

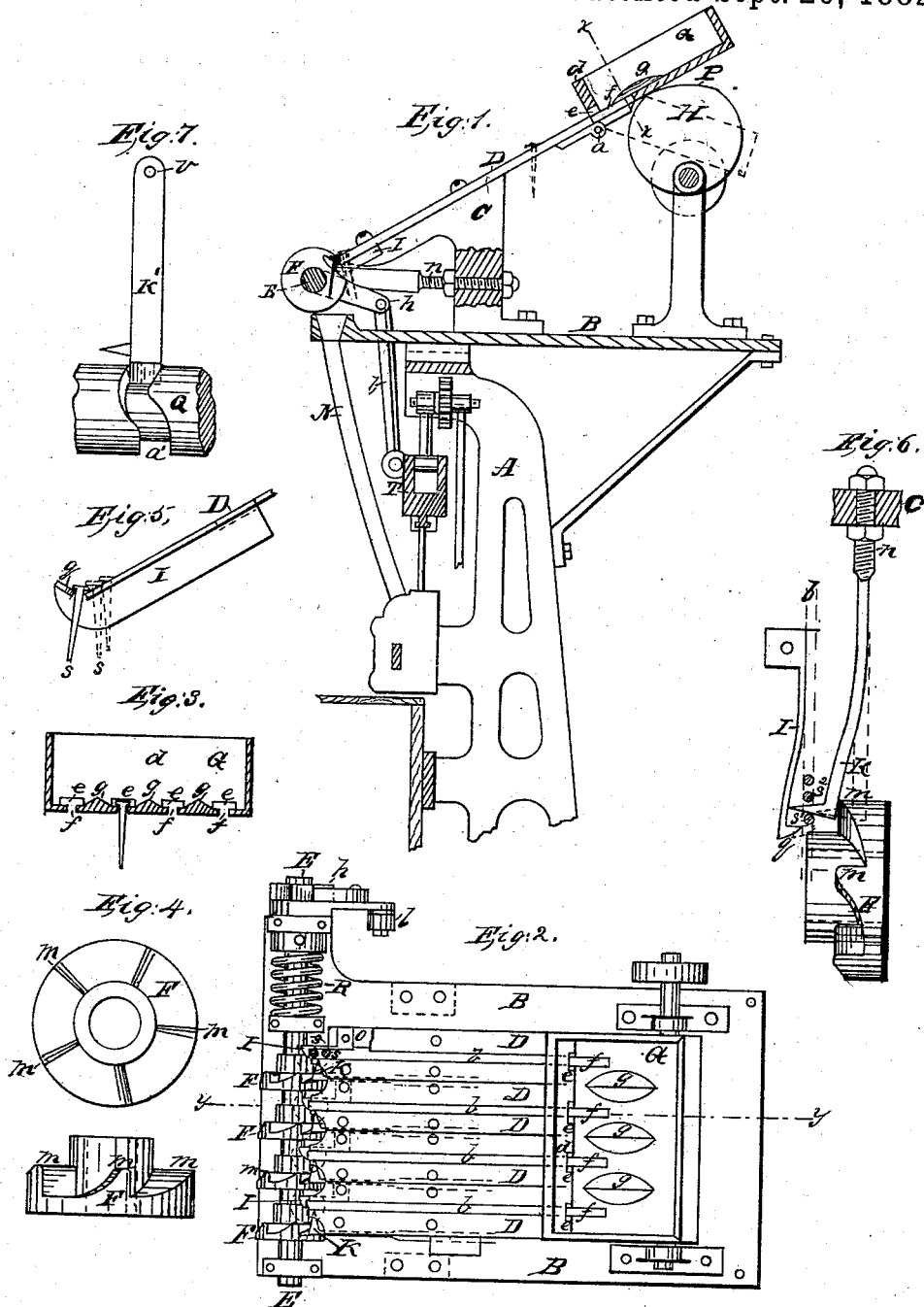
(No Model.)

T. L. SMITH & W. S. DOIG.

NAIL FEEDING MECHANISM.

No. 265,166.

Patented Sept. 26, 1882.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## NAIL-FEEDING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 265,166, dated September 26, 1882.

Application filed March 13, 1882. (No model.)

*To all whom it may concern:*

Be it known that we, THOMAS L. SMITH and WILLIAM S. DOIG, of Brooklyn, county of Kings, State of New York, have invented a new and useful Improvement in Nail-Feeding Machines, which is fully set forth in the annexed specification and drawings.

Our invention relates to that class of nail-feeding machines which are used on box-nailing machines. Our object, therefore, is to feed one nail only for each punch at every revolution of the machine, and to arrange its mechanism so that it will work automatically and more positive than any device heretofore made, the same being hereinafter more fully described, reference being had to the accompanying drawings, in which—

Figure 1 represents an elevation of nail-feeding machine on section *yy*, Fig. 2, mounted on the top of the frame of a box-nailing machine. Fig. 2 is a plan view of nail-feeding machine. Fig. 3 is nail receptacle or reservoir on section *xx*, Fig. 1. Fig. 4 represents an enlarged view of the disk-cam in plan and elevation. Fig. 5 is an enlarged view of spring-stop. Fig. 6 represents an enlarged view, showing plan of springs being operated upon by the disk-cam. Fig. 7 represents a modification of Fig. 6.

Similar letters refer to similar parts throughout the several views.

A represents the upper portion of a box-nailing machine, upon which the bed B of nail-feeding machine is mounted.

C is an upright for supporting the incline guide or track plate D.

E represents shaft to which disk-cams F are secured, and are operated by a pawl and ratchet, *h*, which is attached to the cross-head T of the machine by link *l*.

G is a nail receptacle or reservoir, which is hinged to the upper end of the track or guide plates D at *a*.

H is a cam for imparting a tilting motion to the reservoir G.

I is a spring-stop, which closes the orifice or channel *b* between the plates D, and is secured under the track-plate, as shown at O, Fig. 2.

K is a spring-pointer, which regulates the movement of the nails.

To operate the machine the reservoir G is partly filled with nails while it is in the posi-

tion shown by dotted lines in Fig. 1. Then, by the revolving of the cam H, the reservoir G being hinged at *a* to plates D, it will be raised to a corresponding incline with said track D and allowed to remain in that position a short time by the dwell P on cam H, and while in this position the nails will fall forward or down toward the side *d*, in which are slots or openings *e*, as shown in Fig. 3, sufficiently large to allow of one nail-head to pass through. The bottom of the reservoir also has openings *f* to admit the body of the nail. The projections *g* facilitate the distribution of the nails over the slots *f*. When the nail has dropped into the slot or opening *f* it slides down the incline in orifice *b*, being supported by the head upon the track or guide plate D until it is arrested by the stop-spring I, which is so formed as to close the channel *b*, and the same being made the reverse angle of the incline track D, as shown in Fig. 5 at *q*, for when the nail is arrested one side of the head rests upon this incline *q*, thereby causing the point of the nail to be thrown forward and opening the space between the first and second nails for the pointers K, the shaft E being revolved by the pawl *h* and connecting device. The disk-cam F, being secured to said shaft E and moving with same, causes one of the teeth or projections M to press the pointer K forward between the first and second nails, (marked *s s* in Fig. 2,) and continues to move the same forward until it has forced the stop-spring I back from over the orifice *b*, as shown in Fig. 6 by dotted lines, and allowing the nail *s'* to drop into the tube N, thence to the punch. The nail *s''* is retained in the channel by the point K until the same is released by the revolving of the disk F, when it will spring into its former position, as shown by dotted lines, Fig. 6. The point K is secured to the upright C by having the shank *n* threaded and lock-nuts on both sides, thereby enabling the same to be adjusted to suit different-size nails. The point K' in Fig. 7 is pivoted at *v* and operated by grooved roller Q, instead of disk-cam F. By this device no spring is required, as the movement of the point K' is governed by the groove *a'*. If by accident the point K should strike the nail, to prevent breaking the same or damaging other parts of the machine, we place a

coil-spring, R, around the shaft E, as shown in Fig. 2, which allows said shaft and disks to recede; but the spring R is of sufficient strength to perform the work required. Thus it will be  
5 seen by this device that we have a very simple, durable, and positive-working machine, as it will work accurately with any kind of nail.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—  
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1. In a nail-feeding machine, the combination of the inclined plates or guides D with spring-stop I, the foot or stop *g*, the spring-pointer K, and disk-cam F, substantially for  
15 the purpose set forth.

2. In a nail-feeding machine, the combination, with inclined plates or guides D, of the tilt-

ing nail receptacle or reservoir G, hinged thereto, having therein the slots *e* and *f*, and the projections *g*, for the discharge of nails, and operated by the cam H, having thereon a dwell or rest P, substantially for the purpose set forth. 20

3. In a nail-feeding machine, the combination of guides D, spring-stop I, point K, disk-cam F, and the coil-spring R around the shaft E, to allow said shaft to recede when required, substantially as described, for the purpose  
25 specified.

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