

No. 624,014.

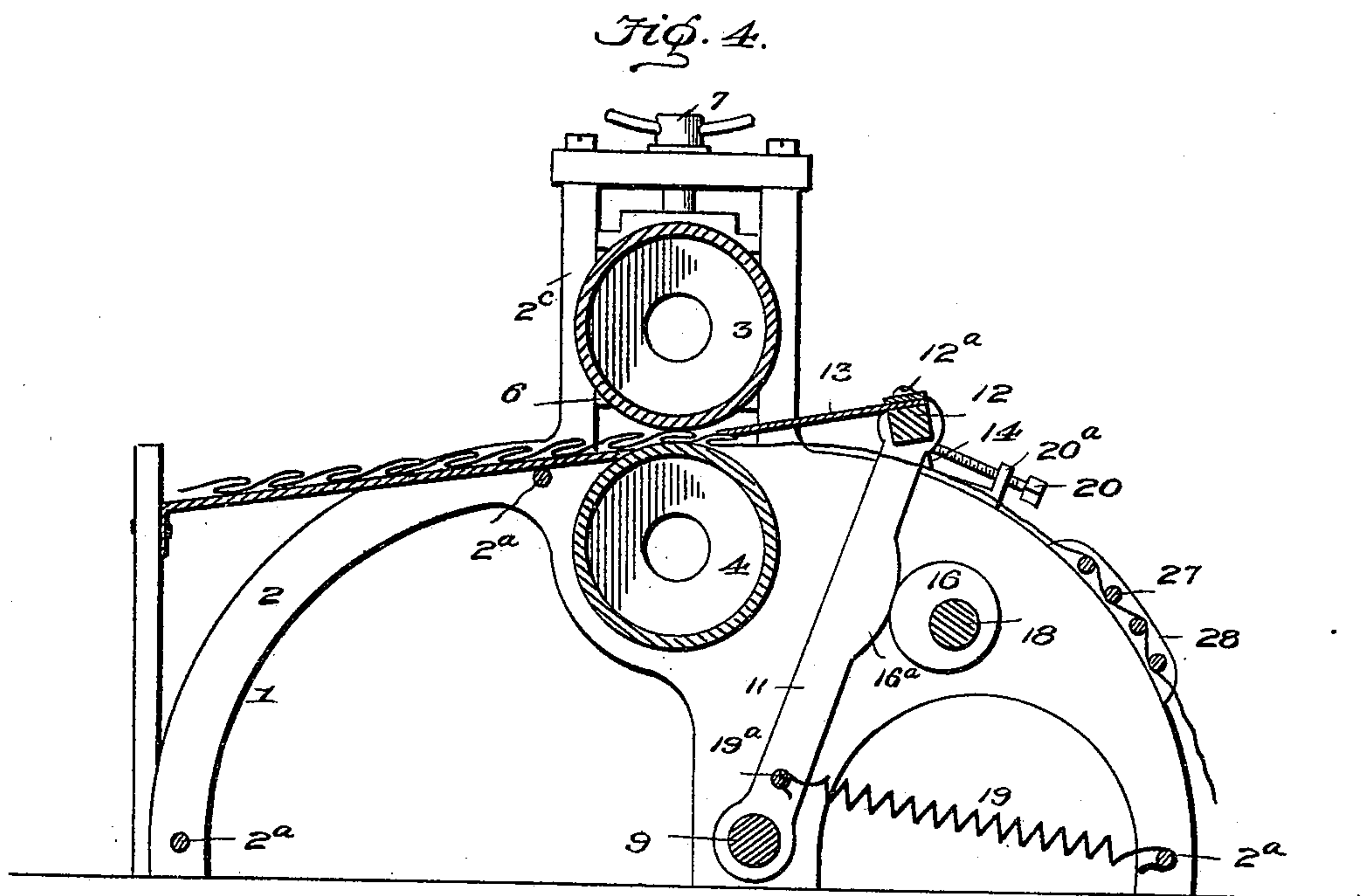
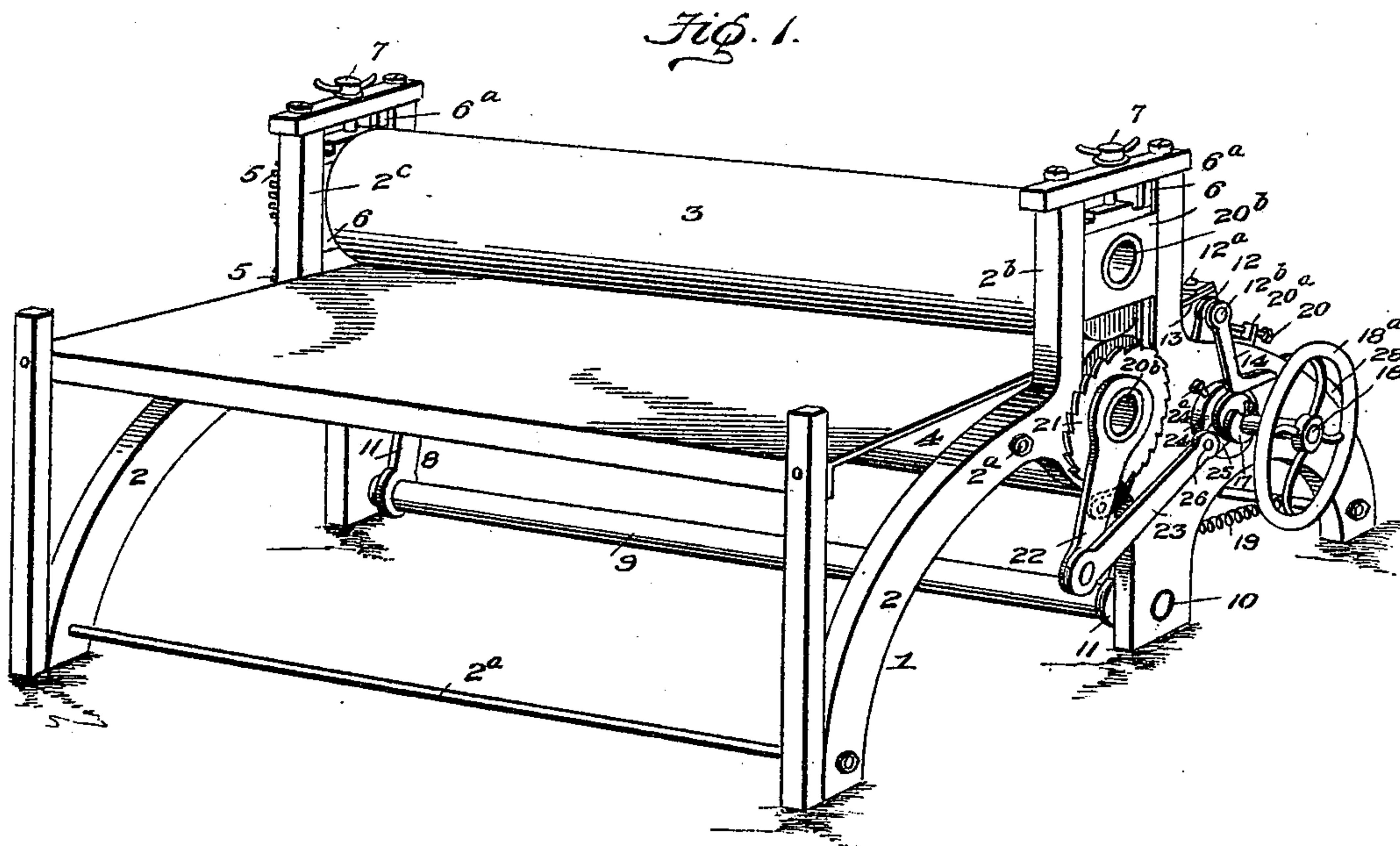
Patented May 2, 1899.

T. F. HAGERTY.  
PLAITING MACHINE.

(Application filed Oct. 8, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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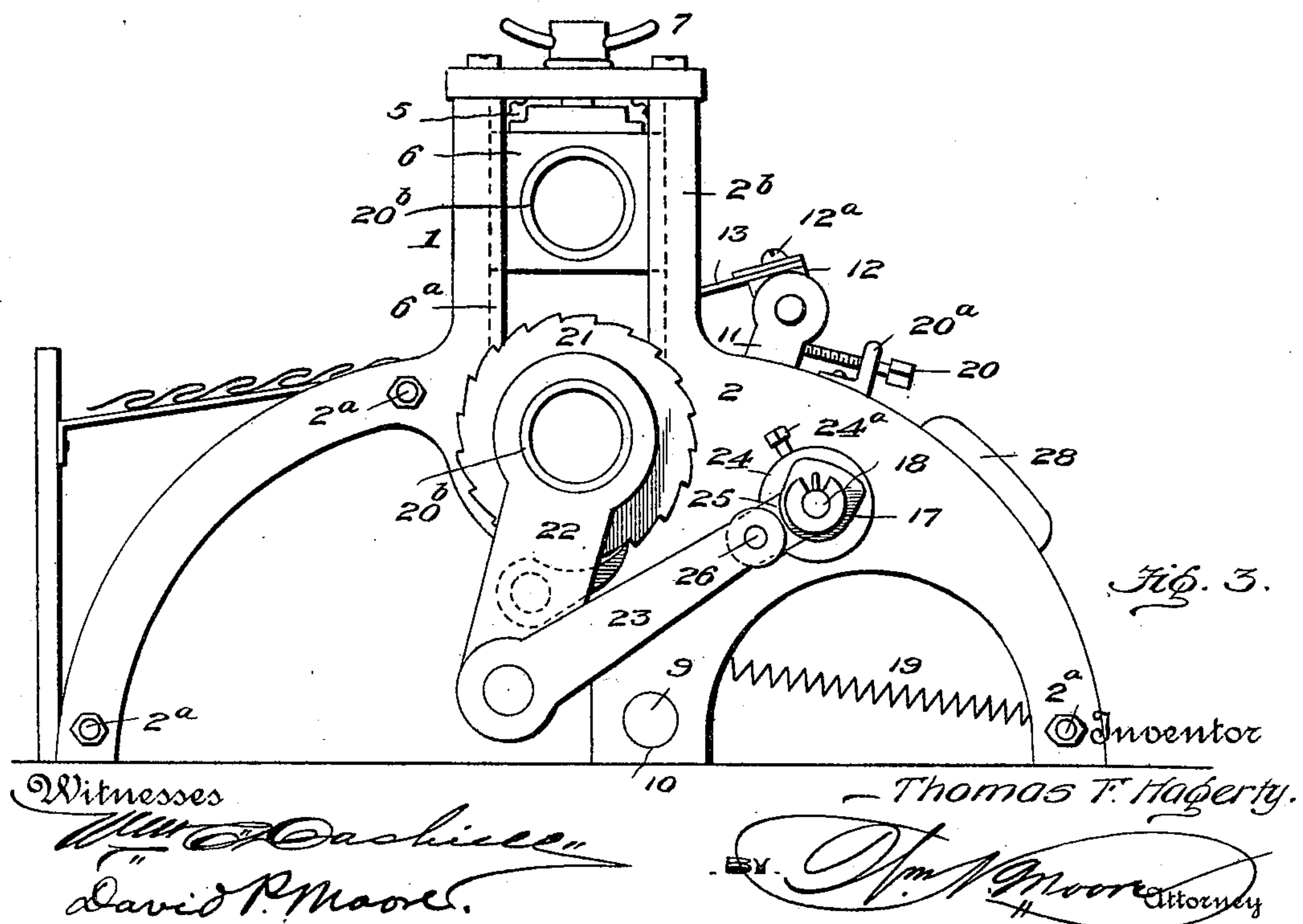
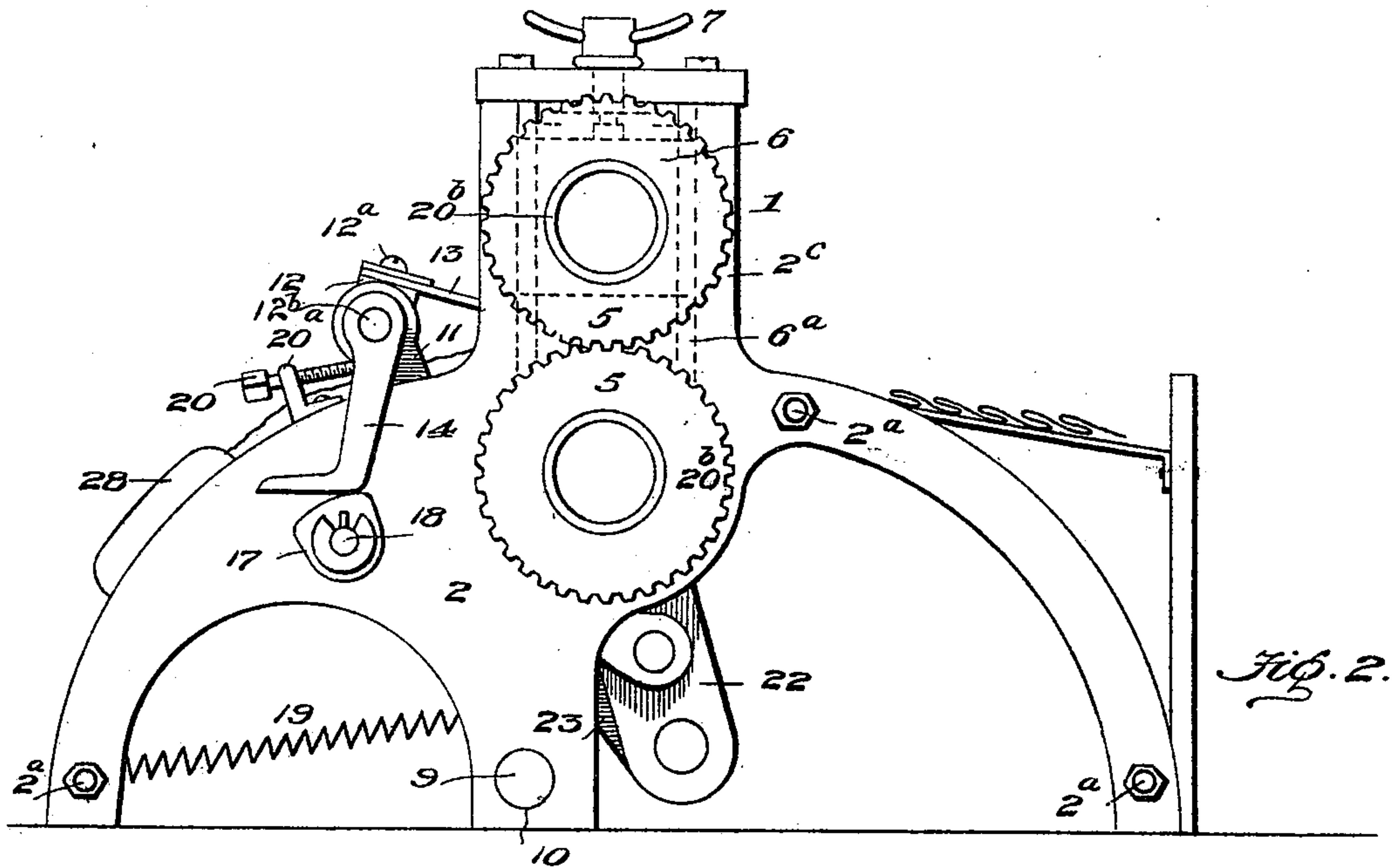
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# UNITED STATES PATENT OFFICE.

THOMAS F. HAGERTY, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR, BY  
DIRECT AND MESNE ASSIGNMENTS, TO THE AMERICAN PLAITING  
MACHINE COMPANY, OF NEW YORK, N. Y.

## PLAITING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 624,014, dated May 2, 1899.

Application filed October 8, 1898. Serial No. 692,997. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS F. HAGERTY, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Plaiting-Machines, of which the following is a specification.

This invention relates to that class of plaiting-machines known as "knife-plaiters," having a reciprocating blade which presses upon and folds the cloth into various-sized plaits and delivers the front edge of the folds between an upper and lower set of pressing-rollers, which are caused to be moved when the pressure of the blade is released from the cloth.

The object of my invention is to produce a machine so simple in construction as to require but one adjustment of actuating-cams to produce the various-sized plaits and which shall cause the folding-blade to act at the proper intervals of time without changing from the thinnest to the thickest kinds of fabric and also capable of adjusting the amount of lap or fold while the machine is in operation, thus determining the character of the work while the machine is in action.

To this end the invention consists in the mechanisms as shown and described in the drawings and specification.

Figure 1 is a perspective view of my complete machine. Fig. 2 is a side elevation of my machine. Fig. 3 is a side elevation of my machine, taken from the opposite side, with the tripping-lever and driving-wheel removed to more clearly show other parts; and Fig. 4 is a transverse central sectional view thereof.

Referring by numeral to the drawings, the numeral 1 designates the frame, which comprises the two sides 2, connected by girths or rods 2<sup>a</sup>, which secure the frame rigidly together. The sides of the frame are provided with ways 2<sup>b</sup> and 2<sup>c</sup>, in which are journaled the upper and lower hollow pressing-rollers 3 and 4, respectively, which carry upon their axles 20<sup>b</sup> each a gear-wheel 5, which mesh together and are driven from a proper source. The upper roller 3 is journaled at its ends in

the boxes 6, which are adjustable or movable vertically in the grooves or channels 6<sup>a</sup> in the upper part of the frame by means of the adjusting-screws 7. By this construction it is evident that the lower roller is rigid and the upper roller is adjustable vertically, the purpose of which is to accommodate different thicknesses of cloth or fabric.

In the main frame is mounted the blade-carrying frame 8, which consists of the rock-shaft 9, mounted in the lower part of the frame at 10 and carrying the arms 11, near each end thereof, and at the upper end of the arms is journaled the bar 12, which has secured thereon, by means of screws 12<sup>a</sup>, the blade 13, and as the ends 12<sup>b</sup> of said bar 12 pass through the arms 11 and extend outside of the frame the tripping-levers 14 are secured thereon, it being necessary to use only one lever 14, if desired. From this construction it will be seen that the blade-carrying frame is mounted between the side pieces of the main frame and the tripping-levers are outside of or exterior to the sides of the main frame, and to operate the blade-carrying frame I employ the cams 16, which abut against the projections 16<sup>a</sup> upon the arms 11, and to operate the tripping-levers I use the adjustable cams 17, said cams both being mounted on the said rotary driving-shaft 18, the cams 16 being arranged upon the shaft inside of the frame and the cams 17 being upon or near the ends of said shaft 18 outside of the frame. This shaft 18 may have a driving-wheel 18<sup>a</sup> secured upon one of its ends or any place thereon where it would revolve the shaft to rotate the cams 16 and 17, and thus cause the arms 11 to be moved back and forth to feed the blade 13, which is adapted to be moved at different angles or inclines by means of the tripping-levers 14, which are operated by the cams 17. The return of the blade-carrying frame is insured by the springs 19, secured to one of the rods 2<sup>a</sup> and the projections 19<sup>a</sup> on the arms 11, and the throw or movement of said frame is regulated by the adjusting-screws 20, mounted in the lugs 20<sup>a</sup>, secured upon the sides of the frame. On the opposite side of the frame, as shown in Fig. 3, attached to the projecting end of



axle 20<sup>b</sup> of the lower roller 4 is a ratchet-wheel 21, and outside of the ratchet-wheel is a pawl-carrying arm 22, which has attached thereto at its lower end the link 23. Attached  
 5 near the left end of the shaft 18, inside of one of the cams 17, is the adjustable chuck 24, secured by means of the set-screws 24<sup>a</sup>, and in this chuck slides a block 25, carrying the projecting stud 26, to which is attached the  
 10 other end of the link 23, which when the shaft 18 is revolved through the medium of the chuck and block causes the pawl-carrying arm 22 to be moved back and forth to revolve the roller 4, and consequently the roller 3, and  
 15 thus it will be seen that the shaft 18 serves to revolve the pressing-rollers and the feeding-blade simultaneously. To guide the fabric properly and keep it at a proper tension, I employ the tension-rods 27, secured in the  
 20 frames 28 upon the top of the frame's sides.

This being the construction of my machine, the consequent operation is as follows: The cloth is fed between the tension-wires 27 (of well-known construction) and carried forward  
 25 under the blade 13, and at this point the operator presses the blade upon the cloth. Further movement of the driving-shaft 18 carries the cams 16 against the arms 11 of the frame, and at this point the tripping-levers  
 30 14 come into engagement with the cams 17, bringing the blade finally down on the cloth, pressing it against the roller, and the frame is now carried forward with the folded plait, the pressure remaining on the cloth until the  
 35 plait is delivered between the rollers, and then the levers trip as the cams 17 allow them to swing backward as their lower arms drop and release the pressure. At this further movement of the driving-shaft the chuck 24 carries  
 40 the link 23 forward with the ratchet-lever 22, turning the rollers 3 and 4 a proper and determined distance, delivering the pressed plait at the rear of the machine, the entire operation being effected by one complete rev-

olution of the shaft, this operation being continued in the manner stated. 45

I claim—

1. In a plaiting-machine, the combination of a frame, an upper pressing-roller mounted in said frame, a driving-shaft mounted in the  
 50 frame and carrying an internal set of cams and an exterior set of adjustable cams, a rocking knife-carrying frame operated upon by the internal set of cams, and a tripping-lever connected to the knife-carrying shaft and operated by the exterior set of adjustable cams,  
 55 and means for returning the rocking frame to its normal position.

2. In a plaiting-machine, the combination of a frame, an upper and lower hollow pressing-roller geared together and mounted in  
 60 said frame, a driving-shaft mounted in the frame, an outer set of adjustable cams mounted on the driving-shaft, an inner set of cams also mounted on the said shaft, a rocking  
 65 frame carrying a knife and operated upon by said inner cams, devices for regulating the movement of said frame, tripping-levers operated by the adjustable cams, and means for rotating the driving-shaft. 70

3. In a plaiting-machine, the combination of a frame, an upper and lower pressing-roller mounted therein, a ratchet-wheel connected to the shaft of the lower roller, a pawl for  
 75 engaging the ratchet to impel the shaft, a link carrying the pawl, a chuck connected to said link, a driving-shaft connected to the link, cams on the driving-shaft, a frame carrying a knife operated by said cams, and a tripping  
 80 lever or levers also operated by the cams, all arranged and operating in the manner and for the purpose stated.

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

THOMAS F. HAGERTY.

Witnesses:

CHAS. E. RIORDON,  
 WM. N. MOORE.