

(No Model.)

G. F. HALL.
WOOL CONVEYER.

No. 344,525.

Patented June 29, 1886.

Fig 2.

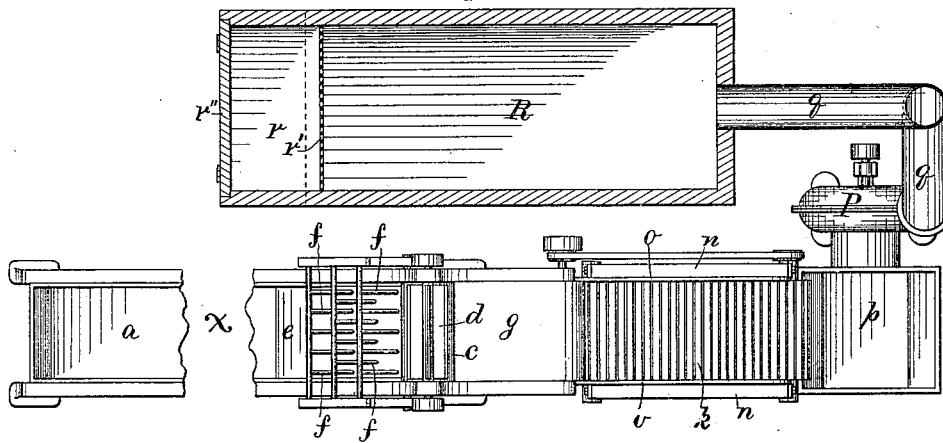
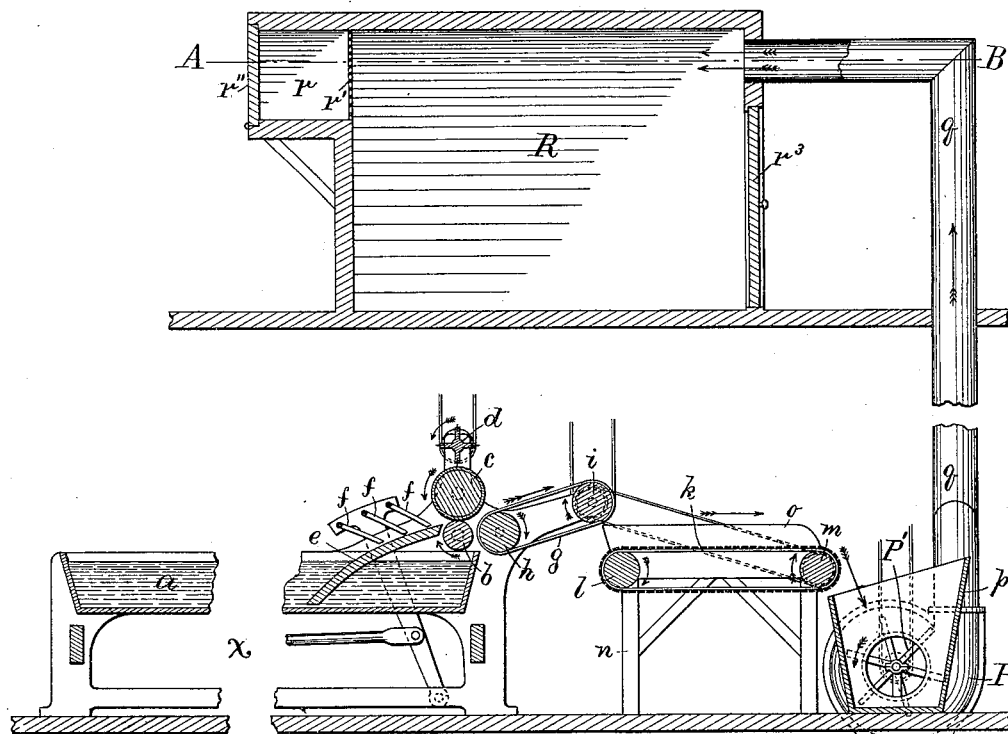


Fig 1.



Witnesses

Henry Chadbourne.
H. M. Elden

Inventor

George F. Hall
by Alban Andren, his atty.

UNITED STATES PATENT OFFICE.

GEORGE F. HALL, OF BOSTON, ASSIGNOR TO THE NONANTUM WORSTED COMPANY, OF NEWTON, MASSACHUSETTS.

WOOL-CONVEYER.

SPECIFICATION forming part of Letters Patent No. 344,525, dated June 29, 1886.

Application filed November 23, 1885. Serial No. 183,615. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. HALL, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Wool-Conveyers; and I do hereby declare that the same are fully described in the following specification, and illustrated in the accompanying drawings.

This invention relates to improvements in wool-conveyers for automatically conveying the wool as it comes from the washer to the bin or receiver, from which it is taken to the drier.

Heretofore the wool has been conveyed from the washer to the upper stories of the warehouse in various ways, but in all cases it is liable to contain a certain amount of dirt or grit; and it is the object of my invention to obviate these difficulties, for which purposes I construct my invention as follows, reference being had to the accompanying drawings, where—

Figure 1 represents a vertical section of my improved conveyer and drier, and Fig. 2 represents a horizontal section on the line A B, shown in Fig. 1.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In carrying out my invention I locate between that portion of the washer where the wool is delivered after being washed and the bin to which it is conveyed an exhaustor or blower, the wings of which are set in a quick rotary motion, into which the damp wool is drawn and forced through a pipe by the action of the air from the blower to the bin in which it is to be delivered. In so doing the wool is automatically conveyed to the desired place without any hand manipulation, and during its passage through such pipe it is intimately brought in contact with the air from the blower, by which the following advantages are obtained: Nearly all of the moisture is removed and the wool is delivered to the bin or receiver in an almost dry state, requiring but a comparatively short exposure on the driers afterward; the fibers are disintegrated and made of a much more flaky nature than usual, by which the subsequent carding operation is facilitated,

and, in fact, the nature of the wool much improved in every respect. It is also desirable that the dust and grit still remaining in the wool should be automatically removed, and for this purpose I provide one or more sides of the bin or receiver with a grate or netting, against which the wool is caused to strike as it is delivered from the blower and its conducting-pipe, and in so doing the dust or grit is, as it were, shaken out and blown through the grate or netting into a box on the outside of the bin, the perforations in such grate or netting being small enough to prevent the wool from passing through. The wool is thus delivered into the bin in a light, dry, fleecy, and flaky nature, with most of the dust or grit removed.

In the drawings, *a* represents the trough of an ordinary wool washer, X, in which *b c* are the squeezing-rollers; *d*, the upper fan or scraper; *e*, the inclined plane for feeding the wool from the trough *a* by means of the fingers or carriers *f f f* in the usual manner. The wool after being squeezed between rollers *b c* is delivered to the endless fly-apron *g*, supported on the rotary rollers *h* and *i*, as usual. From the endless fly-apron *g* the wool drops onto the endless slat-apron *k*, made of slats and bands in the usual manner and supported on rotary rollers *l m*, located in the frame *n*, as usual.

o o are sides above the endless apron *k*, to prevent the wool from dropping off sideways as it is carried onward on apron *k* in the direction shown by the arrow in Fig. 1. From the apron *k* the wool drops into the hopper or funnel *p*, open at top and fitted to the side of the air exhaustor or blower P, in which the fans P' are set, in a quick rotary motion. As the wool drops into the hopper or funnel *p*, it is drawn with great force into the air exhaustor or blower P and forced upward through the pipe or conveyer *q*, leading to the bin or receiver R, as shown in the drawings. The wool as it is forced by the air-pressure from the exhaustor or blower P to the bin R is thoroughly intermixed with the dry air that takes up more or less of the moisture remaining in the wool and causes the wool to be aerated, its fibers disintegrated, and to be delivered into the bin R in a very light and flaky condition, as hereinbefore described.

For the purpose of automatically removing more or less of the dust or grit from the wool as it is being delivered to the bin R, I arrange on the opposite side from which the wool enters a box or dust-receptacle, *r*, the front or inside of which is made in the form of a perforated grate or wire-netting, *r'*, against which the wool is forced by the air-pressure from exhauster P, causing the dust or grit in the wool to pass through the grate or netting *r'* and to be retained and collected in the box *r*, and the now nearly-dry and dust-free wool to drop into the lower part of the receiver or bin R.

r'' is a door or gate, preferably hinged to the outside of the box *r* and forming one side of it, which is normally kept closed during the operation of conveying the wool from the washer to the bin, and it is opened whenever it is desired to remove the dust or dirt that has accumulated in said box *r*.

r''' is a door leading to the bin R, for the operator to enter, as usual, when examining or removing the wool collected in said bin R.

I wish to state that I do not claim herein any particular wool-washer, as my invention is applicable to any of the ordinary machines for

this purpose; neither do I claim nor wish to confine myself to any particular air exhauster or blower, as such may be made in any of the ordinary manners without departing from the essence of my invention; but

What I wish to secure by Letters Patent, and claim, is—

1. The combination, with a wool-washing apparatus, of one or more conveyers, a fan-blower and a hopper leading to the same, a conveying-tube through which the wool is driven by the blast, and a bin with which said tube communicates, said bin having a foraminous partition-wall, through which the dust is carried by the blast, substantially as described.

2. The combination, with the washing-mechanism X, of the conveyers *g k*, the hopper *p*, the fan-blower contained therein, the pipe P, the bin R, the foraminous partition *r'*, and the dust-chamber *r*, substantially as described.

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

GEORGE F. HALL.

Witnesses:

T. F. SAXTON,
ALBAN ANDRÉN.