G. N. BLISS.
Drying-Machine.

No. 203,879. Patented May 21, 1878.

Fig. 1.

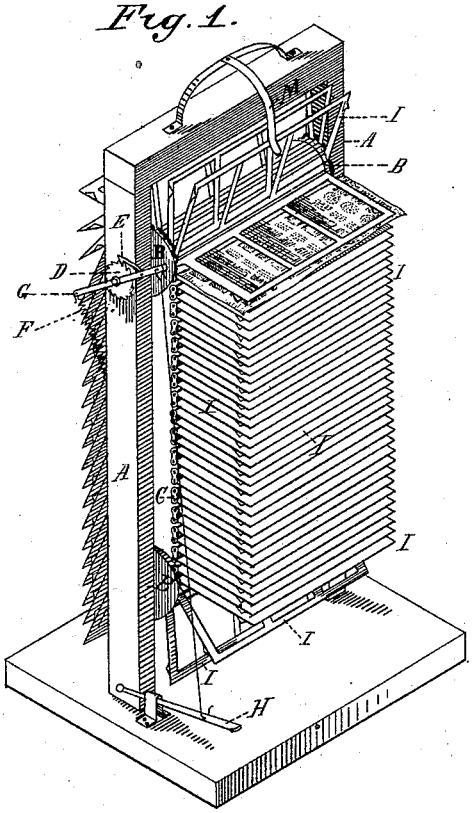
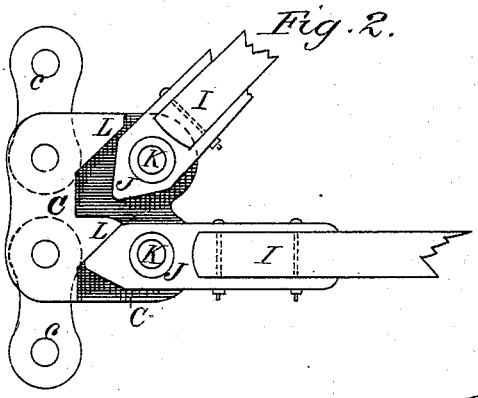


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE N. BLISS, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN DRYING-MACHINES.

Specification forming part of Letters Patent No. **203,879**, dated May 21, 1878; application filed April 4, 1878.

To all whom it may concern:

Be it known that I, GEORGE N. BLISS, of Boston, Massachusetts, have invented a new and useful Drying-Machine; and that the same is fully described in the following specification and illustrated in the accompanying drawing.

The object of my invention is to provide a machine adapted to receive successively and hold temporarily a series of printed or varnished sheets of paper, or any similar matter, in such a manner that the sheets may be placed in close proximity, but not in actual contact, while being dried sufficiently to lay away in piles.

My invention consists of an endless carrying chain or chains and a driving mechanism therefor, in combination with a series of hurdles pivoted upon the carrying chains; also, in an endless drive-chain composed of a series of links, each supporting-link having two or more hurdles hinged thereon, and provided with suitable stops to hold the parts in position; also, in the driving and carrying devices and the hinged hurdles, in combination with a guard to regulate and check the dropping of the hurdles into position.

In the drawing, Figure 1 is a perspective view of my improved machine. Fig. 2 is a view of the chain-links and hurdle-hinges.

A A represent standards or a suitable frame-work, supporting a pair of carrying-wheels, B B, which give motion to an endless chain or chains, C, by any convenient driving means applied to the axle of either wheel. In Fig. 1 of the drawing a ratchet, D, and pawl E are shown, operated by a spring, F, lever G, and treadle H; but it is obvious any properly-graduated driving apparatus may be substituted therefor. In practice, I connect the lever G directly with the press, varnishing-machine, or other mechanism with which the drying-machine is used, so that their speed may be uniform.

I I I are the hurdles or skeleton shelves, borne upon the chains C, and arranged to take a horizontal position during either the upward or downward movement. In the illustration, Fig. 1, the mechanism is adapted to move the horizontal hurdles downwardly.

It is a feature of my invention to hinge the hurdles so that each one shall have an independent movement, that two or more hurdles may be conveniently attached to one link, and that they may take an oblique position during that part of their trip up or down when unloaded, so as to occupy less space laterally.

I have devised a most convenient and effective arrangement for pivoting the hurdles and supporting them in working position, as is clearly shown in Fig. 2, which also illustrates the hinging of two hurdles upon one link. The hurdles are preferably skeleton frames of wood, furnished at each end with a metallic hinge, J, which is secured to the link C by a pivot, K, upon which the hurdle has a limited movement, as indicated by the two positions shown in Fig. 2. Each link C is formed with two stops, L L, against which the heels of the hinges J J abut when the hurdle has dropped into a horizontal position, and this position is maintained by gravitation until the link is deflected from a vertical movement in passing around the wheel B at the top or bottom of its circuit. Thus the hurdles may be placed closely together horizontally, and temporarily support a large number of thin sheets without permitting them to touch each other.

I am accustomed to use my machine in connection with a varnishing-machine for coating sheets of paper with glue or varnish, the two being so arranged relatively that as fast as a sheet is varnished a hurdle drops into position to receive it. This takes place at the top of the machine shown in Fig. 1, and abundant space is there afforded for the automatic or manual work of placing the sheet before the next hurdle descends.

To prevent premature or forcible dropping of the hurdles, I provide a friction or spring guard, *m*, which serves to check their descent until the proper moment, and also insures their movement into position one by one. The illustration of this feature (shown in Fig. 1) is simple and cheap, and it is apparent that numerous devices for the same purpose could be readily applied; hence I do not limit myself to a guard of any particular form.

It will be understood that the supporting-links C of the carrying-chain are united by connecting-links *c*, in a manner common to flat-link chains; and it is obvious that a single chain may carry the hurdles if the hinges and

stops are placed centrally, and also that the stops may be formed upon the hinges, so as to abut against the links C *c*. The varnished sheets will ordinarily be removed and placed in piles by an operator stationed at the foot of the machine.

I claim as of my invention—

1. An endless carrying chain or chains consisting of alternate supporting-links C and connecting-links *c*, with suitable driving mechanism, in combination with a series of hurdles pivoted on said supporting-links and provided with suitable stops, substantially as set forth.

2. An endless drive-chain composed of a series of links, each supporting-link having two or more hurdles hinged thereon, and provided with suitable stops to hold the parts in position, substantially as set forth.

3. The combination of the driving and carrying mechanism and the hinged hurdles with a guard to regulate the movement of the hurdles, substantially as set forth.

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