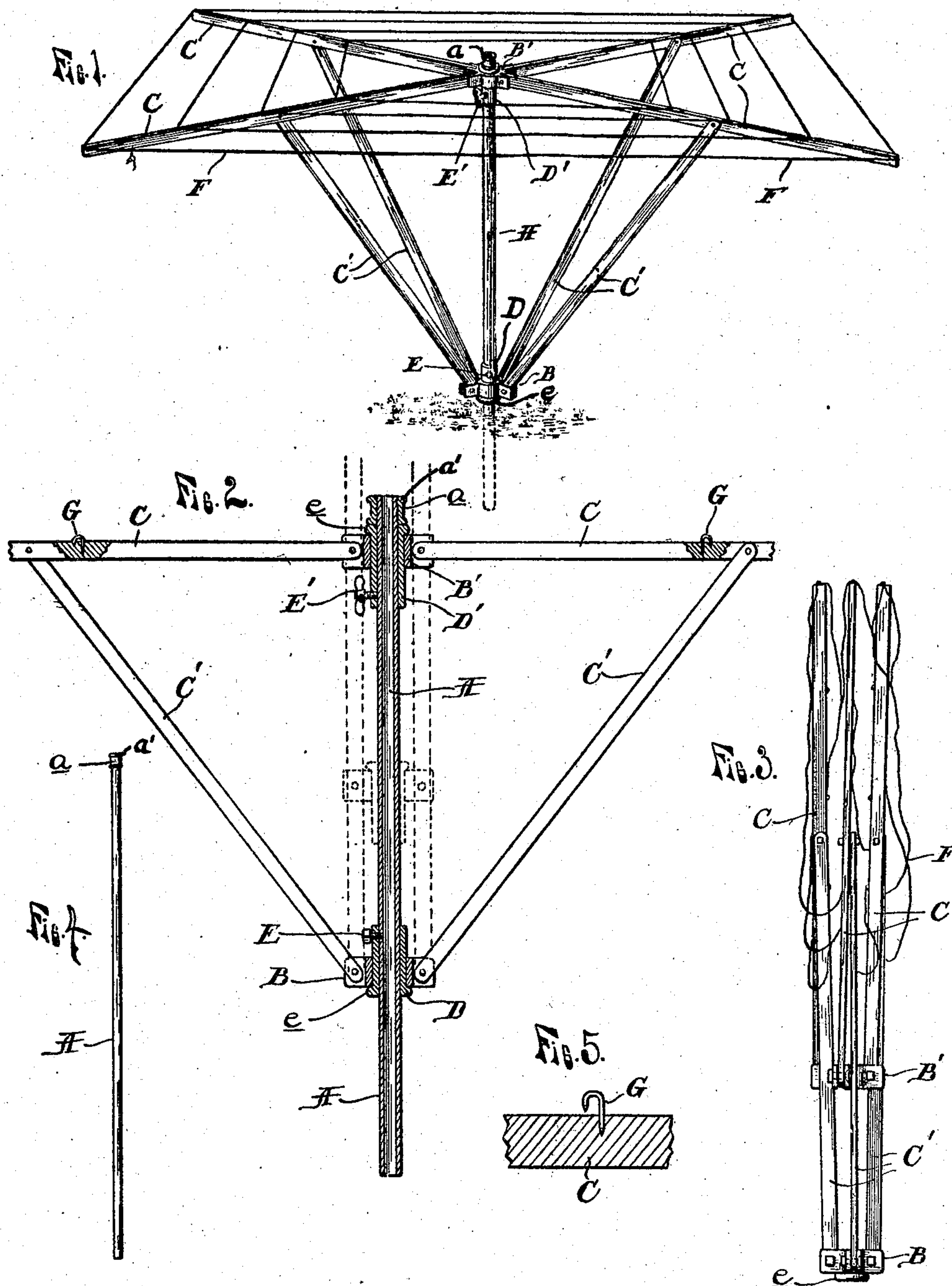


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PATENTED MAR. 26, 1907.

W. H. RICHMOND.
FOLDING CLOTHES REEL.
APPLICATION FILED JULY 22, 1906.



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UNITED STATES PATENT OFFICE.

WILLIAM H. RICHMOND, OF MOUNT PLEASANT, MICHIGAN.

FOLDING CLOTHES-REEL.

No. 848,049.

Specification of Letters Patent.

Patented March 26, 1907.

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To all whom it may concern:

Be it known that I, WILLIAM H. RICHMOND, a citizen of the United States of America, residing at Mount Pleasant, in the county of Isabella and State of Michigan, have invented certain new and useful Improvements in Folding Clothes-Reels, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to that kind of clothes-reel which has a central vertical post fastened in the ground upon which the reel proper for hanging the clothes on to dry is free to revolve.

The object of the invention is to produce a standard reel of this character which is adapted to be manufactured cheaply and shipped in compact form, a reel which is light, strong, and durable and can be readily set up and manipulated, and which is adapted to be used in small yards of houses, upon coops, and other confined places and which can be readily folded when necessity requires, and which is convenient in other ways.

To accomplish all these objects, I have devised the construction more fully hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved reel as set up. Fig. 2 is a vertical central section also showing in dotted lines the position of parts when folded upon the post. Fig. 3 is an elevation of the reel proper when folded up. Fig. 4 is an elevation of the post detached; and Fig. 5 is a section through one of the arms, showing the manner of securing the wires thereto.

My improved clothes-reel comprises a central post A, for which I take a piece of ordinary one-and-one-fourth-inch gas-pipe about nine feet long, and in setting up the reel I bore a two-inch hole in the ground and set the pipe in about two and one-half feet deep. Upon the upper end of this pipe I secure an ordinary pipe-coupling *a*, the post being thus of uniform diameter and without any projection throughout its whole length except the coupling at the end. Such a post is light and cheap, and it is by reason of my construction that I can use such a post. The coupling *a* is an annular sleeve, screw-threaded on its interior to cooperate with the upper threaded end of the pipe A. Its upper end is provided with a rounded annular bead *a'*, which lies flush with the top end of the pipe. The coupling thus in addition to its function of

stop, presently to be referred to, constitutes a reinforce at the top of the pipe and affords an enlargement, whereby the hand of the operator will not be cut or injured when the pipe is forced into the ground, or if a mallet is used for this purpose the end of the pipe will not be mashed out of shape. It is noted that the central support for the reel consists only of the hollow pipe A and that the lower end of this pipe is open—a structure which, besides its advantage of simplicity, possesses the further advantage of being readily driven into the ground.

The reel proper consists of two metal hubs B B', each formed with four pairs of ears, to which the inner ends of the four arms C and of the four braces C' are pivotally secured. The metal hubs are loosely mounted upon metal sleeves D D', which in turn are loose upon the post A. These sleeves are at one end each formed with a collar *e*, which forms a bearing for the hub, and the other end, which projects some distance beyond the hub, is formed with a screw-threaded hole, which for the upper sleeve receives a set-screw E', preferably a thumb-screw, for turning it by hand, and for the lower sleeve it receives a set-screw E, and this set-screw enters a screw-threaded hole in the post, which is suitably tapped to receive this screw.

The coupling *a* constitutes a removable annular stop which when in position effectually prevents the sleeve D' from being slipped up over the end of the pipe A.

The braces C' are pivotally connected to the arms at such distance from the outer ends thereof so that they maintain the arms in a horizontal plane and so that the weight of the clothes hung upon the cables F, which are fastened to the arms, will give the inner ends of the arms a tendency to bear against the collar of the upper sleeve, while the collar of the lower sleeve, which is below the hub, supports and bears the whole weight of the reel.

It will be seen that the lower hub B in the operative position of the reel is supported upon the post almost at the ground, preferably only about six inches above it, there being a hole in the post for the set-screw E to engage in. Thus if the braces were prolonged downwardly they would intersect each other at the ground. Each arm, with its brace and the post, thus form, in effect, a triangular truss, and all the weight and strain is borne at the bottom of the post, which ex-

plains why I can support my reel on a one-and-one-fourth-inch gas-pipe against any possible strain either caused by high wind or by a heavy load upon the reel. Another factor which gives my reel its stiffness and strength is that I tie the arms as solidly together and to the hub as the spokes of a wagon-wheel by having the wire or cables suitably strained upon the arms. I use for this purpose specially-prepared wire cable of the necessary pliability for folding the reel, and in connection therewith I use hook-staples G, as shown in Fig. 5 in detail. I first drive these staples into the arms just to the depth required to permit the cable to be inserted into the open end of the hook, holes being first bored into the arms to receive the staples. Then with the arms extended into a horizontal plane (or nearly so) I strain the cables to the arms, and after this is done I drive the staples home till they clench the cable fast. The outermost cable I preferably secure in the same manner to the extreme end of the arms. By securing the cables in this manner the reel when extended is quite stiff and strong, and it can be constructed of light wood, it being sufficient to use one-and-one-eighth by two-and-one-eighth inch stuff for the arms and braces, the arms being about nine feet long and the braces seven feet. This gives ample height above ground with about one hundred and seventy feet of cable for hanging up the clothes, making the reel handy and convenient to operate, as even with clothes hanging on the reel it can be at least partly folded by loosening the set-screw E and lowering the upper hub, thereby permitting the passage of vehicles in narrow passages or yards, and when not in use the reel can be completely folded, as shown in dotted lines in Fig. 2.

While the post or pipe A may be so positioned that the sleeve D will be slightly above the surface of the ground, it will be apparent that with level ground the pipe may be driven clear down, with the collar or flange e of the sleeve D in contact with the earth. The flange e will thus constitute a stop to limit the extent to which the post is forced into the ground in addition to serving as a support for the hub B, or should the drier be set up in soft ground and the weight of the clothes cause the pipe A to settle then the collar e will come into play effectually to pre-

vent undue settling and the ears of the hub from becoming forced into the ground. The collar or flange e is of appreciable width and depth, so that it is capable of affording considerable support to the superstructure and effectually spaces the hub B from the ground.

From the manufacturer's point of view my reel presents various advantages. It is of simple construction, and the parts are readily assembled, being put together by ordinary carriage-bolts except as to the pivotal connections of the arms with the hub, for which I use so-called "tire-bolts" for the purpose of allowing each brace to fold in parallelism with the arm to which it is connected, as shown in Fig. 4, and by tying cord around it it can be made up into a light and compact bundle for shipping it. In thus preparing it for shipment the set-screw E is loosened, and the post is shoved into the bundle and wholly concealed within it.

Having thus fully described my invention, what I claim is—

In a clothes-drier, the combination of a central upright support consisting solely of a length of metal pipe of uniform diameter and adapted to be readily driven into the ground, said pipe being provided at its upper end with screw-threads and at a point remote from said end with a threaded aperture, an internally-threaded annulus screwed upon the threads of the pipe, an upper and a lower sleeve mounted on and slidable the full length of the central support, the upper sleeve being provided at its upper end with an annular flange designed to abut against the threaded annulus, and the lower sleeve being provided at its lower end with an annular flange, upper and lower hubs rotatably supported on the sleeves and arranged to abut against the annular flanges thereon, clothes-supporting arms pivoted to the upper hub, braces pivoted at their lower ends to the lower hub and at their upper ends intermediately to the arms, and set-screws passing through the sleeves, the lower set-screw being designed, when the arms are extended, to take into the threaded aperture in the central pipe.

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

WILLIAM H. RICHMOND.

Witnesses:

F. H. DODDS,
G. M. BALDWIN.