F. W. VICKERY.

SHEET CUTTING, LAYING, AND LIKE MACHINE.

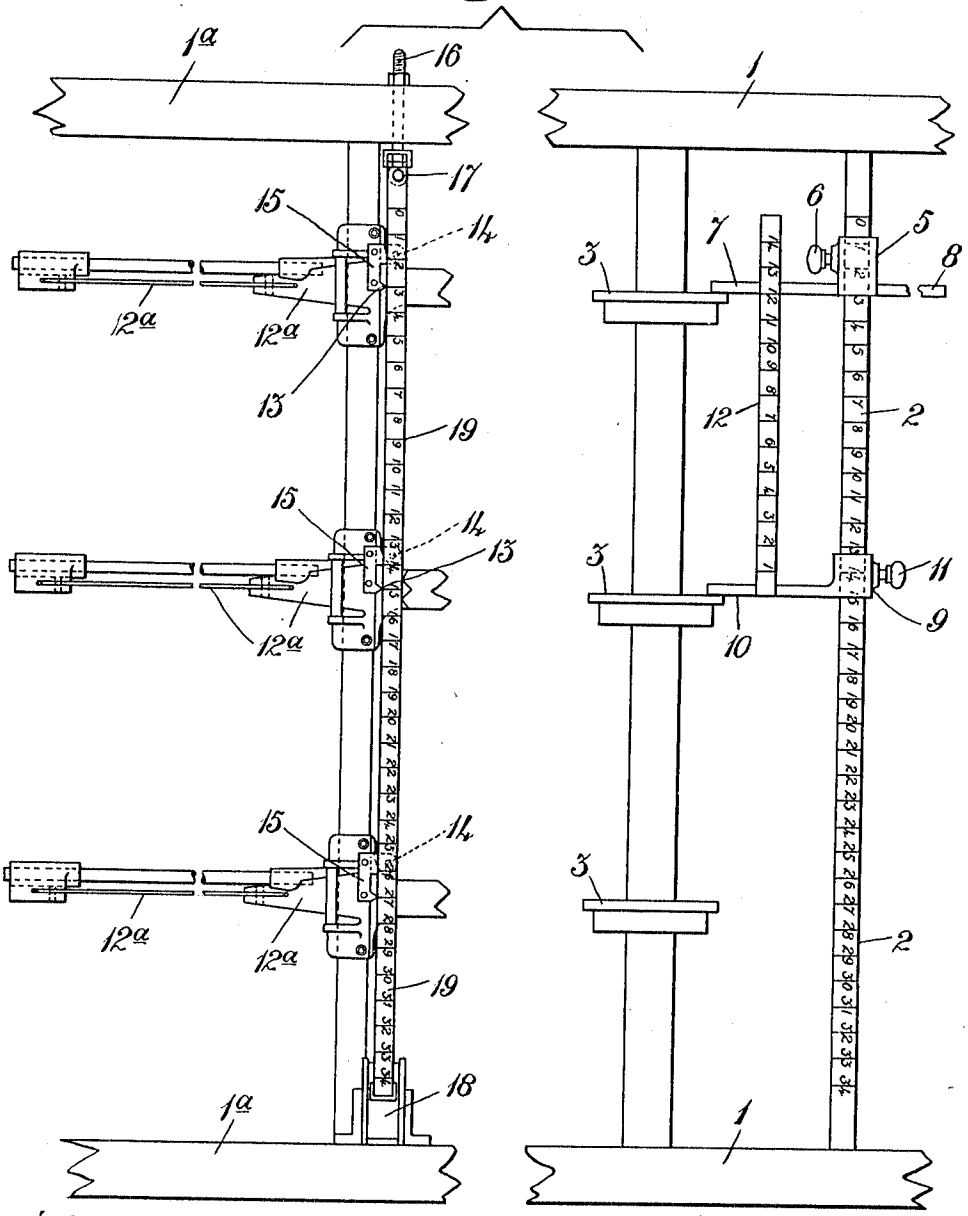
APPLICATION FILED JULY 14, 1913.

1,118,831.

Patented Nov. 24, 1914.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

M. E. McNabb.

Inventor

Frederick W. Vickery

by James L. Norris,

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D.

F. W. VICKERY.

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3 SHEETS—SHEET 2.

Fig. 2.

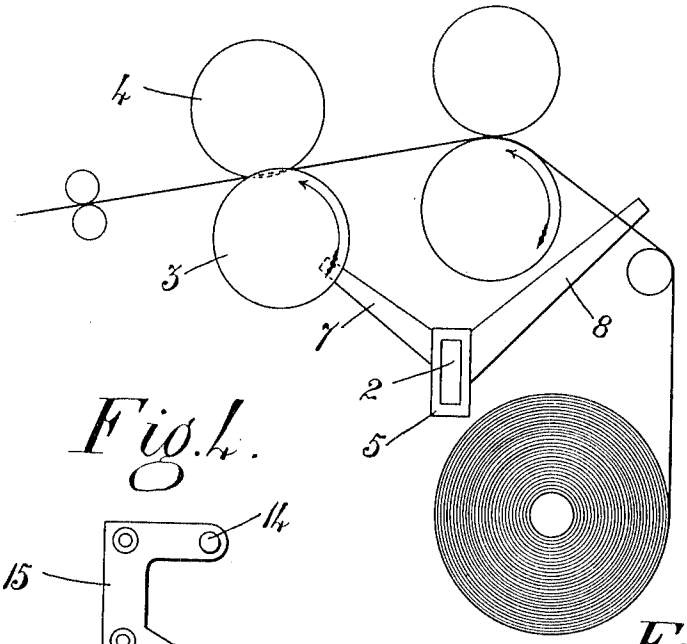


Fig. 4.

Fig. 5.

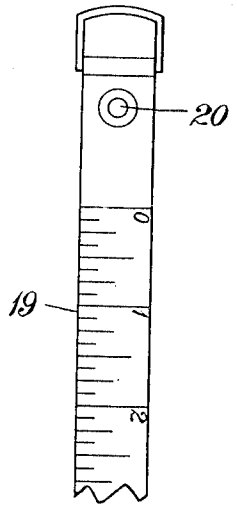
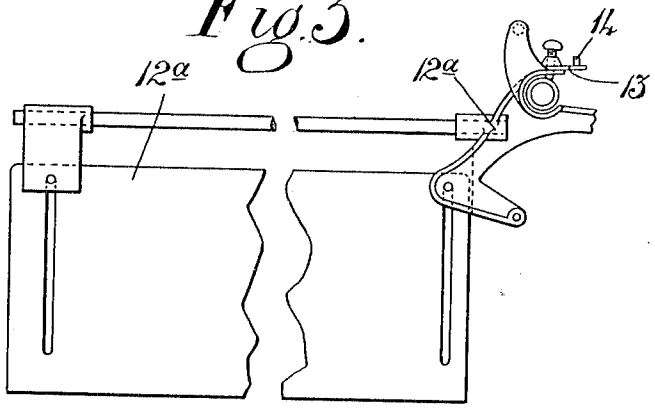


Fig. 3.



Witnesses:
W. E. McDade.

Inventor
Frederick W. Vickery
by
James L. Norris,
Attorney.

THE NORRIS PETERS CO., PHOTO LITHO., WASHINGTON, D. C.

F. W. VICKERY.

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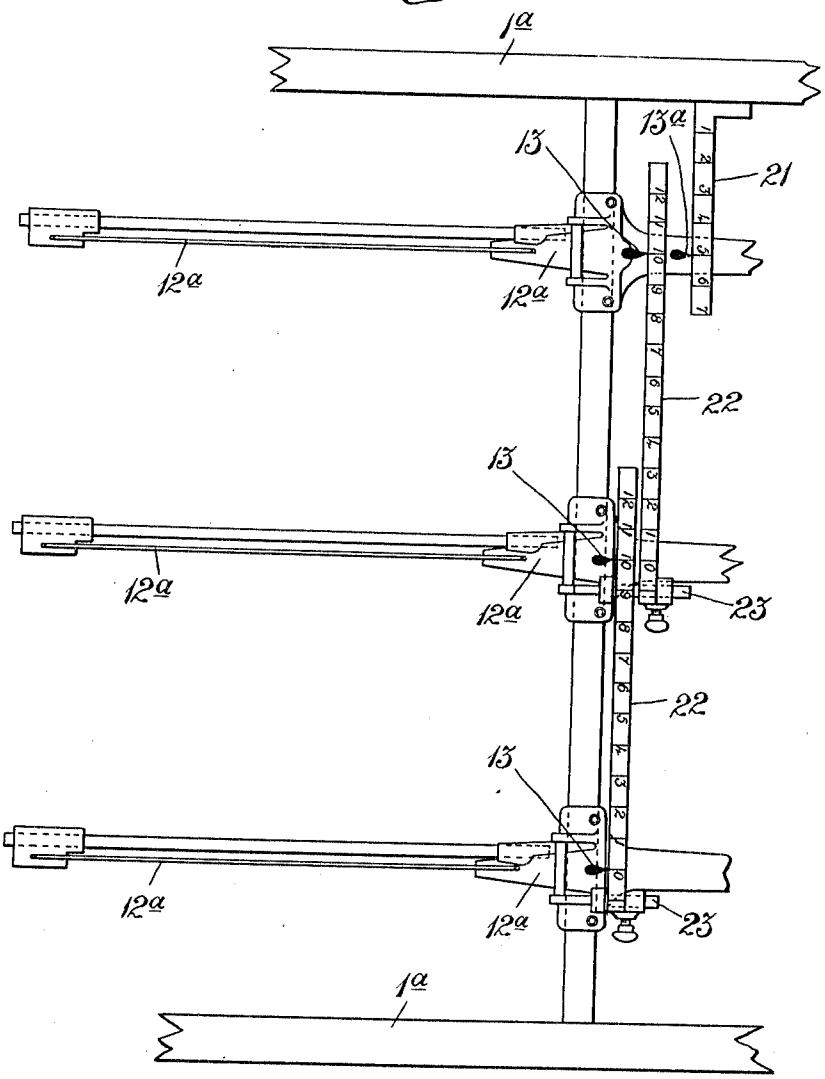
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3 SHEETS—SHEET 3.

Fig. 6.



Witnesses:

M. E. McDade.

Inventor

Frederick W. Vickery

by

James L. Norris,

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FREDERICK WILLIAM VICKERY, OF LONDON, ENGLAND.

SHEET CUTTING, LAYING, AND LIKE MACHINE.

1,118,831. Specification of Letters Patent. Patented Nov. 24, 1914.

Application filed July 14, 1913. Serial No. 779,066.

To all whom it may concern:

Be it known that I, FREDERICK WILLIAM VICKERY, a subject of the King of Great Britain, residing at London, England, have invented certain new and useful Improvements in Sheet Cutting, Laying, and like Machines, of which the following is a specification.

In machines for cutting, counting, and piling paper to indicate batches of any predetermined number of sheets, and also in machines in which paper from the web is cut and piled only, great difficulty has been experienced in positioning the side gages relative to the edge or edges of the paper after being cut into sheet form, owing principally to the fact that the operator has no definite place to measure from, and further it often happens that the cutting machine and the laying machine are not attached, so that there is therefore no opportunity of getting a straight line to measure from on the two machines. It is also very difficult to measure between the side gages themselves, or between the slitters.

Now the object of this invention is to provide such machines with means whereby, through a simple system, the proper position of the side gages with relation to the edges of the reel or to the slitters can be rapidly and properly ascertained.

The invention consists primarily of two or more rules adjustably attached or attachable to a paper cutting and piling or laying machine in proximity to the slitters or edge of reel of paper and to the side gages, in combination with indicators which, when placed in predetermined positions, indicate the correct position of the side gages relative to the slitters and the edge of the paper.

The invention will be clearly understood from the following description, aided by the annexed drawings, in which:

Figure 1 is a fragmental plan view of the cutting and laying portion of a machine, with the invention indicated in one form, the side gages being positioned by use of a flexible rule. Fig. 2 is a diagrammatic side elevation of the slitters, with one slitter indicator, and one edge of paper indicator, both being fitted on a rule fixed on the machine, a reel of paper with the paper passing between the slitters and rollers being also shown. Fig. 3 is a side elevation, broken, of a side gage. Fig. 4 is a view of the rule holder and indicator inclosed and detached from the side gages. Fig. 5 is a view of the end of a flexible rule. Fig. 6 is a plan of the side gages and frame, and showing the positioning effected by rules affixable to the side gages and the frame.

According to this invention, and as shown in Fig. 1, there is fixed across the machine and to the frame 1, 1, a rule 2 having the usual scale in inches and fractions of inches, such rule 2 being positioned next the lower slitters 3, which latter are engaged by the upper slitters 4 in the well known manner. On this fixed rule 2, is positioned a sleeve 5 capable of being slid along the rule 2 and held at any placed position by a thumb screw 6, one edge of the sleeve, or a pointer thereon, being in alinement or fixed relation with a removable indicator 7 for indicating the position at which the slitter 3 has to be placed, and also in alinement or fixed relation with another removable indicator 8 which indicates the edge or end of the web of paper. On this same rule 2, is positioned another sleeve 9 carrying a removable indicator 10 for indicating the position of the next slitter, and such sleeve has one edge, or a pointer, in alinement with the indicator, so that when the sleeve 9 is placed in proper position on the rule 2, it can be fixed by the thumb screw 11 and the slitter 3 be adjusted and fixed in position, or the edge of the paper indicated. The indicator carries a rule 12 positioned at right angles thereto, as shown.

As will be understood, it is necessary, when cutting the web of paper into strips, before being cut into sheet form, or trimming the edges, that slitters be employed, and these must be positioned to cut the web at the required places, and to ascertain this quickly and easily, the rules just described are employed.

Supposing the web is to be cut into two lengths only and the edges trimmed at the same time, three slitters are employed as shown on the drawings, and supposing the web of paper be thirty inches wide and sheets twelve inches wide are required, the reel is first positioned for the paper and the sleeve 5 then moved with only the indicator 7 attached to the third inch mark on the rule, the sleeve fixed and the bottom slitter then positioned to touch the indicator 7, and fixed. The sleeve 9 is then moved along the rule until the rule 12 indicates 12 inches on the edge of indicator 7, or a pointer at-

tached thereto, and the sleeve 9 fixed. Another slitter 3 is then positioned against the indicator 10 and the slitter fixed. Another sleeve and its rule and indicator are then placed on the rule 2 and positioned and fixed for the twelve inch mark, to correspond with the edge of the indicator 10, and another slitter positioned and fixed as before.

There are now three slitters which can trim or cut into lengths three inches off each edge of the web of paper, with two lengths each twelve inches wide passing to the revolving knife to be cut into sheets.

Having now properly positioned the slitters, it is necessary that the gages correspond, and according to the drawings, each gage 12^a, which is of the ordinary construction, is provided with an indicator 13 and a pin 14, (see enlarged view Fig. 4), these being shown as being constructed from and with a plate 15 attached to the side gages, the pointer being in alinement with the part of the gages against which the sheets of paper ride.

At one side frame of the machine 1^a, is positioned a bolt 16 having a vertical pin 17, and at the other side frame is positioned a casing 18 containing a flexible rule 19, spring controlled. Now knowing the position of the slitters, the gages can be readily positioned by connecting one end of the flexible rule 19, which is provided with a hole 20, (see Fig. 5), which is so placed on the measure that when the flexible rule is connected to the vertical pin 17, by connecting the flexible rule 19 to it by its hole 20, the markings on the flexible rule 19 exactly correspond to the markings on the rule 2. One gage 12^a is now moved down for its pointer to correspond with the three inch marking on the flexible rule, and the gage is fixed in position. The flexible rule is then unhooked and next hooked on the pin 14 of the fixed gage, and another gage then positioned and fixed at the twelve inch mark on the flexible rule. The flexible rule is next unhooked from the gage first fixed, and hooked on the pin on the gage last fixed, and another gage then positioned and fixed at the twelve inch marking on the flexible rule, so that the three gages are now in exact alinement with the slitters 3.

Instead of employing a flexible rule, as in Fig. 1, there may be employed an endless flexible rule on which the system of measuring the first gage is the same, but the rule is moved from the twelve inch marking to indicate for each succeeding gage, the start being from zero as in the other cases.

According to Fig. 6, there is employed the system of indicating described for the slitters in Fig. 1, but instead of having the fixed rule running right across the machine, it may only be a short fixed rule 21 projecting from one side frame, and two indicators 13, 13^a may be employed on the end gage, the indicator 13^a pointing to the fixed rule and the indicator 13 to the removable rules 22. In this case, each removable rule is fitted on a pin 23 projecting from each side gage, and several rules 22 may be employed in which case the measuring and positioning for the side gages is the same as for the slitters, and the pins 23 are of such a length that each rule 22 may lie side by side as shown. One rule 22 only may be employed, however, the rule being transferred from one gage to another, as will be well understood.

The indicator 8 is only employed for indicating the edge of the sheet when slitters are not employed.

The flexible rule box 18 shown in Fig. 1 may be fixed to a side gage instead of the frame if desired.

What I do claim as my invention and desire to secure by Letters Patent is:—

1. In a sheet-cutting, laying and like machine, the combination, with an adjustable slitter and adjustable side gages; of a rule provided with an adjustable indicator for determining, after adjustment, the position of the slitter relative to the sheet to be cut and to the side gages; and a second rule arranged parallel with the first-named rule and marked to correspond therewith, the said second rule being located adjacent said side gage, to permit the latter to be adjusted in conformity with the said slitter and relative to each other.

2. In a sheet-cutting, laying and like machine, the combination, with a plurality of adjustable slitters and side gages; of a pair of correspondingly-marked rules located, one adjacent the slitters, and the other adjacent the gages; a pair of adjustable sleeves mounted on the first-named rule and provided, each, with an indicator, for determining, after adjustment, the position of the slitters; a rule connecting said indicators and disposed at right angles thereto; and an indicator provided upon each gage for cooperation with the said other rule, to permit the gages to be adjusted in conformity with the slitters, and relative to each other.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses:

FREDERICK WILLIAM VICKERY.

Witnesses:
HANSON C. COXE,
JACK H. BAKER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."