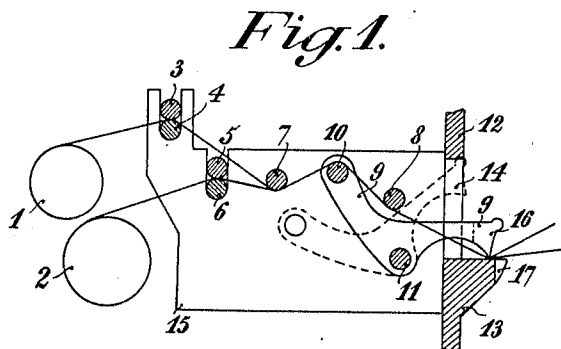
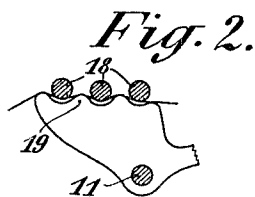
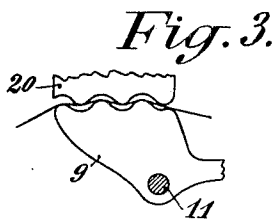
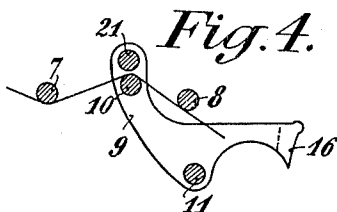


F. SCHADE.
 APPARATUS FOR TEARING OR CUTTING OFF PIECES FROM ROLLED UP PAPER.
 APPLICATION FILED OCT. 10, 1912.

1,107,848.

Patented Aug. 18, 1914.



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UNITED STATES PATENT OFFICE.

FREDERIK SCHADE, OF SKIVE, DENMARK.

APPARATUS FOR TEARING OR CUTTING OFF PIECES FROM ROLLED-UP PAPER.

1,107,848.

Specification of Letters Patent.

Patented Aug. 18, 1914.

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To all whom it may concern:

Be it known that I, FREDERIK SCHADE, a citizen of the Kingdom of Denmark, and resident of Skive, Province of Jutland, in the Kingdom of Denmark, have invented certain new and useful Improvements in Apparatus for Tearing or Cutting Off Pieces from Rolled-Up Paper, of which the following is a specification.

The object of the present invention is an apparatus for tearing or cutting off pieces from rolled-up paper, and its principal feature consists in forming, before the action of cutting and on that part of the paper which is not torn or cut off, a bend or a wave which again straightens itself out after the cutting and makes it possible to get easily hold of the paper again when, for the purpose of cutting off a new piece more paper has to be rolled off the roll. The knife may be arranged at any distance from the paper-roll so that several paper-courses of either the same or of different width may be cut by one single knife at the same place.

On the accompanying drawing: Figure 1 represents a vertical longitudinal section of one constructional form of the apparatus, and Figs. 2, 3 and 4 are special forms of construction of the knife and wave-forming device.

Similar reference characters indicate corresponding parts throughout the different figures of the drawing.

By way of example Fig. 1 shows two paper-rolls 1 and 2. The paper is carried to the brakes 3, 4 and 5, 6, each of these consists of two rollers of which the bottom ones, 4 or 6, can revolve in bearings in two fixed side-plates 15, while the upper ones 3 or 5, are guided in notches in the said plates, thus pressing by their weights against the bottom rollers. The paper is thereby held between the two rollers. The top roller may also, for instance by means of a spring, be pressed against the bottom roller, but this arrangement has not been shown on the drawing. The paper is then carried under a guide-roller 7 to the place where the bend or the wave is to be formed, which is caused by the movement of the cutting device.

The cutting device consists of two parallel arms 9 which are connected by means of a transverse bolt or roller 10, the knife

proper 16 and a bolt 11 on which the whole cutting device is pivoted and which has its bearings in the plates 15. From the guide-roller 7 the paper is carried over the roller 10, then under a guide-roller 8, then through an opening 14 in the wall 12 which carries the side-plates 15, and between the knife 16 proper and a bracket 13 projecting from the wall 12. The cutting takes place on the bracket. The bracket 13 may be cut away at 17 so that it becomes more easy to take hold of the paper.

The working of the apparatus is as follows: As the knife is pressed downward to cut off the paper, see Fig. 1, the roller 10 is brought upward and causes the paper to form a bend. The cutting-off then takes place. As the knife 16 is again carried upward and the roller 10 downward, the bend will straighten itself out and the paper be pushed forward in front of the knife 16, the brakes preventing the paper from moving the opposite way. Figs. 2 and 3 show other means for forming the bends or waves of the paper. In Fig. 2 are used fixed rods 18 against which is carried a correspondingly corrugated piece 19, between the arms 9. In Fig. 3 the rods 18 are replaced by a fixed piece 20 corrugated on its underside which presses the paper against a correspondingly-grooved rear-portion of the knife-carrying arms 9. In Fig. 4 will be seen, besides the roller 10, one more roller 21 mounted above between the arms 9. This roller is intended for straightening out the bend if this cannot be done except by special means, either with certain kinds of paper or if the bend is formed downward. The movement of the knife is in this case limited, so that no bend is made in the opposite direction. The smoothing out of the bend may be done in many other ways, for example by the pressure of a spring or by a special weight.

I claim:

1. An apparatus for tearing or cutting off pieces from rolled-up paper, in which the tearing or cutting off is effected by means of a knife, wherein the knife is fixed between the two arms of two double-armed levers placed on the same side of the common axis of rotation of the levers, the other two arms being connected by a rod or rods, or the like, which form simultaneously with the

cutting operation one or more corrugations or slack portions in the paper in such a manner that the paper, which is held by suitable roller-brakes, after the cutting off has taken place and the knife has returned to its original position, is straightened out and thereby moves forward in such a manner that it may be easily caught hold of in order to carry out the next severing operation.

2. A paper-cutting apparatus, comprising two levers spaced apart and having a common axis, a knife supported by said levers at one side of the axis, braking means preventing linear return movement of the paper behind the knife, paper-bending devices spaced apart along the path of the paper fed to the knife, and a paper-bending device on the lever, movable during the movement of the lever to cutting position, into operative relation with said first-named paper-bending devices to form a self-straightening bight in the paper, and movable, during movement of the knife out of cutting position, away from said first-named paper-bending devices to release said bight.

3. A paper-cutting apparatus, comprising two levers spaced apart and having a common axis, a knife supported by said levers at one side of the axis, braking means preventing linear return movement of the paper behind the knife, paper-bending devices spaced apart along the path of the paper fed to the knife, and a paper-bending device on the lever, movable during the movement of the lever to cutting position, into operative relation with said first-named paper-bending devices to form a self-straightening bight in the paper, and movable, during movement of the knife out of cutting position, away from said first-named paper-bending devices to release said bight, said first-named paper-bending devices comprising a plurality of fixed transverse rods, and said second paper-bending device comprising a transverse member secured at its

ends to the levers and having at its upper surface grooves for receiving said rods.

4. A paper-cutting apparatus, comprising two levers spaced apart and having a common axis, a knife supported by said levers at one side of the axis, braking means preventing linear return movement of the paper behind the knife, paper-bending devices spaced apart along the path of the paper fed to the knife, and a paper-bending device on the lever, movable during the movement of the lever to cutting position, into operative relation with said first-named paper-bending devices to form a bight in the paper, and movable, during movement of the knife out of cutting position, away from said first-named paper-bending devices to release said bight, and means carried by said levers for straightening the bight during said last-named movement.

5. A paper-cutting apparatus, comprising two levers spaced apart and having a common axis, a knife supported by said levers at one side of the axis, braking means preventing linear return movement of the paper behind the knife, paper-bending devices spaced apart along the path of the paper fed to the knife, a paper-bending device on the lever, movable during the movement of the lever to cutting position, into operative relation with said first-named paper-bending devices to form a self-straightening bight in the paper, and movable, during movement of the knife out of cutting position, away from said first-named paper-bending devices to release said bight, and means for guiding two superposed webs of paper to said braking means.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

FREDERIK SCHADE.

Witnesses:

ERNEST BOUTARD,
HJALMAR BOUTARD.