

(No Model.)

J. H. STONEMETZ.

CARRIER TAPE MECHANISM FOR PAPER FOLDING MACHINES.

No. 355,354.

Patented Jan. 4, 1887.

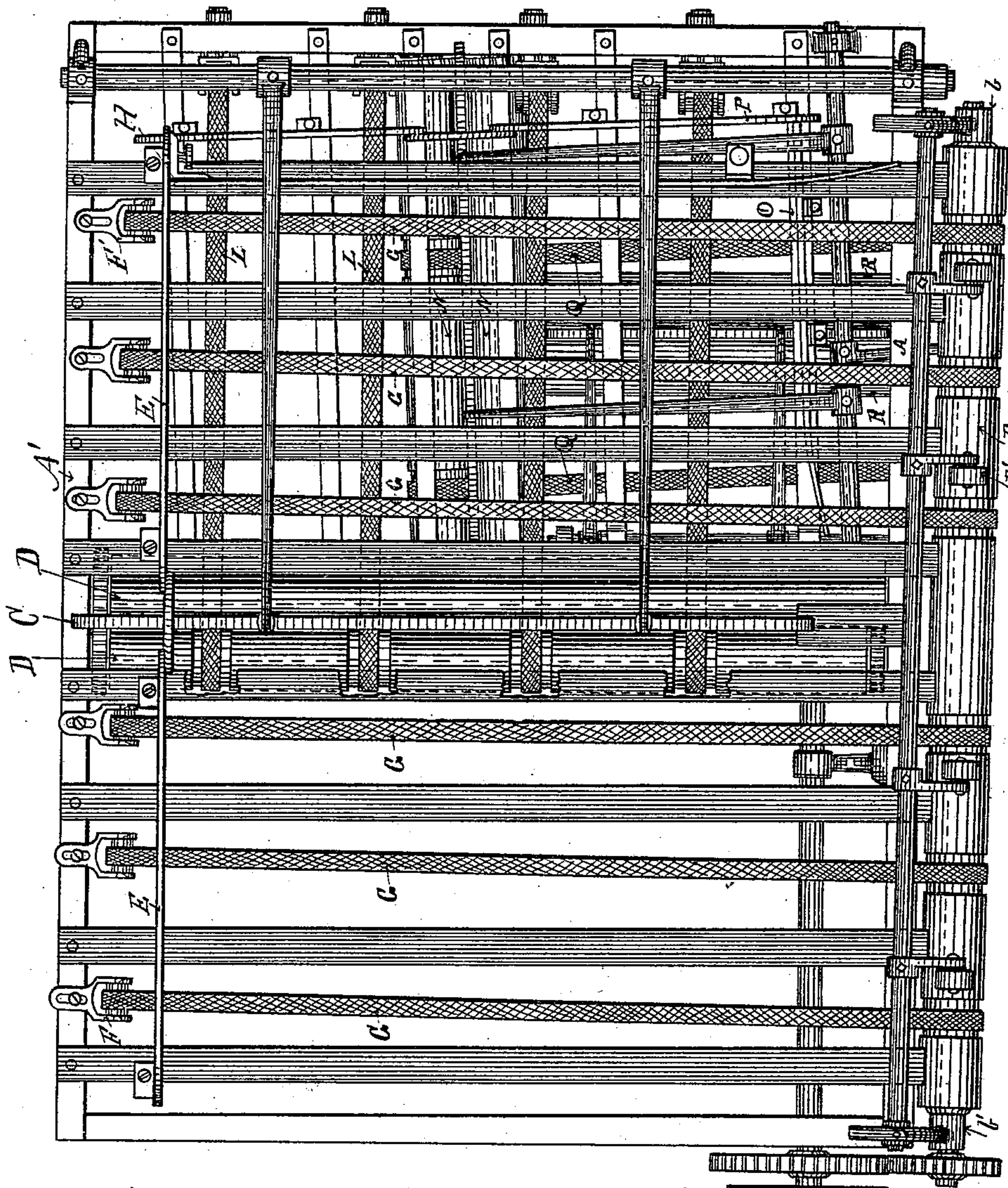


Fig. 1.

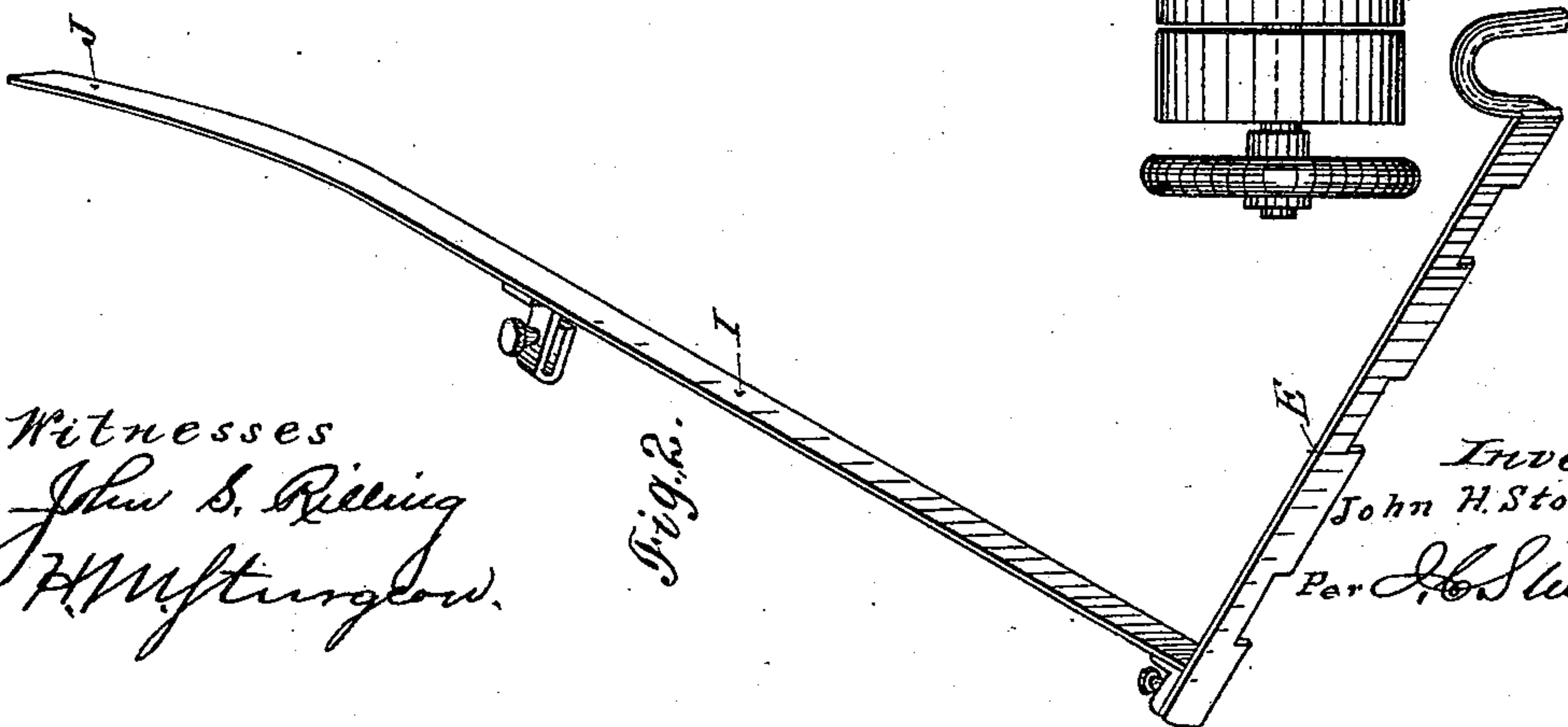


Fig. 2.

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CARRIER-TAPE MECHANISM FOR PAPER-FOLDING MACHINES.

SPECIFICATION forming part of Letters Patent No. 355,354, dated January 4, 1887.

Application filed January 8, 1886. Serial No. 188,043. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. STONEMETZ, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Carrier-Tape Mechanism for Paper-Folding Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention relates to sheet-conveying tapes for paper-folding machines; and it consists in the improvements hereinafter set forth and explained.

My invention is illustrated in the accompanying drawings, in which Figure 1 is a top or plan view of a paper-folding machine embodying my improvement. Fig. 2 is a perspective view of an improved paper-gage used in my device.

Like letters refer to like parts in all the figures.

Heretofore in constructing paper-folding machines the carrier-tapes have been arranged to run either parallel with or at right angles to the folding-rolls of the machine, and with the tapes run in this manner it was necessary to have the sheets enter the machine perfectly square with the folding-rolls, and also close to the side gage or guide, as otherwise the folds would not be made in the proper place, thus requiring great care on the part of the person feeding the machine otherwise the folding done would be very imperfect. To overcome this difficulty, I construct the carrier mechanism so that the travel of the tapes is neither at right angles to nor parallel with the folding-rolls of the machine, but so that the travel of the tapes is at a slight angle with the folding-rolls and tends to carry the sheet toward the angle formed by the side guide and the sheet-stop, so that at whatever angle the edge of the sheet enters the machine the travel of the carrier-tapes will carry it against the side guide and the sheet-stop and square it therewith.

In the construction shown A A' are two opposite sides of the folding-machine frame; C, the first folding-blade; D D, the first folding-

rolls; and E E, the sheet-stop, these being of ordinary and usual construction. The first feed-rollers B B', however, are attached to the frame A at an angle thereto, the end b thereof being set out somewhat farther from the frame than the opposite end, b'. The tape-spools F to F' are set inside of the frame A', so as to form a line parallel with the feed-rolls B B', the tapes G G stretching from the feed-roller B to the spools F F', are thus placed at an angle with the folding-rolls D D, and their travel being inclined toward the angle H, formed between the sheet-stop E and the guide or gage I, tends to carry a sheet into said angle H. The end J of the side guide, I, is curved back from a direct line, (substantially as shown in Fig. 2,) so that a sheet carried against it by the inclined tapes will be gradually shoved sidewise until the corner of the sheet reaches the angle H, between the guide I and stop E, the continuous movement of the carrier-tapes meanwhile squaring the sheet with the stop E; and vice versa, if the sheet strikes the stop E before it does the guide I, the continuous movement of the carrier-tapes tends to carry it over parallel with and against the guide I. In this construction the second set of carrier-tapes L are put on in the usual manner parallel with the sides A A' of the frame at right angles with and are driven by the first folding-rolls D D. The second set of folding-rolls N N, the guide O, and sheet-stop P, however, are placed at a slight angle thereto, so that the action of the second set of tapes L is the same relatively to the guide O and stop P as that of the first set, hereinbefore described.

The carrier-tapes Q, operated by the second set of rolls, necessarily run at right angles thereto, and are provided with tape-spools in the side frame, A, of the machine, set at the proper angle therefor.

The third set of folding rolls R R and the guide and sheet-stop therefor are placed at right angles with the frame A A', which brings them at the proper angle with the carrier-tapes Q Q, which operate in relation thereto and to the guide and sheet-stop therefor the same as hereinbefore described.

I have thus described a form of mechanism for utilizing my invention; but the same can be varied in many ways. For example, the first set of tapes and feed-rolls can be placed in the

frame in the usual manner, and the sheet-guide and stop and the first set of folding-rolls and second set of carrier-tapes placed in the frame at an angle therewith, the second set of rolls and third set of tapes being thus placed square with the frame, instead of at an angle, as shown, and in this case the third set of rolls would be placed at an angle with the frame. Any one or more sets of the tapes and rolls can be thus set at an angle with the others in a paper-folding machine, and thus utilize my invention.

Having thus described my invention so as to enable others skilled in the art to which it appertains to construct and use the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a paper-folding machine, the combination, with a first set of folding-rolls and sheet-guides parallel with said folding-rolls and sheet stops at right angles thereto, of a first set of carrier-tapes arranged and operating obliquely to said folding-rolls and sheet-guides, substantially as and for the purpose set forth.

2. In a paper-folding machine, the combination of carrier-tapes arranged and operating at right angles to a preceding set and obliquely to the next succeeding set of folding-rolls, with sheet-guides arranged parallel to,

and sheet-stops at right angles to, said next set of folding-rolls, substantially as and for the purpose set forth.

3. The combination, in a paper-folding machine, of a first set of folding-rolls, sheet guides and stops arranged at right angles to the framework of such machine, and a feed-roller and a first set of carrier-tapes operating horizontally at an angle to such folding-rolls, sheet guides and stops, with a second set of carrier-tapes operating at right angles to the first set of folding-rolls, and a second set of folding-rolls operating horizontally at an angle to said second set of carrier-tapes, and a third set of carrier-tapes operating at right angles to the second set of folding-rolls, and a third set of folding-rolls operating horizontally at an angle to said third set of carrier-tapes, and sheet guides and stops at right angles to said second and third sets of folding-rolls, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. STONEMETZ.

Witnesses:

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F. W. GRANT.