G. L. JAEGER.

MACHINES FOR FEEDING AND CUTTING PAPER AND OTHER MATERIALS.

No. 195,823. Patented Oct. 2, 1877.

Fig.1.

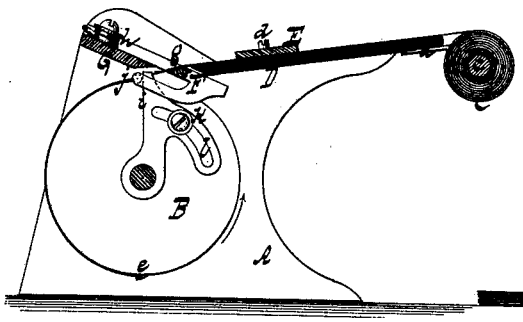


Fig.2.

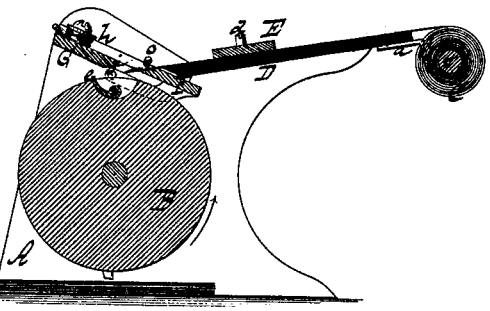


Fig.3.

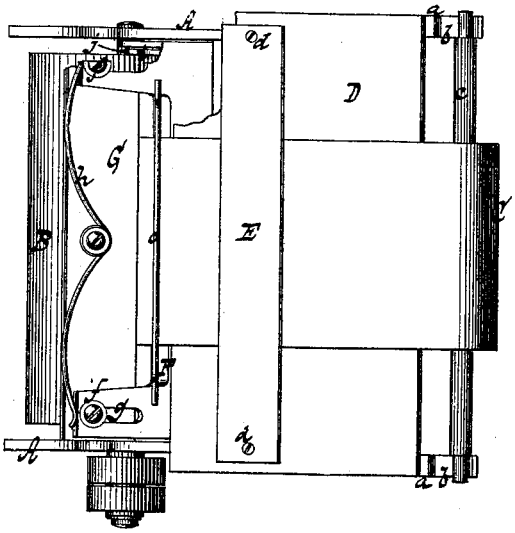
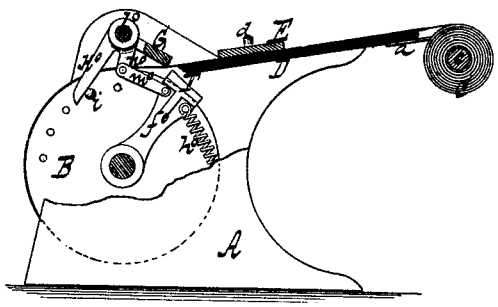


Fig.4.



Witnesses
Otto Schfeland
J. A. Rutherford

Inventor
Gustav L. Jaeger
Van Santvoord & Hauff by
his attorneys.

UNITED STATES PATENT OFFICE.

GUSTAV L. JAEGER, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR FEEDING AND CUTTING PAPER AND OTHER MATERIALS.

Specification forming part of Letters Patent No. **195,823**, dated October 2, 1877; application filed September 6, 1877.

To all whom it may concern:

Be it known that I, GUSTAV L. JAEGER, of the city, county, and State of New York, have invented a new and useful Improvement in Machines for Feeding and Cutting Paper and other Materials, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a sectional side view, showing the machine in position at the moment the cutters take action. Fig. 2 is a longitudinal vertical section, showing the end of the web in the position which it occupies after a sheet has been cut therefrom, said end being left in position to be grasped by the gripers. Fig. 3 is a plan or top view of the machine. Fig. 4 is a sectional side view of a modification of my machine.

Similar letters indicate corresponding parts.

This invention consists in the combination, in a machine for feeding and cutting paper and other materials, of a griper-cylinder, a web-support between the roll and the griper-cylinder, and a knife which receives a motion toward the stationary cutting-blade by a projection secured on the griper-cylinder, (said knife being retracted by a spring or weight or by the action of the griper-cylinder,) so that after the first sheet has been cut from the web the end of the web is left in the proper position to be grasped by the gripers, and the web is drawn off from the roll by the griper-cylinder and cut into sheets, the length of which can be regulated by adjusting the projection in the griper-cylinder, which serves to impart to the knife a motion toward the stationary cutting-blade. Also, in the combination, with the shaft which carries the roll containing the material to be cut, of inclined open bearings, so that at the moment the griper-cylinder begins to draw out the web, the roll can follow the draft of the griper-cylinder to a certain extent, and the gripers are not liable to lose their hold on the end of the web.

In the drawing, the letter A designates a frame, which forms the bearings for the griper-cylinder B, and from which extend arms *a a*, which form the bearings *b b* for the shaft *c*, on which is wound the roll C of paper or other material to be cut up into sheets. Said bearings are inclined, and they allow the journals of the shaft to roll or slide up at the moment the griper begins to draw out the web. If the roll is not permitted to follow the draft of the gripers for a short distance, the gripers are liable to lose their hold on the end of the web before the inertia of the roll is overcome. This disadvantage is avoided by the inclined bearings.

Between the roll and the griper-cylinder is situated a suitable support, D, over which the web is passed to the griper-cylinder. In passing over this support the web is exposed to the action of a clamp, E, which is retained in position by pins *d d* secured in the support D, and which may be made to bear down upon the web by its inherent gravity, or which may be depressed in addition to its weight by lever-clamps or other mechanical means, so as to produce the requisite tension, and to hold the web firmly in place at the moment the cutters take action.

The cylinder B is provided with gripers *e*, of the construction generally employed in the griper-cylinders of printing-presses, and over said cylinder is situated a stationary cutting-blade, G, which is firmly secured in the frame A, and co-operates with a movable knife, F. In the example shown in Figs. 1, 2, and 3, this knife is attached to the cutting-blade G by means of screws *f*, which fit into slots *g* in the knife, and a spring, *h*, has a tendency to throw said knife back to the position shown in Figs. 2 and 3. In the example shown in Fig. 4, the knife F is secured to arms f^0, which swing on the shaft of the griper-cylinder, and are retracted by springs h^0. In either case the knife is moved toward the stationary cutting-blade G by a projection, *i*, secured to the griper-cylinder. In the example shown in Figs. 1, 2, and 3, this projection is made in the form of an arm, which swings freely on the shaft of the griper-cylinder, and which acts on a pin, *j*, secured to the knife-stock. A similar arm is on either end of the griper-cylinder. These arms are secured in position by set-screws *k*, which screw into the cylinder, and which extend through segmental slots *l*, (see Fig. 1,) so that said arms can be adjusted in either direction.

In the example shown in Fig. 4, the projec-

tion *i* consists of a simple pin, which is driven into a hole in the end of the cylinder, and which acts on a toe, k^0, projecting from a rock-shaft, l^0, which connects by links m^0 with the knife-supporting arms f^0. The position of the pin *i* can be changed by providing several holes for its reception.

The length of the sheets cut from the web depends upon the distance between the projection *i* and the gripers *e*. By increasing this distance the length of the sheets is increased, and vice versa. After the projection or projections *i* have been adjusted to the desired length of the sheets to be cut, the end of the web is drawn off from the roll and brought in the position shown in Fig. 2, the griper-cylinder is rotated in the direction of the arrows shown in Figs. 1 and 2, the gripers take hold of the web and carry the same round the griper-cylinder until the projection *i* acts on the knife F, and carries the same up to the stationary cutting-blade G, and, by the co-operation of the knife and blade, the first sheet is cut off. When this has been done, the end of the web is left in position to be caught again by the gripers, and the second sheet is cut off, and so on.

With the knife F may be combined a guard, *o*, to hold the end of the web down upon the griper-cylinder.

After every cut the projection *i* releases the knife, allowing the same to recede to its original position.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for feeding and cutting paper and other materials, the combination of a griper-cylinder, B, a web-support, D, between the roll of material and the griper-cylinder, a stationary cutting-blade, G, projection *i* on the griper-cylinder, and devices, such substantially as shown, secured to said cylinder, and carrying a knife, F, and against which devices the projection *i* on the griper-cylinder operates to move the said knife toward the stationary blade G, all substantially as and for the purpose set forth.

2. The combination, with the griper-cylinder and the shaft which carries the roll containing the material to be cut, of inclined bearings which allow the roll to follow for a short distance the draft of the griper-cylinder, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of September, 1877.

GUSTAV L. JAEGER.

Witnesses:
W. HAUFF,
E. F. KASTENHUBER.