C. A. MAXFIELD.

Paper-Feeding Apparatus.

No. 162,840. Patented May 4, 1875.

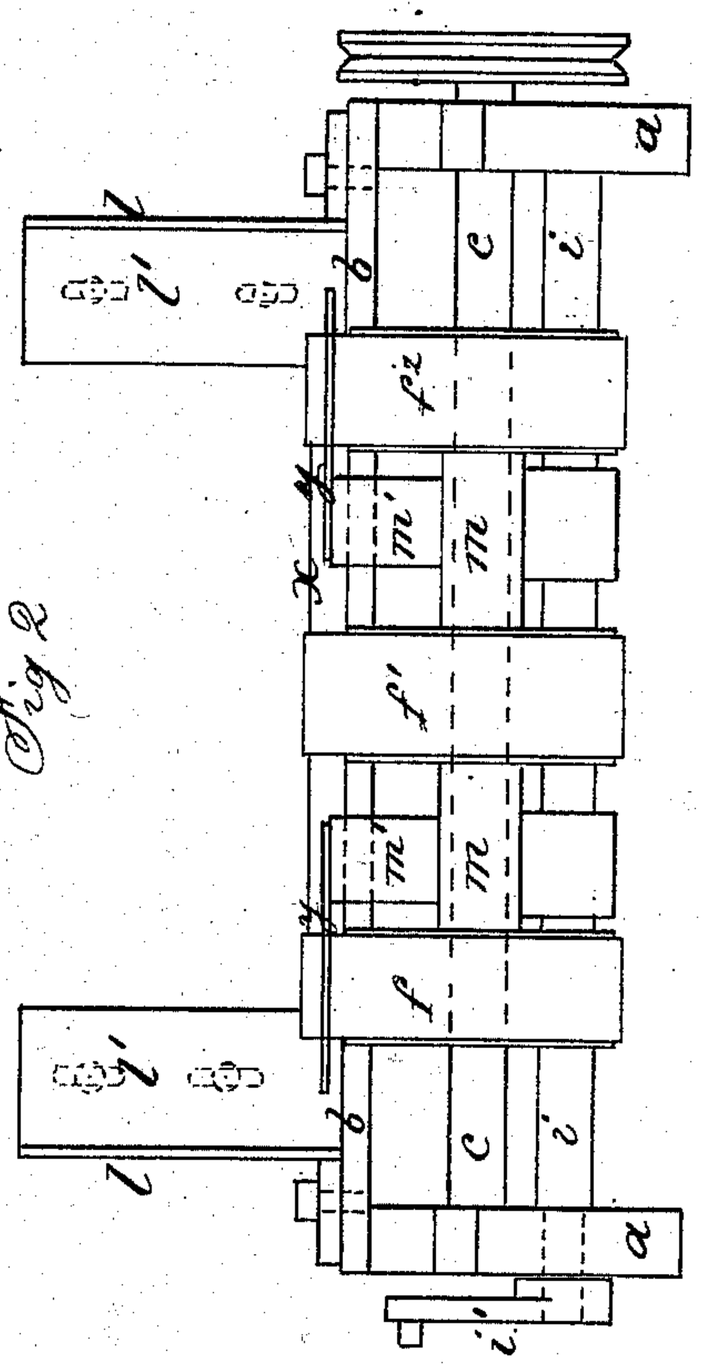

Fig 2

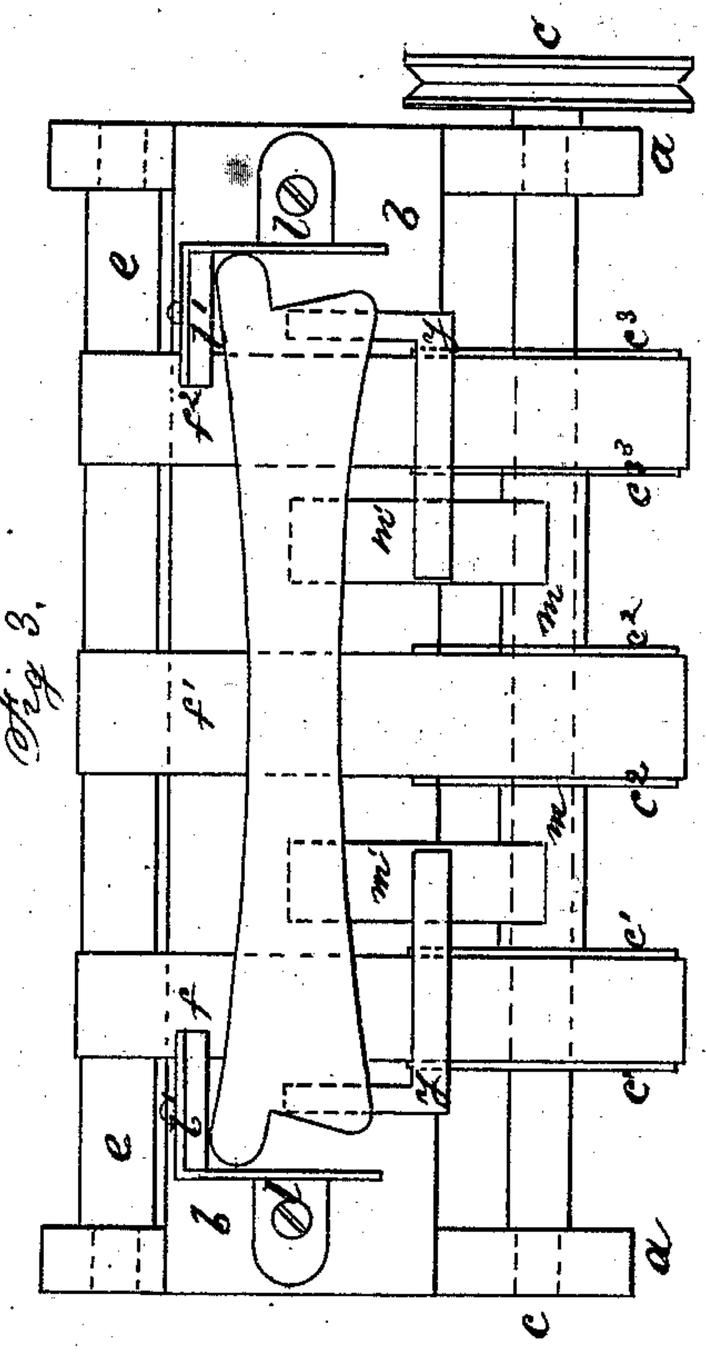

Fig 3.

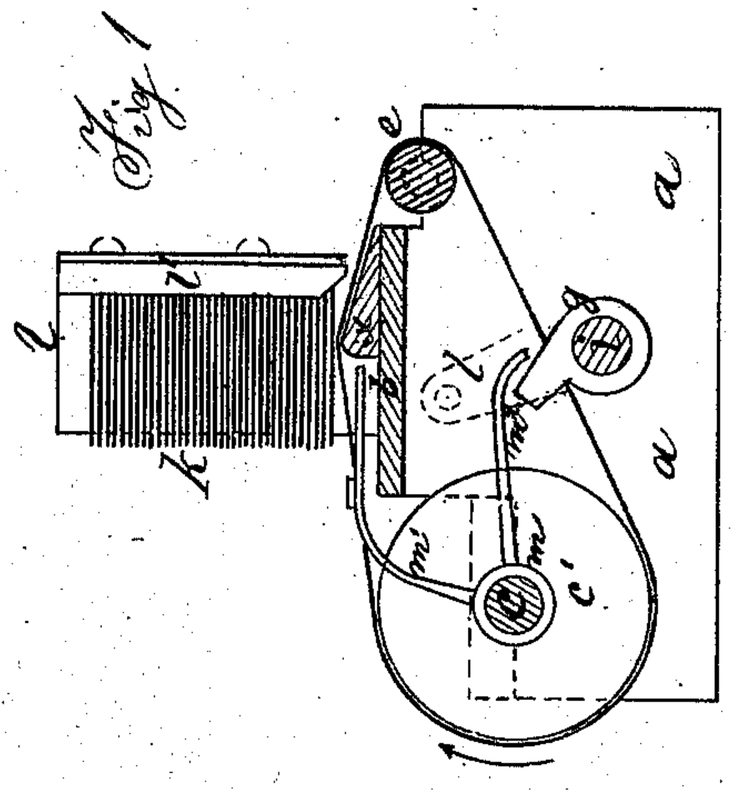

Fig 1

Witnesses
Albert H. Hook
C. A. Brown

Inventors
Chas. A. Maxfield

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

CHARLES A. MAXFIELD, OF NEW YORK, N. Y.

IMPROVEMENT IN PAPER-FEEDING APPARATUS.

Specification forming part of Letters Patent No. **162,840**, dated May 4, 1875; application filed September 22, 1874.

To all whom it may concern:

Be it known that I, CHARLES A. MAXFIELD, of the city of New York, in the county and State of New York, have invented certain Improvements in Automatic Paper-Feeding Apparatus, of which the following is a specification:

This invention is an improvement on the automatic paper-feeding apparatus patented to John H. Darlington, which patent bears date January 13, 1874, and is numbered 146,322; and although its leading feature, namely, the endless friction-bands for propelling the blanks by frictional contact, is substantially the same as that described and claimed in the above-named patent, it nevertheless differs from the said patent materially in the means employed to regulate the delivery of the blanks successively one by one.

But, to describe my invention, I will refer to the accompanying drawings forming part of this specification, in which—

Figure 1 is a transverse sectional elevation of the apparatus adapted to feeding paper-collars into any press or machine, not shown in the drawings, in which they are subjected one by one to any desired operation, such as printing, punching, embossing, or creasing, &c. Fig. 2 is a rear elevation; and Fig. 3 is a plan view.

a a are two side frames, which support a horizontal plate, *b*, and afford bearings for the shaft *c*, the roller *e*, and rock-shaft *i*. The shaft *c* carries the three pulleys c^1 c^2 c^3, by which the endless friction-bands *f*, f^1, and f^2, receive their motion, the bands being stretched over these pulleys and the roller *e*, and passing over the ridge *x*, which is fixed to the top of the plate *b*. The rock-shaft *i* carries two reciprocating cams, *g g*, and receives its rocking motion by an arm, *i'*, secured to one end of it, which is connected to the main shaft of the press, or other machine, to which this apparatus is auxiliary. On the shaft *c* are two loose sleeves, *m m*, one between the pulleys c^1 and c^2, and one between the pulleys c^2 and c^3. Each of these sleeves is provided with two arms, m^1 and m^2. The arms m^1 m^1 extend over the top of the plate *b*, and up to the ridge *x*, and the other arms m^2 m^2 pass under the plate *b* and to the shaft *i*, where they come in contact with the cams *g g*, by which they are raised and lowered upon motion being given to the rock-shaft *i*.

The pile of blanks *k* is placed upon the endless bands *f* f^1 f^2, between the two standards *l l*, which are so located as to cause the tip of the ridge *x* to be in about the center of the width of the blanks. This is for the purpose of preventing the friction-bands *f*, f^1, and f^2 from rubbing and injuring the edges of the blanks.

When the arms m^1 m^1 are being raised by the cams *g g* they will raise the whole pile of blanks out of contact with the friction-bands, and when they are lowered, in which position they are shown at Fig. 1, the blanks *k* rest upon the friction-bands, which by their motion will carry forward the bottom blank of the pile under the guides *l' l'*, which have their lower ends beveled off so as to assist in separating the blanks, as the bottom one is being removed. These guides *l' l'* are fastened to the standards *l l* by screws passing through slots in the standards, so that the guides *l' l'* may be adjusted to leave only sufficient space under them to let one blank pass through at a time.

As soon as the friction-bands have carried a blank beyond the ends of the arms m^1 m^1, the said arms are raised and lift the remainder of the pile of blanks, thus relieving the first blank already in motion from all pressure, and preventing the bands *f*, f^1, and f^2 from rubbing, and thereby defacing the next blank. To enable the arms m^1 m^1 to lift the pile of blanks evenly, each one has a side extension, *y y*, attached to it, which passes sidewise over the bands *f* and f^2, and then turns forward to reach under the ends of the blanks.

In some cases it may be advisable to reverse the construction of the apparatus, and have the friction-bands on the top of the pile of blanks to feed off the top of the pile. For that purpose the blanks may be held up in

contact with the friction-bands by a counter-weight or any suitable feeding-mechanism, and the arms m^1 m^1 should force the pile of blanks downward out of contact with the friction-bands.

I claim—

The combination of the friction-bands f, f^1, and f^2, lifting-arms m^1 m^1, ridge x, and adjustable guides l' l', substantially as hereinbefore set forth.

CHAS. A. MAXFIELD.

Witnesses :

ALFRED SHEDLOCK,

WILLIAM J. SHEDLOCK.