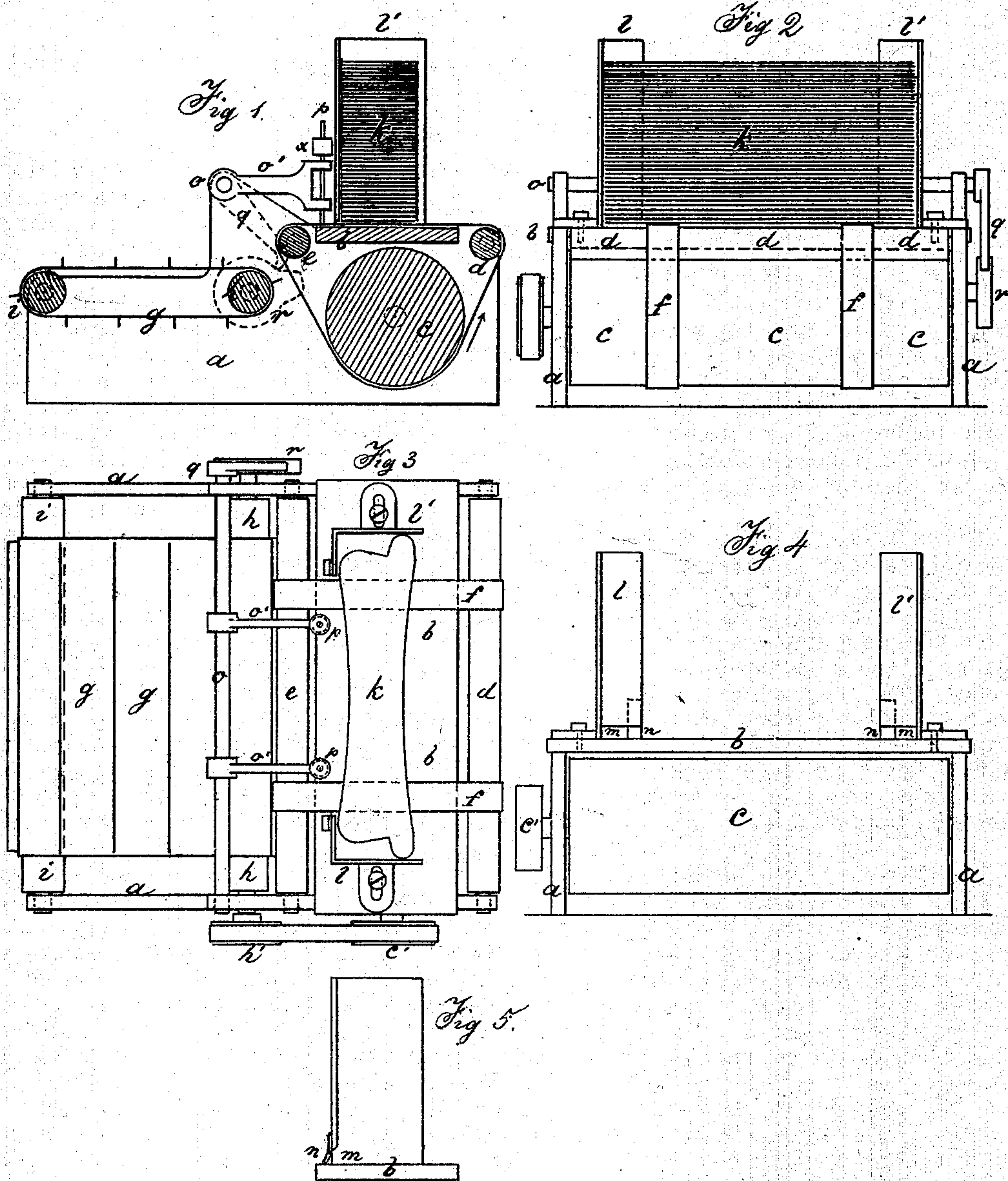


J. H. DARLINGTON.
Paper-Feeding Apparatus.

No. 146,322.

Patented Jan. 13, 1874.



Witnesses.
 Albert H. Hook.
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IMPROVEMENT IN PAPER-FEEDING APPARATUS.

Specification forming part of Letters Patent No. 146,322, dated January 13, 1874; application filed June 10, 1873.

To all whom it may concern:

Be it known that I, JOHN H. DARLINGTON, of the city, county, and State of New York, have invented an Automatic Feeding Apparatus for Paper Blanks, &c., of which the following is a specification:

My automatic feeding apparatus is constructed to feed all sorts of paper and other blanks, such as paper-collar blanks, &c., into machines in which the said blanks are to be subjected, one by one, to any desired operation, such as printing, embossing, folding, &c., which feeding had heretofore been chiefly done by hand.

Figure 1 is a vertical longitudinal section of my apparatus adapted to feeding paper-collar blanks onto a conveying-apron. Fig. 2 is a front elevation thereof; Fig. 3, a plan view. In all the foregoing figures a pile of paper-collar blanks is shown in position. Fig. 4 is a front elevation of the machine, the blanks and the endless bands *ff* being removed. Fig. 5 is a transverse section of the plate *b*, with one of the uprights, *l'*, attached thereto.

a a are two vertical sides of a frame, which support a horizontal plate, *b*. There are three rollers, *c d e*, which carry two or more endless bands, *ff*, the rollers being placed so as to lead the endless bands over and in close contact with the top of the plate *b*. *g* is an endless apron, running over a pair of rollers, *h i*, and provided with paddles at equal distances from each other, intended to receive the blanks, one by one, in the spaces between the paddles. *k* is a pile of blanks, placed upon the plate *b*, between two upright angular guides, *l l'*, which are fastened upon the plate *b*. The rear sides of these angles do not reach down to the plate *b*, but leave an open space, marked *m* in Figs. 4 and 5, through which the lowest blank can slide when the two endless bands *ff* are put in motion in the direction of the arrow shown in Fig. 1, and, by means of their friction against the lowest blank of the pile, carry the said blank backward and drop it upon the carrying-apron *g*. To prevent more than one blank being carried out at once, the upright guides *l l'* are furnished at their rear sides each with a strip of elastic india-rubber, *n*, or other pliable material, which reaches down to the plate *b*, and exerts a slight pressure upon

the blanks as they are being carried through the open space *m*. The revolving motion of the bands *ff* is obtained by connecting the roller *e* with the roller *h* by a driving-belt running on pulleys *c* and *h*.

To insure the regularity of the feeding of the blanks, the following mechanism is employed: A rock-shaft, *o*, carries two arms, *o' o'*, which are each provided with a vertical pin, *p*, at the front end, which is loosely fitted, and is capable of sliding in its bearings, being brought down by its own weight. A small collar, *x*, attached to the pin, determines the amount of play of the pin up and down in its bearings. When these two pins are down, resting with their lower ends upon the plate *b*, they prevent any blanks from passing out. At one end of the rock-shaft there is an arm, *q*, attached thereto, which bears upon a cam, *r*, of the center shaft of the roller *h*, and is lifted by said cam once in every revolution of the roller *h*, thus lifting the pins *p* from the plate *b*, and permitting a blank to pass out. The carrying-apron *g* and the roller *h* are so arranged and geared as to receive one blank in every revolution of the roller *h*. The cam *r* must be so timed as to lift the arm *q*, and hence the pin *p*, at such a time as to enable the blank to reach the apron *g* at the proper place and time, and must be so shaped as to drop the pins *p* immediately after a blank has passed out, to stop the next blank until its time has arrived. In all cases the motion of the pins *p* must be regulated by the main shaft of the machine to which the feeding apparatus is to be adapted. If attached to a press, the pins *p* must be operated by the eccentric-shaft of the said press. The endless bands *ff*, in order to increase their friction against the blank, and insure their capability of carrying the said blank, may be sanded or otherwise made with a rough surface.

The above-described plan of construction may be modified in various ways. Instead of employing the endless bands *ff* below the pile of the blanks to pull out the lowest of the blanks, the said blanks may be made to operate on the top of the pile and remove the uppermost blank, in which case the pile of blanks should be lifted up by a counter-weight or spring, to bear against the lower side of the endless bands; or else the bands may be dis-

pensed with entirely, and be substituted by one or more rollers, to operate either at the top or the bottom of the pile of blanks.

I claim as my invention—

1. The combination of the revolving endless belt or belts *f* with the blank-case, whereby the blanks are fed forward successively by frictional contact.

2. The guides or frame *l l'* constituting the case for the blanks, as provided with elastic

detaining-strips *n n*, whereby the feeding of the single blank is accomplished.

3. The combination of feeding-aprons *f f*, reciprocating stops *p p*, and delivery-apron *g*, substantially as described.

J. H. DARLINGTON.

Witnesses:

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