

(No Model.)

2 Sheets—Sheet 1.

A. T. BASCOM.
PAPER FOLDING MACHINE.

No. 551,918.

Patented Dec. 24, 1895.

Fig. 1

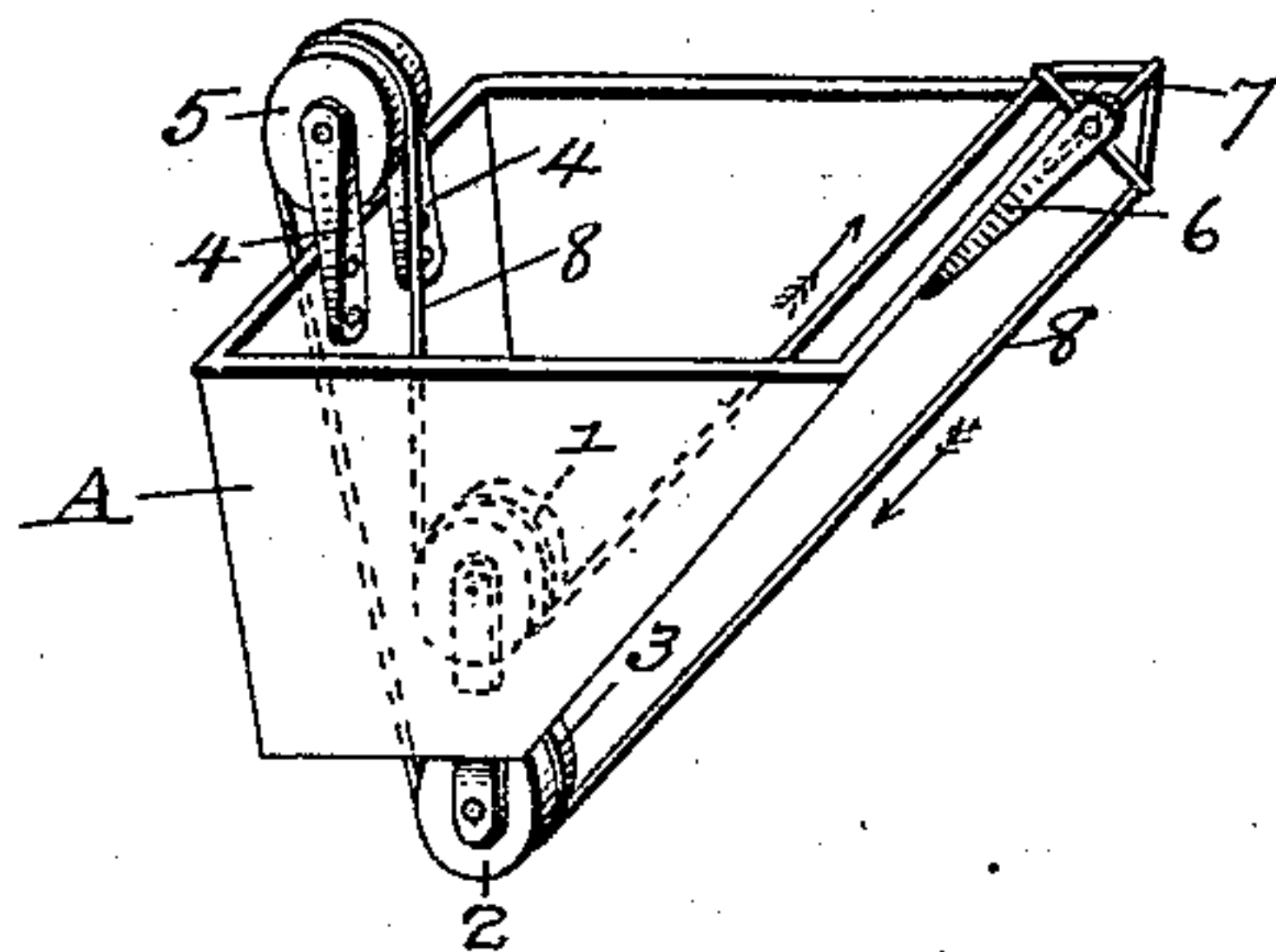
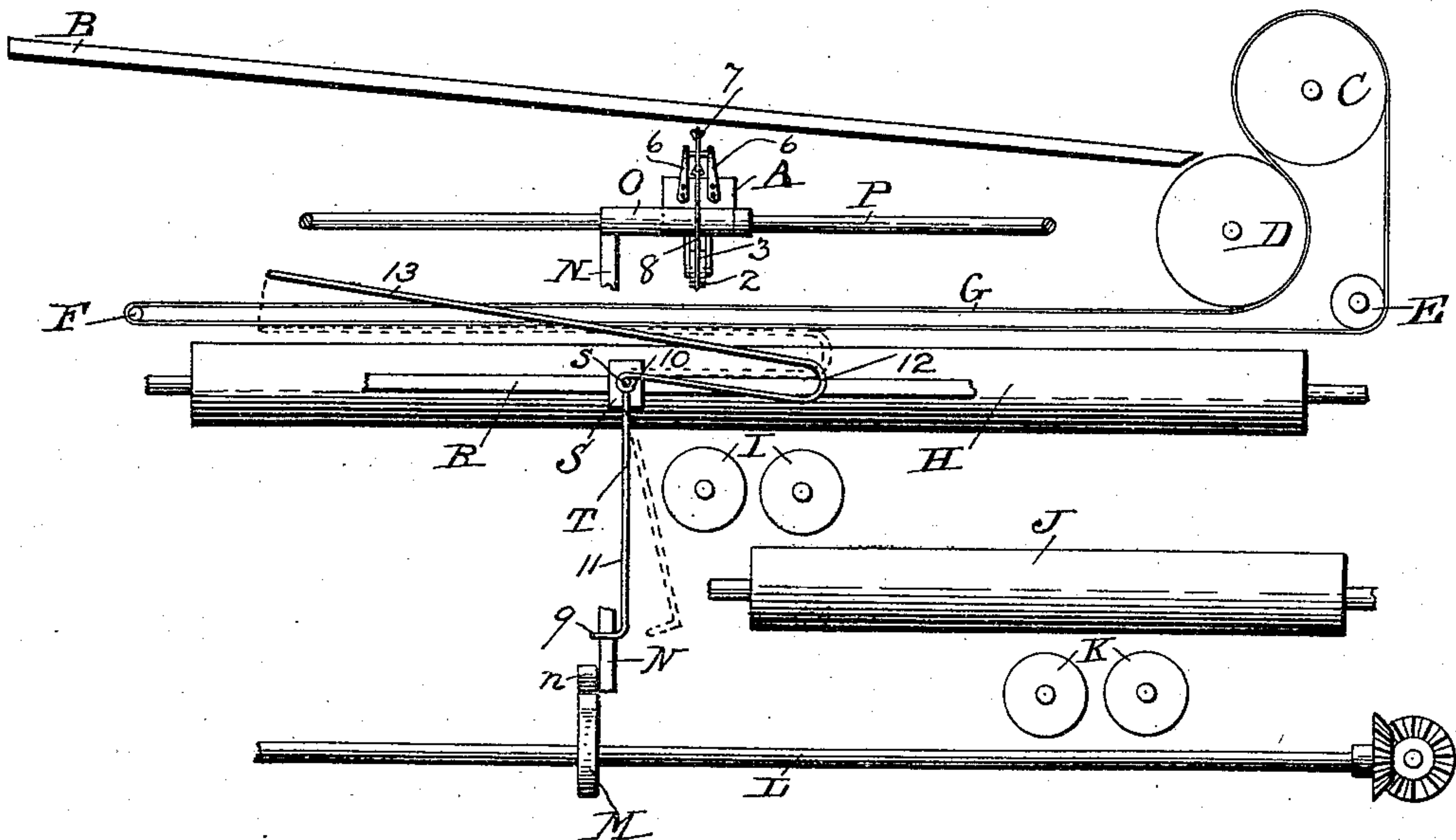


Fig. 2.



Witnesses:

John Blackwood
David W. Gould

Inventor.

Austin T. Bascom
By Wm. Hunter Myers
Attorney.

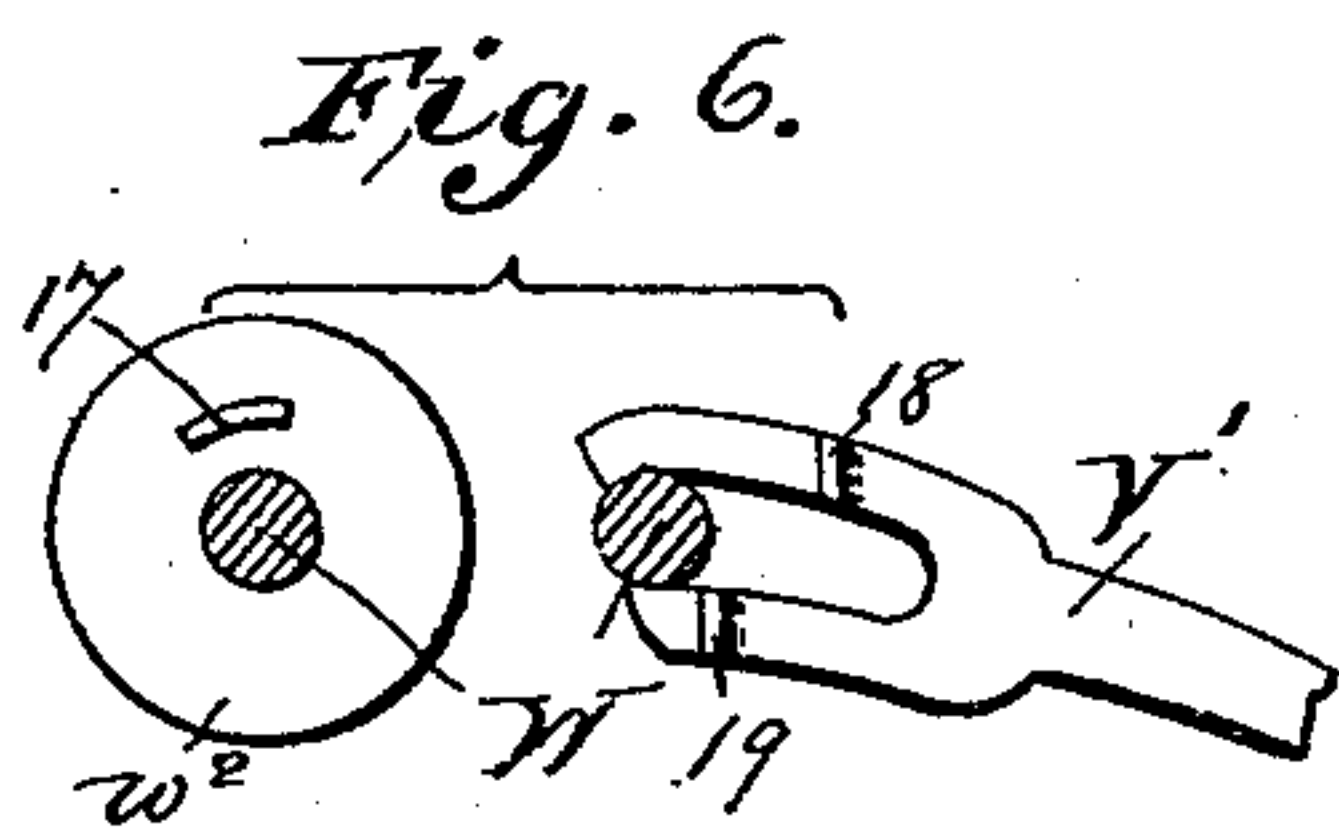
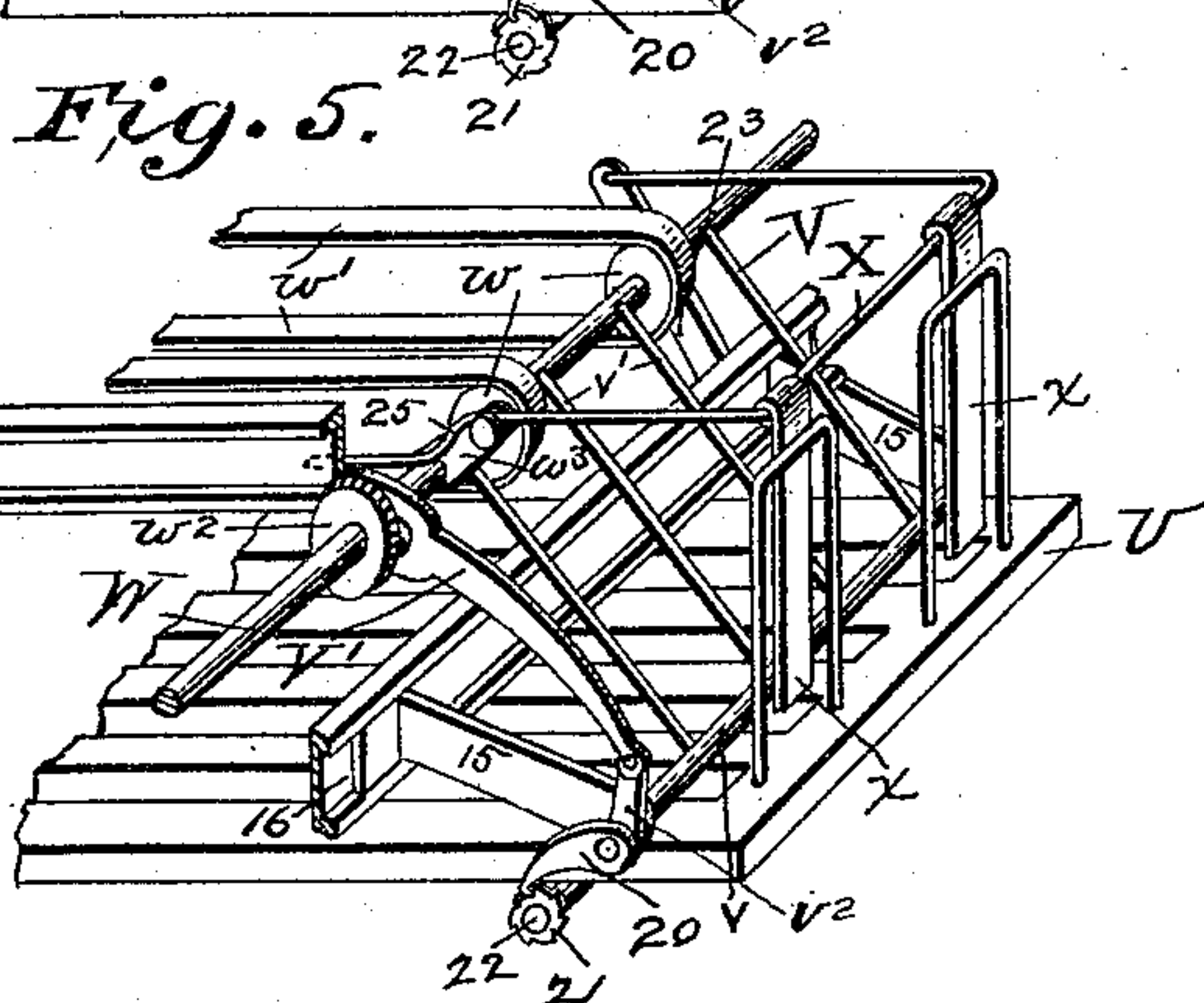
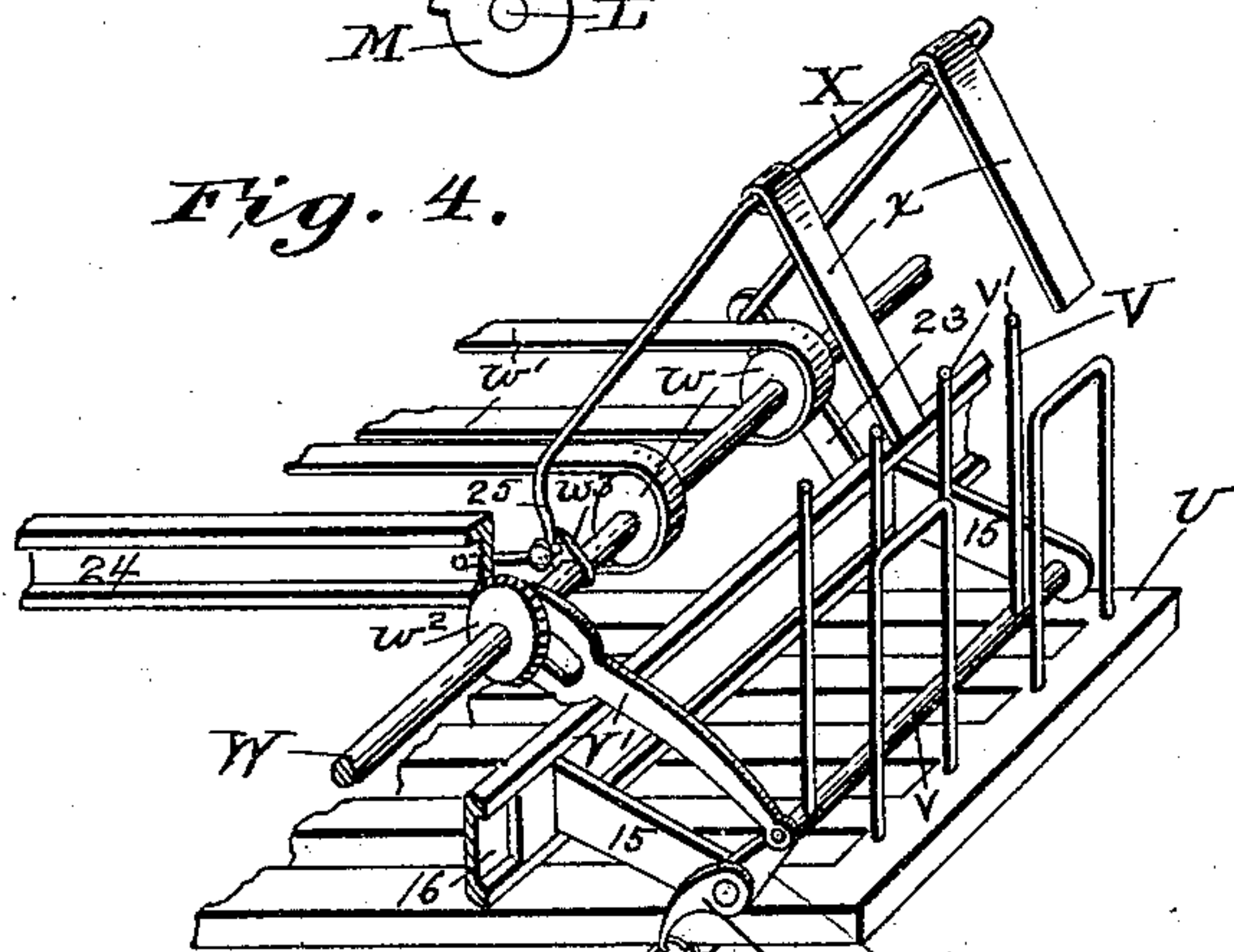
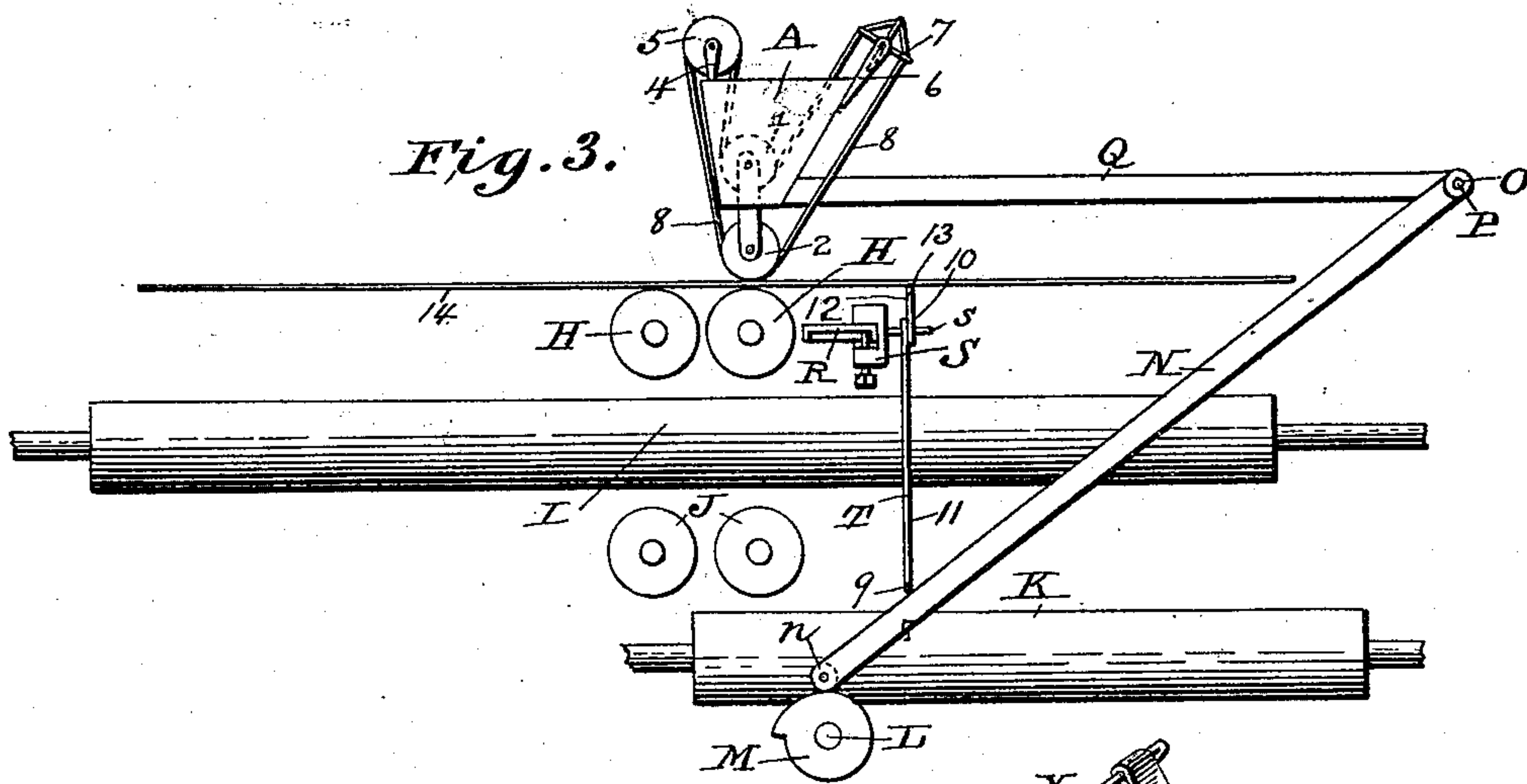
(No Model.)

2 Sheets—Sheet 2.

A. T. BASCOM.
PAPER FOLDING MACHINE.

No. 551,918.

Patented Dec. 24, 1895.



Witnesses:

Joseph Blackwood
David S. Gould.

Inventor.

Austin T. Bascom
By W. Hunter Myers,
Attorney.

UNITED STATES PATENT OFFICE.

AUSTIN T. BASCOM, OF SIDNEY, OHIO, ASSIGNOR TO JOSEPH K. CUMMINS
AND JOHN C. CUMMINS, OF SAME PLACE.

PAPER-FOLDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 551,918, dated December 24, 1895.

Application filed April 26, 1895. Serial No. 547,225. (No model.)

To all whom it may concern:

Be it known that I, AUSTIN T. BASCOM, a citizen of the United States, residing at Sidney, in the county of Shelby and State of Ohio, have invented certain new and useful Improvements in Newspaper-Folding Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improved newspaper-folding machine of the kind shown and described in Letters Patent No. 497,745, granted to me May 16, 1893.

One object of my invention is the production of a pasting apparatus designed to apply paste to the moving sheet of paper by means of a traveling thread or cord, which takes up paste in the cup, carries it out of the cup and delivers it to the sheet, whereby I avoid the leakage of paste incident to slotting the bottom of the cup and arranging a disk to revolve in said slot.

Another object of my invention is the production of an automatic device for holding the paste-cup elevated at all times except while a sheet of paper is passing over the first-fold rollers, whereby said folding-rollers are prevented from being smeared should the feeder miss sending a sheet through the machine.

Another object of my invention is to provide an automatically-actuated paper-brace for holding the folded papers in an upright position on the rack while the fly is back in position to take a folded paper from the delivery-tapes.

The invention will first be described in connection with the accompanying drawings and then pointed out in the claims.

Figure 1 of the drawings is a perspective view of my improved pasting apparatus. Fig. 2 is a side elevation of such parts only of a folding-machine as are necessary to illustrate the application and operation of the device for holding the paste-cup up out of operative position except while a sheet of paper is passing through the machine. Fig. 3 is an end view of the same, showing a sheet of paper passing over the first-fold rollers and the pasting apparatus in operative position. Fig. 4 is a broken perspective view illustrating only

so much of the machine as is necessary to show the operation of the paper-brace with relation to the fly, the brace being shown in the elevated position. Fig. 5 is a view similar to Fig. 4, with the paper-brace lowered into operative position. Fig. 6 is a detail plan view of the fly-actuating arm and its operating-cam.

In the accompanying drawings, A represents the paste-cup, which may be of any desired shape, but preferably of the form shown. In this cup, a short distance above its bottom, is journaled a roller 1, and depending from the bottom of the cup, on its outer side, is also journaled another roller 2, having a shallow annular groove 3. To the rear wall of the cup, near its upper edge, are secured two standards 4, in which is journaled another similarly-grooved roller 5; and to the front wall of the cup, near its upper edge, are also secured two standards 6, in which is journaled another roller 7, which I prefer to construct in the form of a spider having four arms grooved in their outer ends.

8 represents an endless thread or cord passed over said rollers 1, 2, and 5, and also over the arms of the spider 7, said thread or cord being moved in the direction indicated by the arrows when roller 2 is in frictional contact with the moving sheet of paper in the machine. It will thus be seen that when the cup containing paste is lowered to the operative position, as in Fig. 3, the cord will take up the paste, carry it up over the spider, and then down outside of the cup and apply it to the sheet. As the cord, after taking up the paste, comes into contact with nothing but the arms of the spider it will be apparent that but a slight quantity of the paste will be removed from the cord prior to delivery to the sheet.

Referring to the drawings, B represents the feed-board; C and D, two series of feed-pulleys; E, an idler-pulley; F, a tape-roll; G, a series of tapes passing over pulleys C and D, idler-pulley E, and tape-roll F; H, the first-fold rollers; I, the second-fold rollers; J, the third-fold rollers; K, the fourth-fold rollers; L, the shaft from which the first and third fold-rollers H and J are operated; M, a cam secured on said shaft; N, a lever carrying a friction-roll *n* on its lower end adapted to

bear on cam M, the other end of said lever being rigidly secured to a sleeve O loosely mounted on a rod P fixed in the machine-frame, and Q a rocker-arm also fixed to said sleeve at an acute angle to the lever, the outer end of this arm being secured to the pasting apparatus. All these parts being substantially the same as shown and described in my previous patent above alluded to, no claim is laid herein to any of them by themselves considered.

I will now describe the second part of my invention, which relates to means for holding lever N out of operative contact with cam M at all times except while a sheet of paper is moving over the first-fold rollers.

R is one of the longitudinal frame-rails of the machine, to which is removably secured a clamp, S having a laterally-projecting stud s. T is what I term a "lever-trip," which is made of a single piece of wire, bent at one end to form a hook 9, and a suitable distance from said hook I form a coil 10 adapted to fit loosely over the stud s on clamp S, thus leaving a straight stem 11. After forming this coil I provide a weighted portion 12 by extending the wire laterally a suitable distance beyond the coil, and then making a return-bend and carrying the free end in the opposite direction considerably beyond the pivotal point to form what I term a "finger" 13, all as clearly shown in Fig. 2, the construction being such that when the trip is pivoted on the stud s the finger will occupy an inclined position along the first-fold rollers in the direction of the rear of the machine, the free end of the finger lying slightly above the tapes G over said rollers, and that portion of the trip lying forward of the pivotal point and having the return-bend will more than counterbalance that portion of the finger lying to the rear of the pivotal point, with the result that the stem will normally occupy a vertical position with its hook directly under the lever N, so as to hold the latter out of operative contact with cam M—that is to say, when the highest portion of the cam is under the lever the hook will engage with the latter and prevent it from being further operated by the cam.

From the above description it will be understood that as a sheet of paper being fed into the machine is carried rearward by the tapes it will come into contact with and press upon the finger 13 of the trip, bearing it down and passing over it. This movement of the finger will swing the stem forward, thus withdrawing the hook from under the lever, all as clearly shown in dotted lines in Fig. 2, when the lever will be free to follow the cam and lower and raise the paste-cup. Should the feeder at any time fail to send a sheet through the machine the weighted portion of the trip will throw the hook under the lever, where it will remain until a sheet 14 is passed through to actuate the finger and thus withdraw the hook.

I will now describe the third part of my

invention, which consists of the paper-brace and its coacting mechanism.

U is the paper-rack.

V is the fly, whose shaft v is journaled in brackets 15 extending from the lower transverse frame-rail 16 of the machine.

W is the revoluble shaft that carries the delivery-tape pulleys w and tapes w' . On this shaft is a fixed bevel-gear w^2 , provided on one side with a cam 17.

V' is an arm, bifurcated at one end, and provided with two lateral lugs 18 and 19, the other end of the arm being pivoted to a crank v^2 , fixed on the fly-shaft. The bifurcated end of arm V' straddles shaft W, and its lugs are alternately engaged by cam 17, in a manner to impart oscillatory movement and thereby rock the fly-shaft. On the outer end of the fly-shaft there is loosely pivoted a pawl 20, which engages with a ratchet 21 on a shaft 22 for the purpose of moving the rack, all of which parts are shown and described in my former patent above alluded to.

The paper-brace consists of a rectangular wire frame X, the rear ends of which are pivoted respectively in a standard 23, secured to frame-rail 16 and in the longitudinal frame-rail 24. To the front of the frame X are rigidly secured two vertically-depending brace-arms x , and in one side of the frame X there is formed a bend 25, on which acts a cam w^3 , secured on shaft W, in such manner as to raise the paper-brace out of the way of the forwardly-moving fly, the paper-brace dropping by gravity when the cam has passed out of contact with it.

In operation the brace will drop behind the fly when the latter is in its forward position and remain against the folded papers on the rack until the fly has gone back, received another paper, and is again ready to advance, when the paper-brace will move out of the way. By means of the brace-arms the folded papers will be prevented from slipping backward at the bottom, this backward slipping of the papers being an inherent defect common to all other paper-braces with which I am acquainted. It will be understood that as the fly goes back its rods v' will pass on each side of the brace-arms.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a vertically-reciprocating pasting apparatus, a paste-cup, a friction roller journaled beneath and carried by the cup, a roller journaled within the cup, a roller and a spider journaled above the cup, and an endless cord passed under the inner roller, and over the outer rollers and over the spider, substantially as described.

2. In a newspaper-folding machine, the combination, with a paster-actuating lever and a cam by which said lever is operated, of a pivoted trip having a hook adapted to normally hold the lever out of operative position with relation to the cam, and also hav-

ing a finger projecting slightly above the tapes over the first-fold rollers, the construction and arrangement being such that a sheet of paper passing through the machine will depress the finger and swing the hook out of contact with the lever.

3. In a newspaper-folding machine, the combination, with a paster-actuating lever and a cam by which said lever is operated, of a wire trip, the wire being bent at one end to form a hook, then bent into one or more coils, thence carried laterally and given a return bend to form a straight finger extending in the opposite direction, the coil being passed over a fixed stud to form a pivot, the hook resting normally under said lever, and a portion of the finger lying above the tapes over the first-fold rollers, whereby as a sheet of paper is passed through the machine the finger will be depressed, and the hook swung out of contact with the lever, the trip swinging into its normal position by gravity when the sheet has passed through the first-fold rollers.

4. In a newspaper-folding machine, the combination, with the paper-rack, the fly, and the shaft carrying the delivery-tape rolls and provided with a cam, of a paper-brace comprising a rectangular frame pivoted at its rear end to fixed parts of the machine and having a bend in one side adapted to be engaged by said cam to elevate the brace, and brace-arms rigidly secured to the front of the frame, the whole being so arranged that as the fly moves forward with the paper the paper-brace will be elevated and remain in that position until the fly has deposited the paper on the rack, when it will drop by gravity and hold the folded papers upright until the fly swings back, takes another paper, and is ready to deliver it.

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

AUSTIN T. BASCOM.

Witnesses:

D. OLDHAM,

LARKEN A. STUART.