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H. G. THOMPSON.

Nail-Assorting Machines.

No. 156,898. Patented Nov. 17, 1874.

Fig. 1.

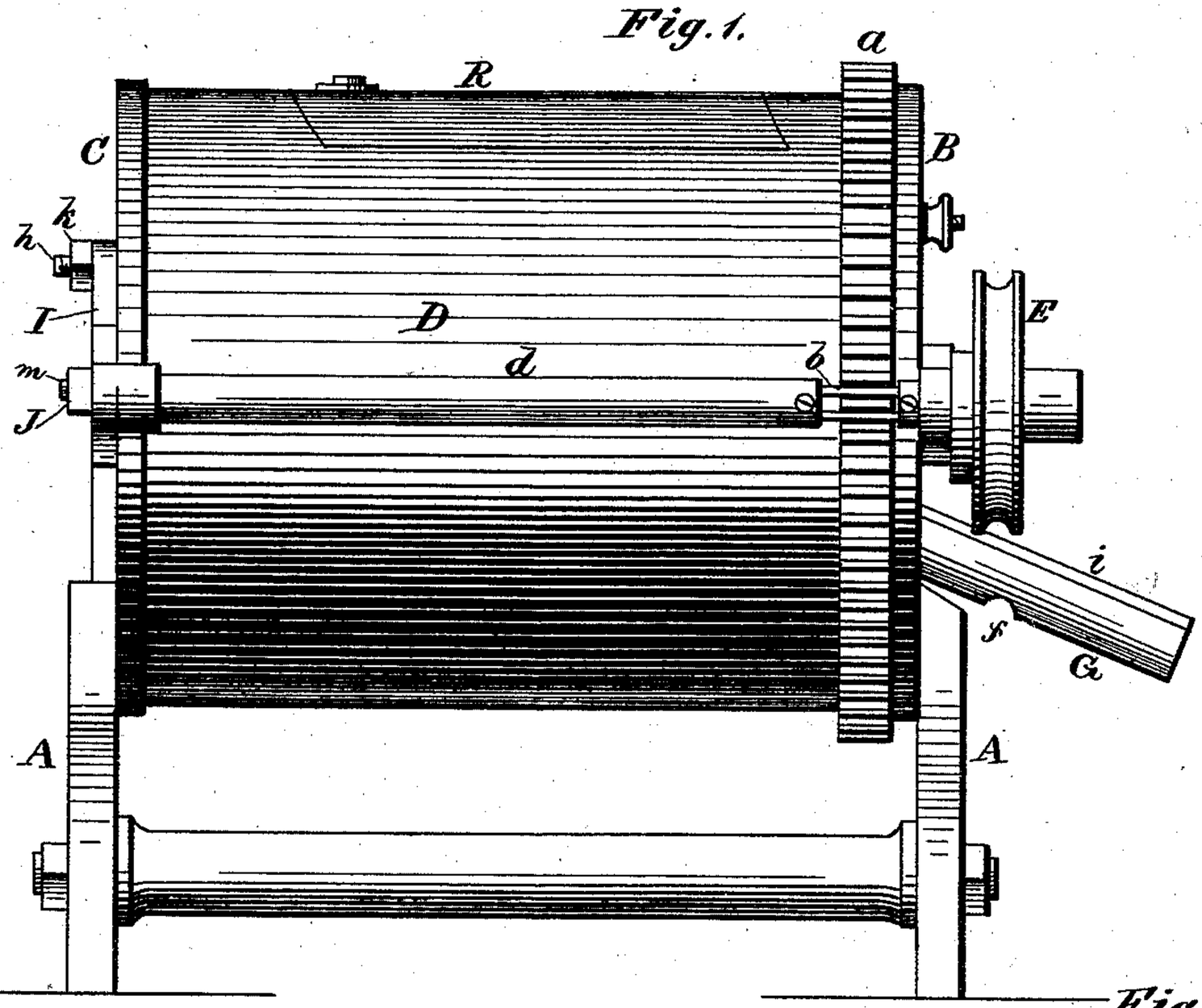


Fig. 2.

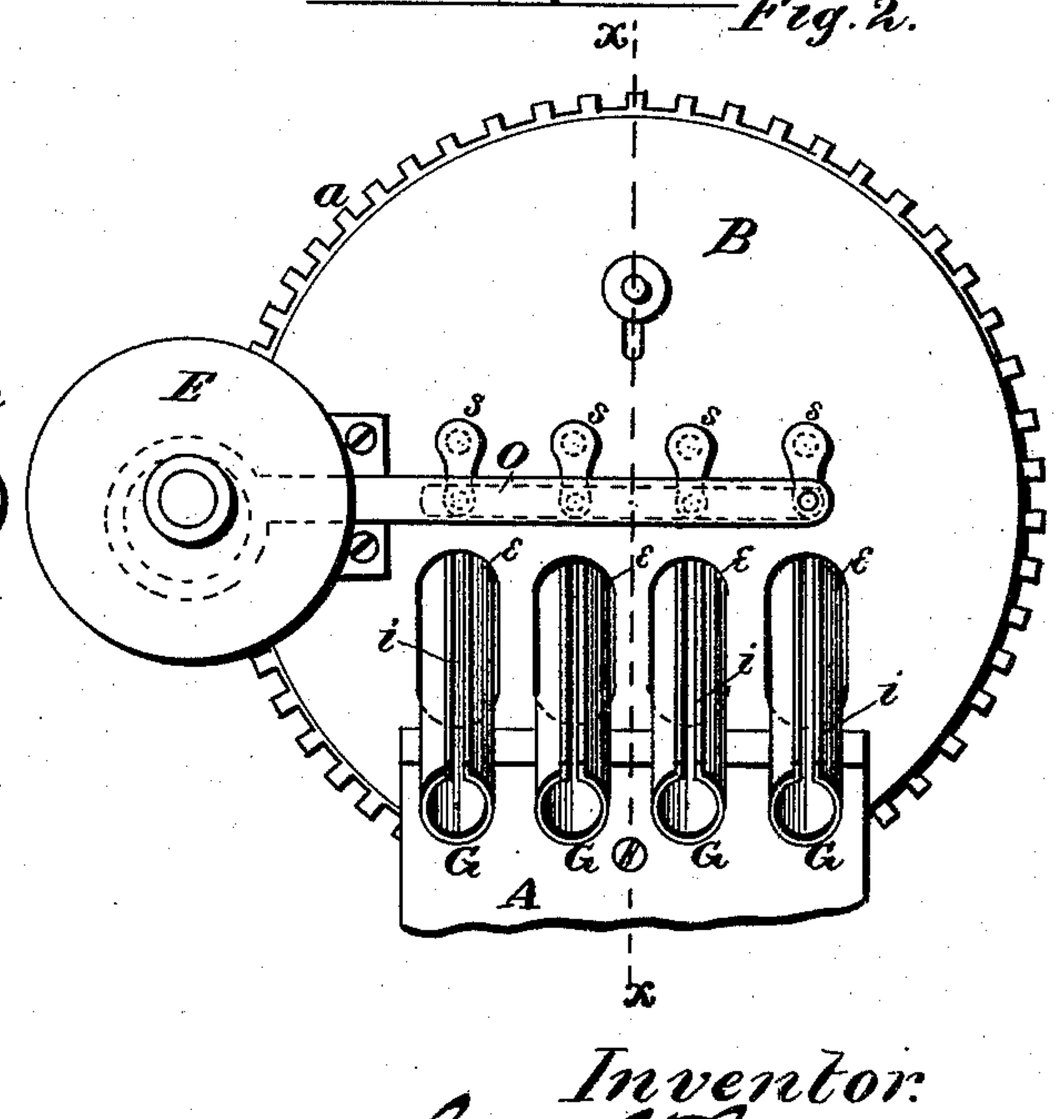
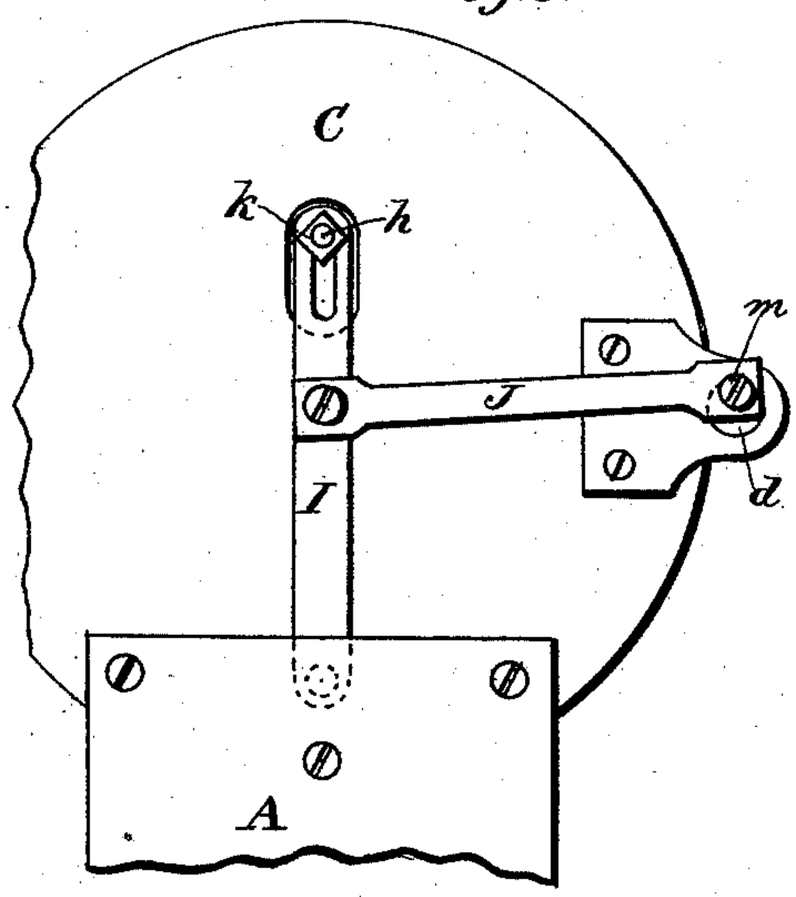


Fig. 3.



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2 Sheets--Sheet 2.

H. G. THOMPSON.

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Fig. 4.

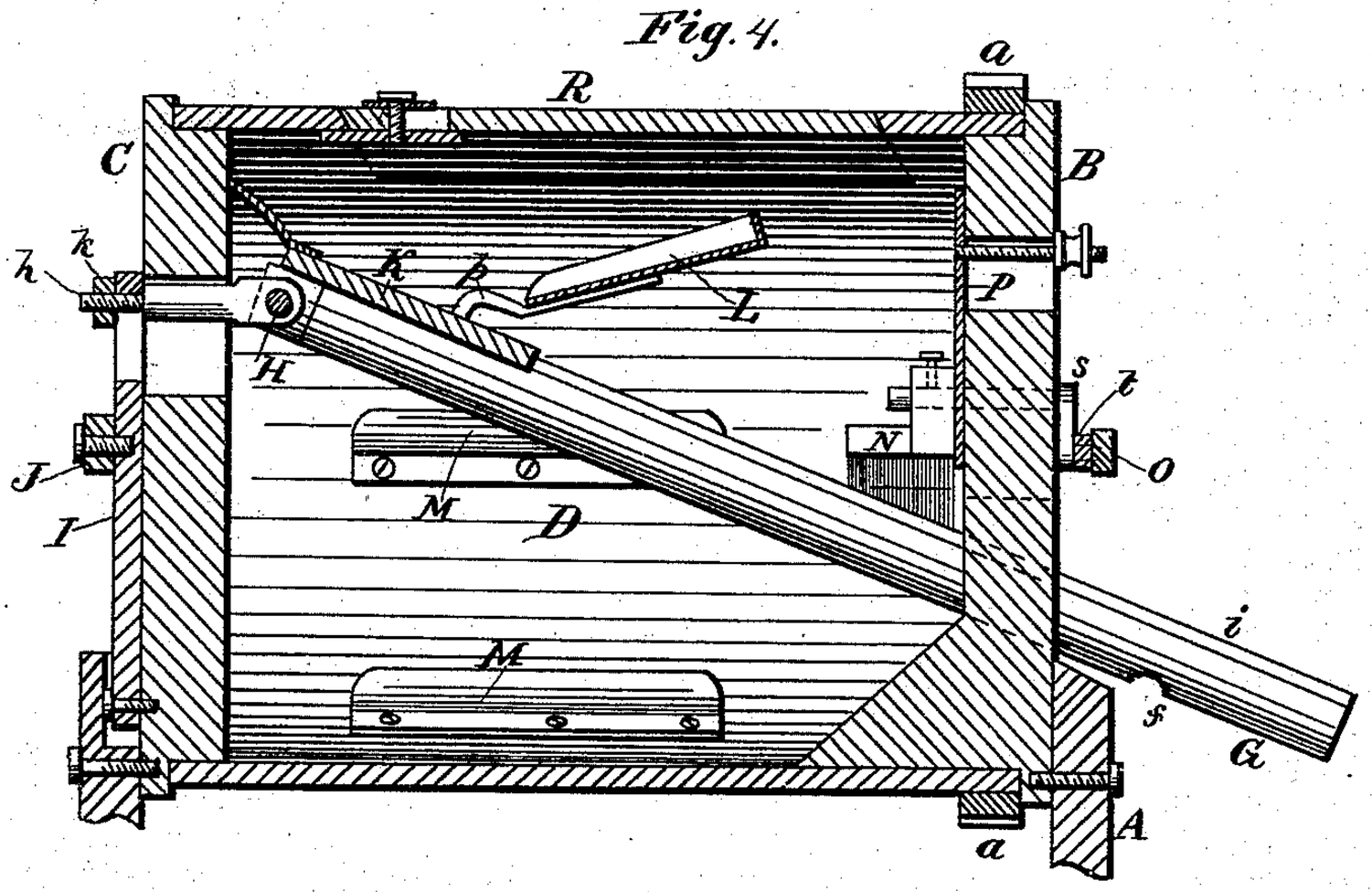
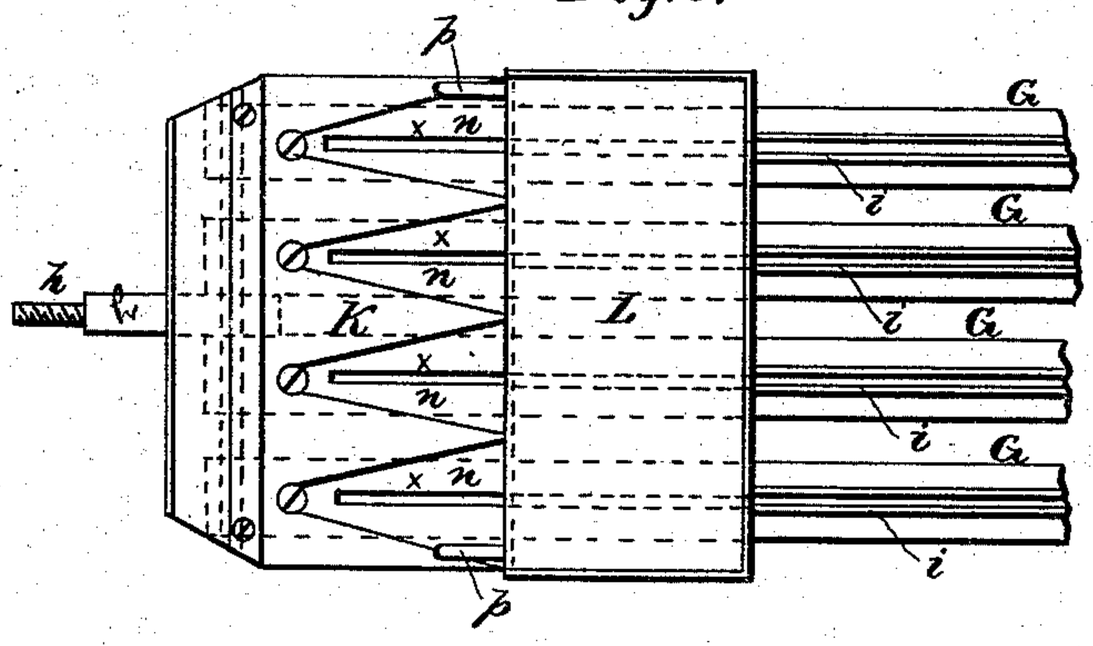


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY G. THOMPSON, OF MILFORD, CONNECTICUT.

IMPROVEMENT IN NAIL-ASSORTING MACHINES.

Specification forming part of Letters Patent No. **156,898**, dated November 17, 1874; application filed September 12, 1874.

To all whom it may concern:

Be it known that I, HENRY G. THOMPSON, of Milford, county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Assorting-Machines for Separating Perfect and Imperfect Tacks, Nails, &c., of which the following is a specification:

The nature of my invention consists in the construction and arrangement of an assorting-machine for separating the perfect and imperfect tacks, nails, or spikes, as will be hereinafter more fully set forth.

In order to enable others skilled in the art art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation of my machine. Figs 2 and 3 are end views, and Fig. 4 a longitudinal vertical section, of the same. Fig. 5 is a plan view of the interior assorting-mechanism.

A represents a suitable stand or frame for supporting my assorting-machine. In this frame or stand are secured the front head B and rear head C of the assorting-cylinder. D represents the cylinder, which is fitted on offsets on the inner sides of the heads B C. The front end of the cylinder D is provided with an exterior cogged ring, *a*, which gears with a pinion, *b*, upon a driving-shaft, *d*, having its bearings in the stand or frame A. On this shaft is a pulley, E, to be connected by a belt or cord with the power for driving the same, whereby the cylinder D is revolved.

Inside of the cylinder are arranged a series of hollow tubes, G, which project through vertical slots *e* in the front head B. Each tube G is slotted longitudinally on its upper side, and on each side of said slot is a flange, *i*, forming a way for the head of the tack, nail, or spike to slide upon, whereby all those tacks, nails, or spikes having no heads, or too small heads, will drop down into the tube and out through an aperture, *f*, in the bottom thereof, while the perfect ones will slide down to the front end of the tube and drop into a receptacle placed for their reception.

The tubes G G are connected at their rear upper ends to a cross-bar, H, which is fastened by a bolt, *h*, with nut *k*, to the upper end of an arm, I, on the outside of the rear head C, the bolt *h* passing through slots in said head and in the arm. By means of these slots the bar H can be adjusted up and down for the purpose of giving more or less incline or pitch to the tubes, thereby causing the tacks, nails, or spikes to slide more freely.

The lower end of arm I is pivoted in the stand A, and it is connected by a pitman, J, with an eccentric pin, *m*, on the end of the shaft *d*, whereby a laterally-reciprocating motion is imparted to the upper ends of the tubes at the same time and independent of the revolving motion of the cylinder. To the cross-bar H is secured an apron, K, which extends over the upper ends of the tubes, and has slots, *x*, corresponding with the ways *i* of the tubes, and around each slot is a V-shaped depression or incline, *n*, as shown, leading to the slot and to the tube beneath it. To the apron K is, by means of rods *p p*, attached a receiving-shelf, L, upon which the tacks, nails, or spikes are dropped from buckets M, attached to the inner periphery of the revolving cylinder D. By means of the receiving-shelf L the tacks, nails, or spikes are gradually scattered and dropped upon the apron K.

In addition to the reciprocating motion imparted to the shelf L by being attached to the apron and cross-bar, it has a vibrating motion imparted to it by being simply supported on the rods *p p*, and by this means the tacks, nails, or spikes are more effectually distributed to the different inclines *n* on the apron.

In the front head B is a series of cranks, *s*, passing through the head above the tubes G, and to the inner end of each crank is secured a brush, N. The outer ends of the cranks are connected by a rod, *t*, and one of the cranks, or the rod, is, by a pitman, O, connected with an eccentric on the side of the driving-pulley E, or upon the shaft *d*, by which means a swinging motion is imparted to the brushes N for the purpose of removing obstructions at the openings for the exit of the tacks, nails, or spikes from the cylinder. On the inner side of the front head B is a slide, P, cut out to fit over the tubes G and prevent the exit of any tacks, nails, or spikes on the sides of said

tubes. The cylinder D is provided with a suitable door, R, for the admission of the tacks, nails, or spikes to be assorted.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a nail-assorting machine, a hollow tube with way for the head of the nail to slide upon, by means of which all those without or with too small heads will drop to the inside of the tube and be deposited through an aperture in the tube outside of the cylinder, substantially as herein set forth.

2. In a tack, nail, or spike assorting machine, a series of tubes, in combination with an adjustable joint for the purpose of giving them more or less incline or pitch, and an arm for imparting a reciprocating motion, substantially as shown and described.

3. In a tack, nail, or spike assorting machine, the combination of a shaft, *b*, eccentric *m*, pitman J, pivoted arm I, and head C, with the series of slotted tubes G, substantially as shown and described, all arranged and operating to give a laterally-reciprocating motion to the tubes G.

4. In a tack, nail, or spike assorting machine, the combination, with a series of tubes, G, and apron K, of the receiving-shelf L and *p p*, substantially as shown and described, all arranged and operating to evenly and continuously distribute the tacks, nails, or spikes received from buckets M.

5. In a nail-assorting machine, the distributing-apron K, provided with slots and inclines, in combination with a series of tubes G, substantially as shown and described.

6. In a tack, nail, or spike assorting machine having a series of tubes arranged within a cylinder, a corresponding series of brushes for removing obstructions at the exit-openings from the cylinder, substantially as herein set forth.

In testimony that I claim the foregoing as my invention I hereunto affix my signature this 11th day of September, 1874.

HENRY G. THOMPSON.

Witnesses:
FRANK L. ALLIS,
H. GRANT THOMPSON.