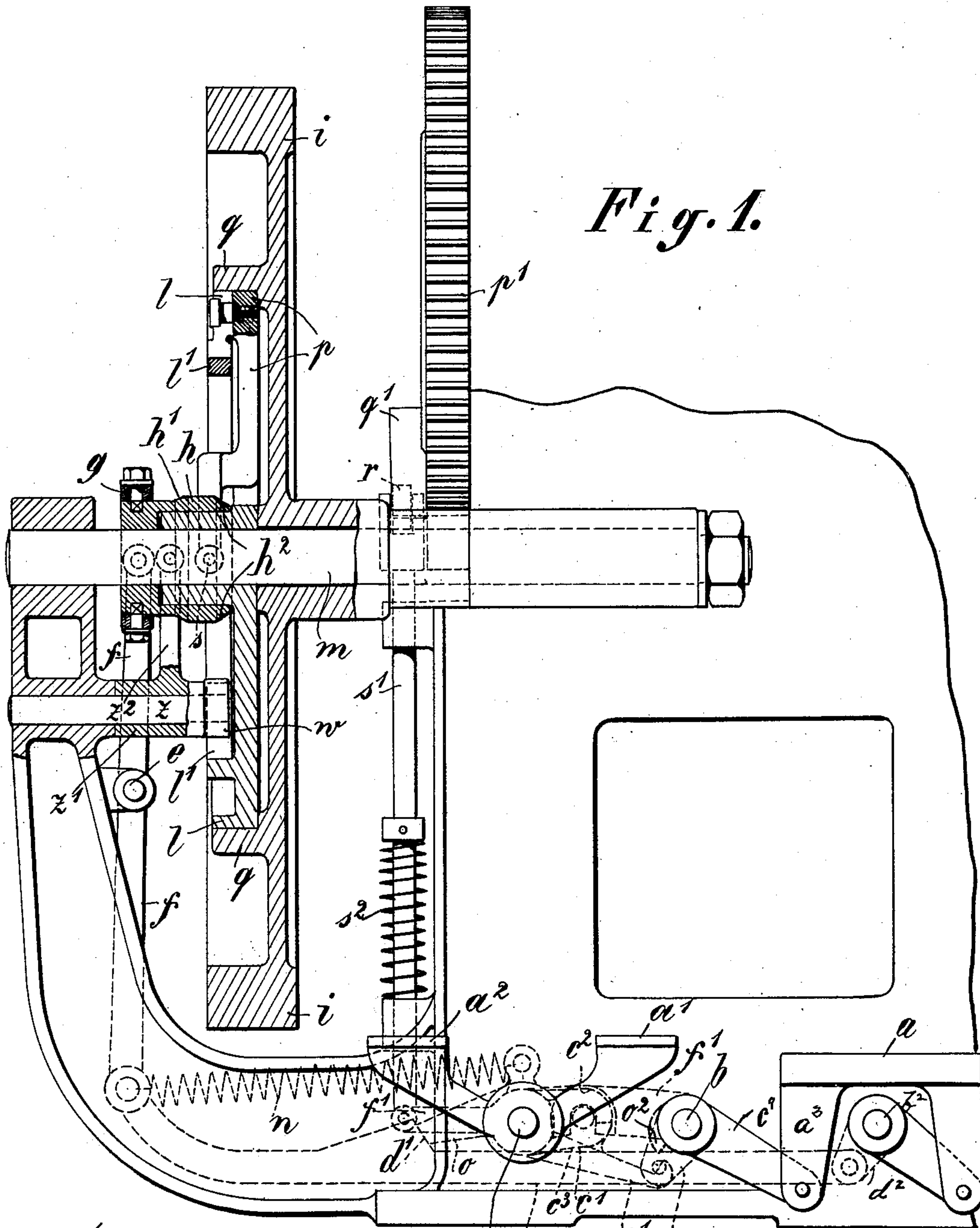


W. M. ROCKSTROH.
PRINTING, STAMPING, AND EMBOSING PRESS.

APPLICATION FILED NOV. 6, 1901.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses

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C. M. Moulton

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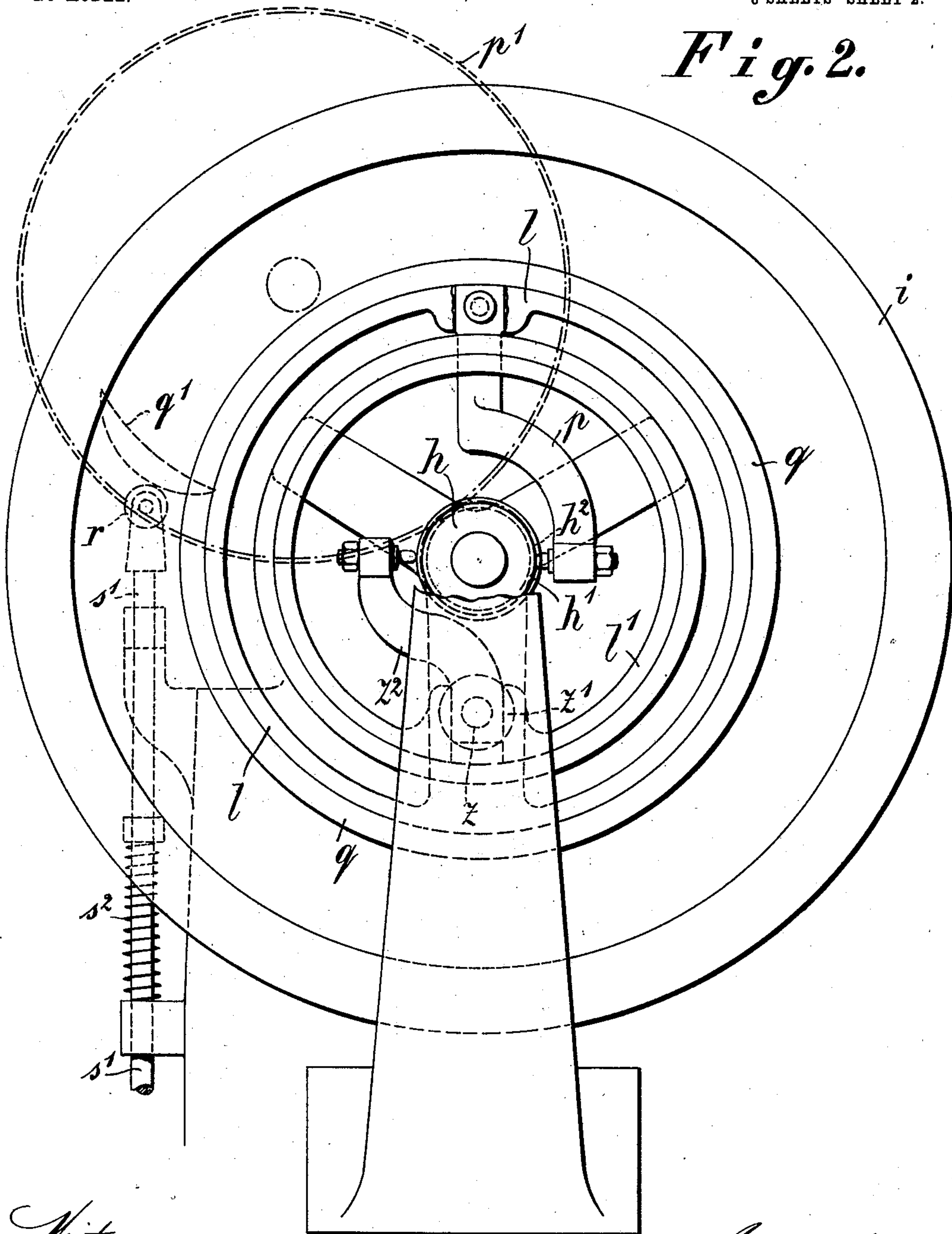
No. 744,239.

PATENTED NOV. 17, 1903.

W. M. ROCKSTROH.
PRINTING, STAMPING, AND EMBOSING PRESS.
APPLICATION FILED NOV. 8, 1901.

NO MODEL.

3 SHEETS—SHEET 2.



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W. M. ROCKSTROH.
PRINTING, STAMPING, AND EMBOSING PRESS.
APPLICATION FILED NOV. 6, 1901.

NO MODEL.

3 SHEETS—SHEET 3.

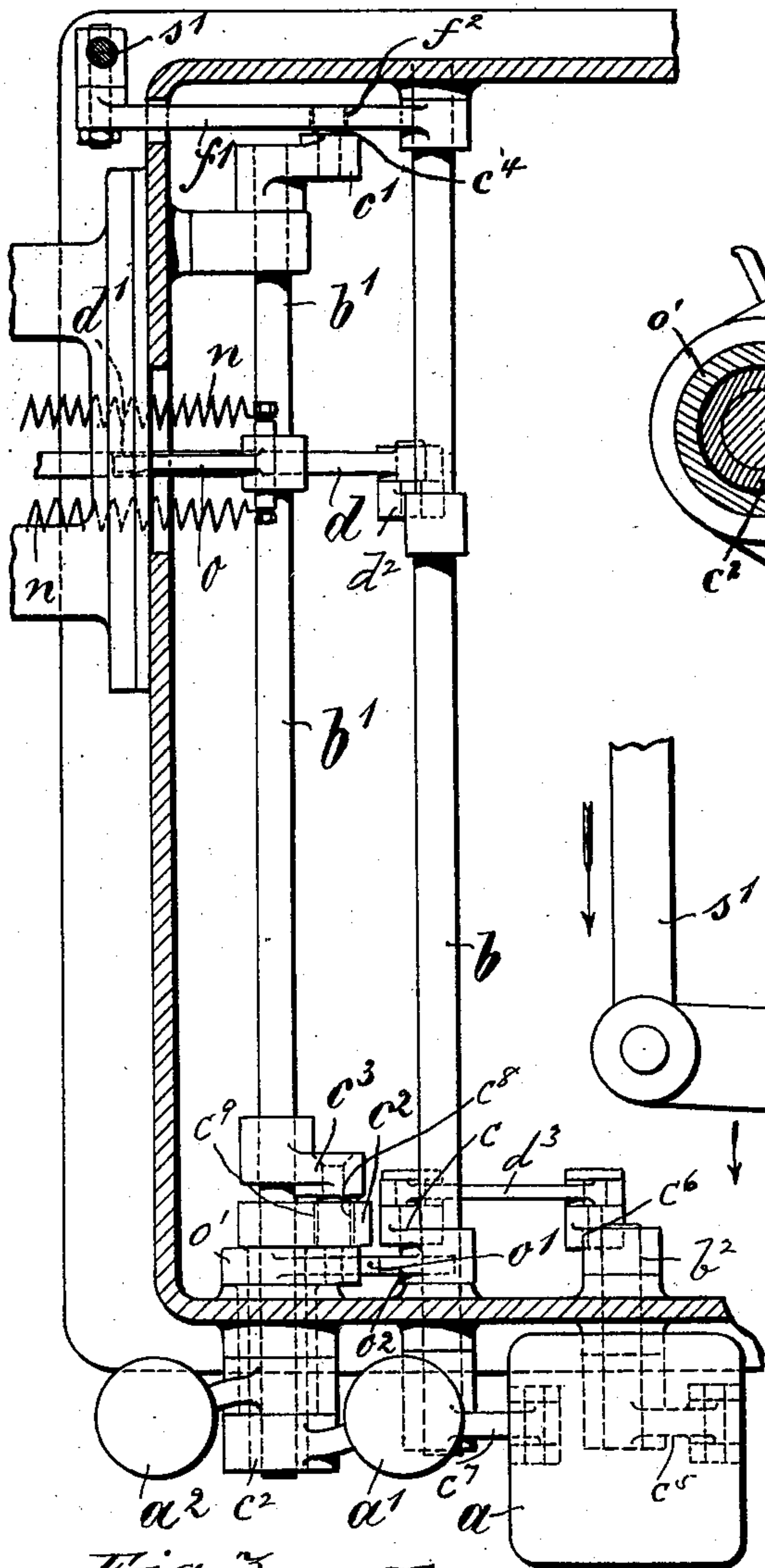


Fig. 3.

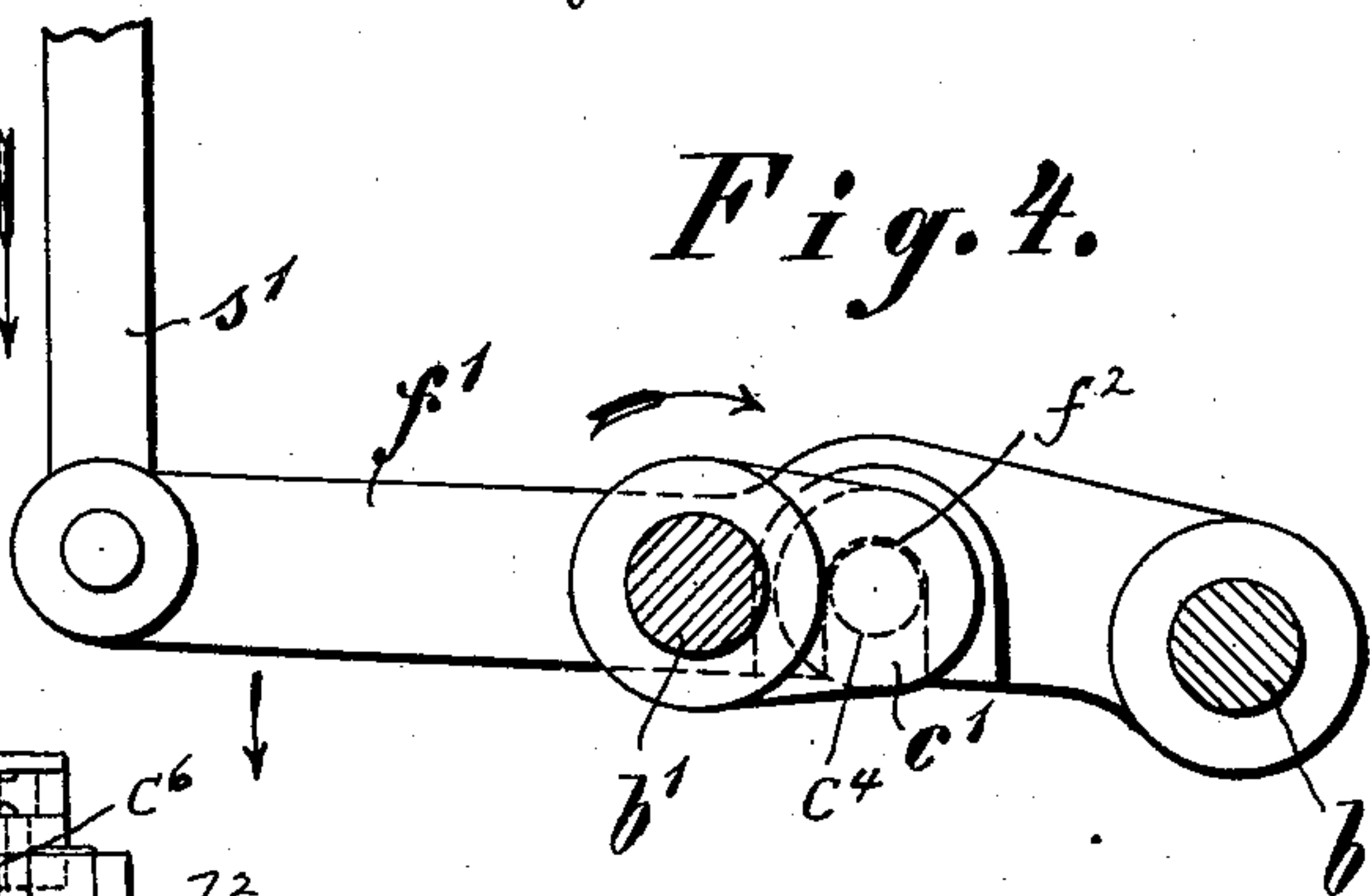


Fig. 4.

Fig. 5.

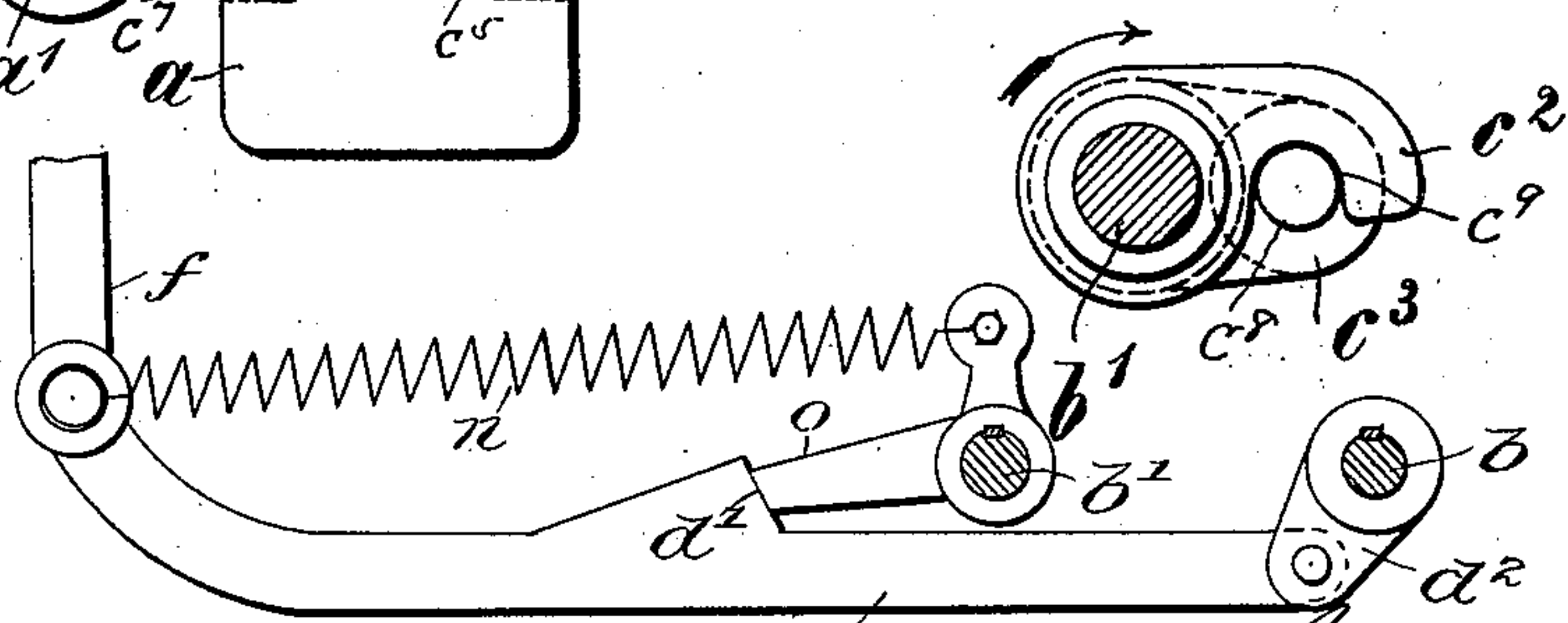


Fig. 7.

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UNITED STATES PATENT OFFICE.

WILHELM MAX ROCKSTROH, OF KLEIN-SEDLITZ, GERMANY.

PRINTING, STAMPING, AND EMBOSSING PRESS.

SPECIFICATION forming part of Letters Patent No. 744,239, dated November 17, 1903.

Application filed November 6, 1901. Serial No. 81,316. (No model.)

To all whom it may concern:

Be it known that I, WILHELM MAX ROCKSTROH, works manager, a subject of the Emperor of Germany, residing at Klein-Sedlitz, near Pirna-on-the-Elbe, in the German Empire, have invented certain new and useful Improvements in or Pertaining to Printing, Stamping, and Embossing Presses, of which the following is a complete specification.

This invention relates to disengaging and engaging mechanism for printing, stamping, and embossing presses which operates automatically and can also be operated at will; and it has for its objects, among others, to obviate any loss of time or material and also to avoid risk in working, which is unavoidable in continuously-running machines while embossing, stamping, punching, or printing.

When the machine is running slowly, the attendant effects the laying on and taking off of the material from time to time during the operation of the machine; but much time is lost through the low speed of the machine when laying on and taking off is not being done. On the other hand, if the machine runs at a high speed the opposite effect is produced, as the attendant is frequently not ready with the laying on and what is saved in time is lost in material, since a great deal of waste occurs in the work produced. At the same time there is a risk of an accident through the high speed of the machine.

Now according to the present invention it is possible to cause the machine to run at the highest possible speed during the working period without any risk of the occurrence of the before-mentioned disadvantages, for when the taking off of the finished work or the laying on of the material to be treated is to be effected the machine stops automatically. When the attendant has finished the arranging of the material, all that is necessary to do is simply to press down a pedal in order to set the machine at once into motion at full power and speed, since the fly-wheel of the machine continues to rotate while the working parts are at rest. If it be necessary after the press is set into motion to cause an immediate stoppage, all that is required is to depress a second pedal, while, on the other hand, if it is desired to maintain the machine in continuous operation a third pedal must be operated.

An example of disengaging mechanism according to this invention is shown in the accompanying drawings applied to a press, only those parts being shown that are absolutely necessary to make the construction of the apparatus clear.

Figure 1 is a longitudinal section. Fig. 2 is a sectional side elevation. Fig. 3 is a plan partly in section, and Figs. 4, 5, 6, and 7 are detail views, hereinafter more particularly referred to.

As has been mentioned above, the press is provided with three pedals—viz., a large one *a* and two smaller ones *a'* and *a''*. The pedal *a* serves for putting the machine into motion for a single operation. The pedal *a'* has for its object to effect an immediate stoppage of the machine in any position, while the pedal *a''* is for causing the machine to work continuously. By depressing the large pedal *a* the shaft *b* is partially rotated, as the former is connected to the shaft *b* by a link *c'*, pivotally connected at one end to a depending part *a''* on the pedal *a* and fixedly secured at the other end to the shaft *b*. On the shaft *b* there is fixed a crank *d''*, which is attached to a connecting-rod *d* and effects a movement of the said rod in a longitudinal direction. The crank *c* is connected by means of the rod *d''* with the crank *c''*, secured to the shaft *b''*, the crank *c''* being connected by link *c''* with the pedal *a*. The connecting-rod *d* is acted upon by springs *n* (see Fig. 3) and is connected at its free end to a two-armed lever *f*. The lever *f* has its fulcrum at *e* and moves by means of a fork *g* a sleeve *h*, which is provided with inclined surfaces *h'* *h''*.

A fly-wheel *i*, which serves at the same time as a belt-pulley, is loosely mounted on the driving-shaft *m* and is provided with a fixed friction-flange *q*, in which is located a friction driving-ring *l*. (See also Fig. 2.) The ring *l* has a hub sleeved upon the driving-shaft *m* and is a split ring of known type. It is enlarged in diameter by means of a lever *p*, since it is divided and is pressed apart by means of the lever *p* when it is moved laterally. (See Fig. 2.) When this is effected, in consequence of the friction the driving-ring *l* is set into motion and operates the machine. This lever *p* has one end fixed to one portion of the split ring *l*, as seen in Fig. 2, the other end being curved and carrying the pin *s*, for

a purpose which will hereinafter appear. For the purpose of effecting this it is necessary to move the lever p laterally, which is done by pressing laterally the pin s , which slides on one inclined surface h^2 of the sleeve h when the sleeve is suitably moved. When the pedal a has been thus depressed, the connecting-rod d is moved by the rotation of the shaft b and the operation of the crank d^2 and causes the lever f to be moved so as to slide the sleeve h in the longitudinal direction, and thereby effect the expansion of the ring l by means of the lever p and set the machine into motion.

For the purpose of preventing a return movement of the connecting-rod d it is provided with a wedge-surface d' , behind which engages a pawl o , which serves as an abutment for the connecting-rod. The pawl o is acted upon by the springs n , attached one to each end of the pin on which said pawl is pivotally mounted, as seen in Fig. 3. The result of depressing the pedal a is that the machine is set into motion and completes a single operation, after which it is automatically disengaged, so that the machine is again stopped. At the moment when an impression has been effected on the platen or table has been again opened an abutment q' , attached to the large main toothed wheel p' , comes against a roller r . (See Fig. 2.) The roller r is mounted on a rod s' , which is influenced by a spring s^2 and acts upon a lever f' , that is rotatably mounted on the shaft b and acts on the trunnion c^4 of the crank c' by means of a depression f^2 , engaged by a pin carried by the crank c' and depresses the latter. In consequence of the connection effected by the shaft b between the crank and the pawl o the latter is raised and sets the connecting-rod free, so that the latter is drawn back by the two springs n , and the pedal a is again brought to its initial position, (in Fig. 1 the pedal a is shown depressed.) The result of this is that the clutch-sleeve h effects the disengagement of the friction driving-ring l from the fly-wheel, since the small pin s again slides on the surface h^2 , and thus brings the lever p into its original position. At the same time a second friction-ring l' is expanded by the return movement of the sleeve h and is operated in a manner similar to that of the main ring l , since a sleeve z' is moved, which rotates on a pin z and carries an arm z^2 , which is also provided with a pin and is moved by the inclined surface h' of the sleeve h in a manner similar to that of the pin s of the lever p . Through the rotation of the sleeve z' the arm w , corresponding to the arm p' , causes an expansion of the ring l' , so that the ring l is at once retarded and is no longer influenced by the inertia of the machine. When the pedal a is operated, the ring l' is of course released, as the lever z^2 slides downwardly in a corresponding manner with its pin on the conical surface h' .

For the purpose of causing an immediate stoppage of the machine in any desired position all that is required is to depress the small pedal a' , whereby the hook c^3 of the crank c^2 , acting on the trunnion c^8 and crank c^3 , fixed to the shaft b' , depresses the crank c^2 , Fig. 5, and thus lifts the pawl o , as in the case of the automatic disengagement, so that the sleeve h is reversed.

If the machine is to work continuously, the third pedal a^2 must be depressed before or after the starting of the press. This causes a catch o' , (see Fig. 6,) connected therewith, to move in front of another catch o^2 , fixed on the shaft b , and thus prevent the connecting-rod d from flying back when the pawl o is lifted, and thereby effecting a disengagement of the machine.

What is claimed as new is—

1. In a device of the character described, the combination with a slidingly-mounted clutch-sleeve having two inclined surfaces, a shaft upon which the sleeve is mounted, a fly-wheel loose on the shaft and having a fixed friction-flange, a split friction driving-ring mounted in said flange, a lever having one end fixed to the split friction-ring and its other end carrying a pin, and means for sliding the sleeve on its shaft, comprising a pedal, a longitudinally-movable rod operatively connected with the pedal, a connection between said rod and the sleeve, a spring acting to move the said movable rod in one direction, a second pedal, an abutment adapted to prevent the movement of the rod induced by the action of the spring and connections between said second pedal and the abutment whereby the latter may be operated in the manner set forth.

2. In a machine of the character described, the combination with a slidingly-mounted clutch-sleeve having two inclined surfaces, a shaft upon which the sleeve is mounted, a fly-wheel loose on the shaft and having a fixed friction-flange, a split friction driving-ring mounted in said flange, a lever having one end fixed to the split friction-ring and its other end carrying a pin, means for sliding the sleeve on its shaft comprising a pedal, a longitudinally-movable rod operatively connected with the pedal, connections between said rod and the sleeve and comprising a shaft b , a spring acting to move the said movable rod in one direction, a second pedal, an abutment adapted to prevent the movement of the rod induced by the action of the spring, a third pedal, a catch-arm connected therewith, and a catch on the shaft b with which catch said catch-arm is adapted to engage when the said third pedal is depressed, for the purpose specified.

In witness whereof I have hereunto set my hand in presence of two witnesses.

WILHELM MAX ROCKSTROH.

Witnesses:

HERNANDO DE SOTO,
PAUL ARRAS.