at different stages of filling the bottle, and it will be understood that any means for this purpose may be employed.

It is obvious that strict observance of all
15 forms and arrangements of parts is not necessary to keep within the nature or spirit of the invention, since latitude within the scope of mechanical skill may be allowed for these.

What is claimed is—

20 In a self-closing valve, the combination with the funnel proper and its mouth and outflow-spout, hinged weighted valve and its seat in the funnel, means for raising the

valve, a latch-wire extending from the bot-
tom of the valve and having a right-angular 25
bend the terminal of which is bent at a sub-
stantial right angle to the first-mentioned
bend, a float below the funnel-spout, having
a wire connected therewith extending up
through the spout and provided at its upper 30
end with a return-bend hook, the end portion
of the latter wire extending laterally from
the lower end of the bill of said hook, the
last-mentioned bend of the latch-wire being 35
adapted to engage the hook of the float-wire
and to be disengaged therefrom and being
also adapted to engage the lateral extension
from the bill of the hook when the valve is
closed.

In testimony whereof I affix my signature 40
in presence of two witnesses,

ENGELBERT R. KERN.

Witnesses:

J. J. RACHAL,
J. W. BRENDA.