

Dec. 27, 1927.

E. W. SMITH

1,654,058

APPARATUS FOR PRINTING LATE NEWS IN NEWSPAPER PRINTING MACHINES

Filed March 24, 1927

5 Sheets-Sheet 1

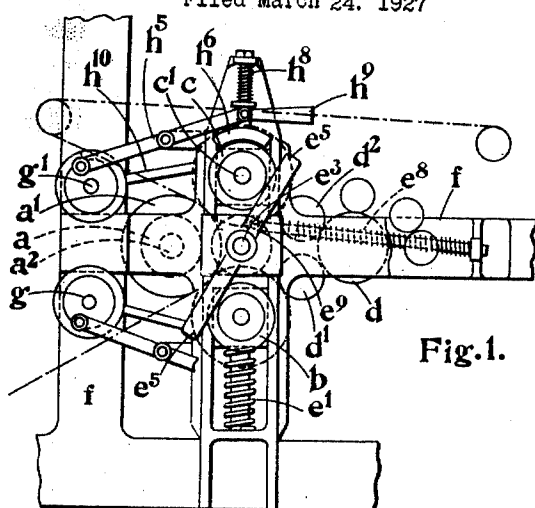


Fig. 1.

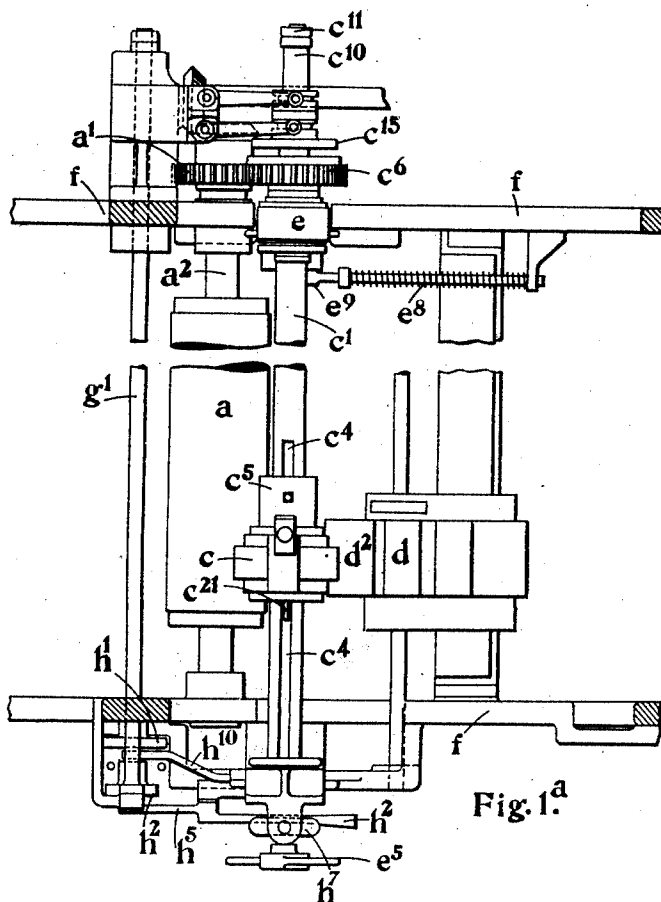


Fig. 1^a

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5 Sheets-Sheet 2

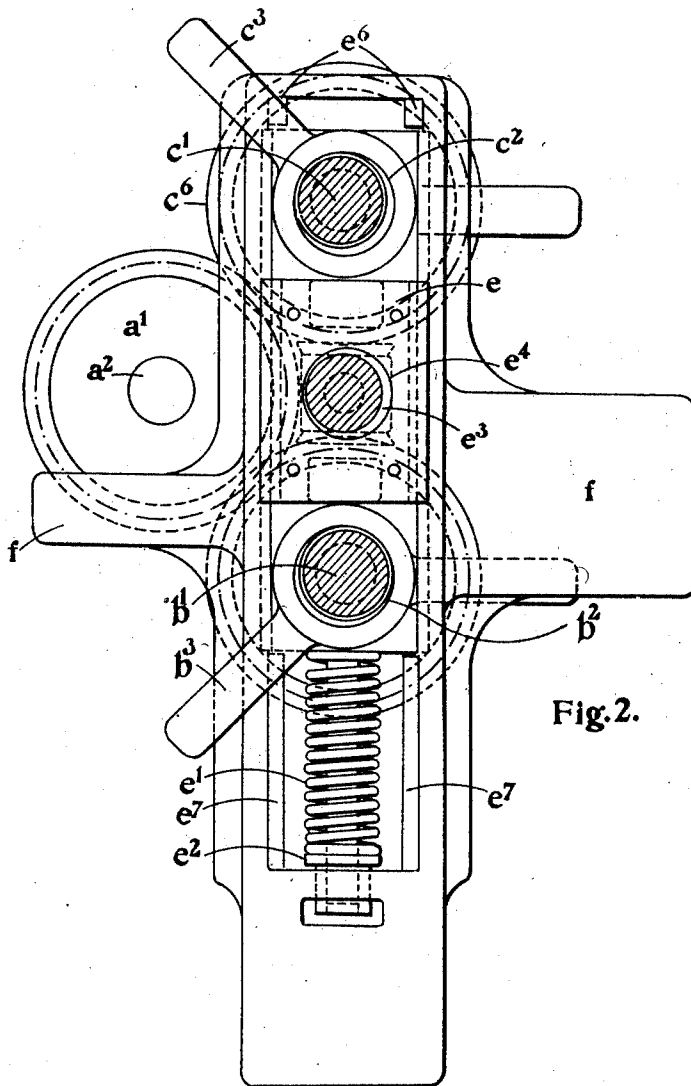


Fig. 2.

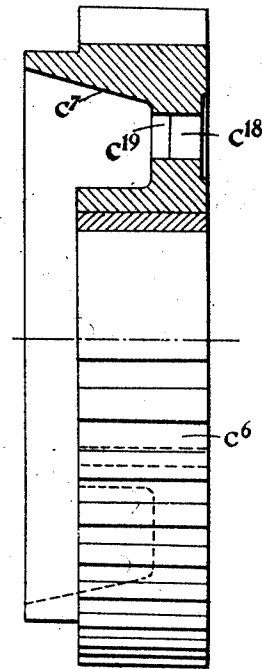


Fig. 6.

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5 Sheets-Sheet 3

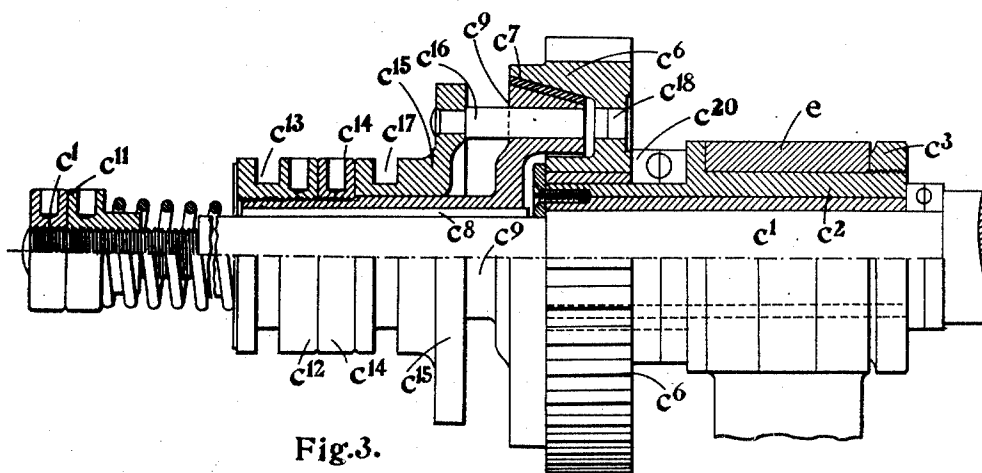
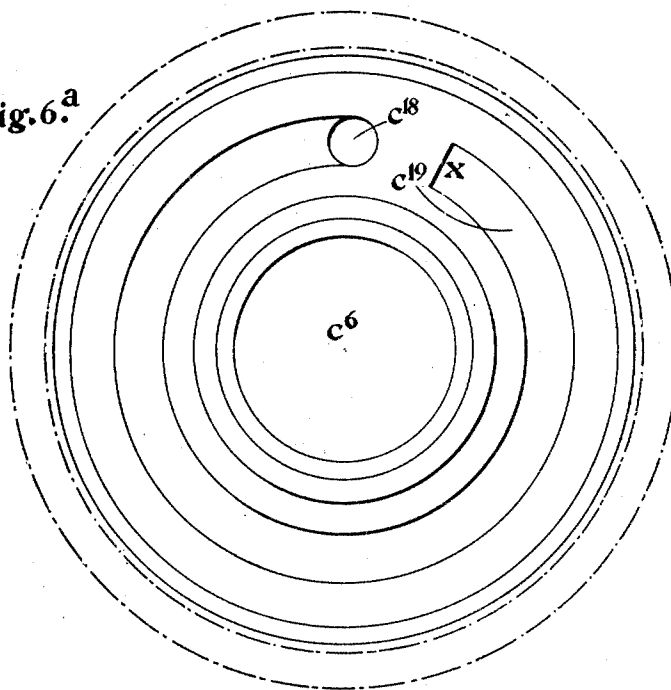


Fig. 3.

Fig. 6.a



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5 Sheets-Sheet 4

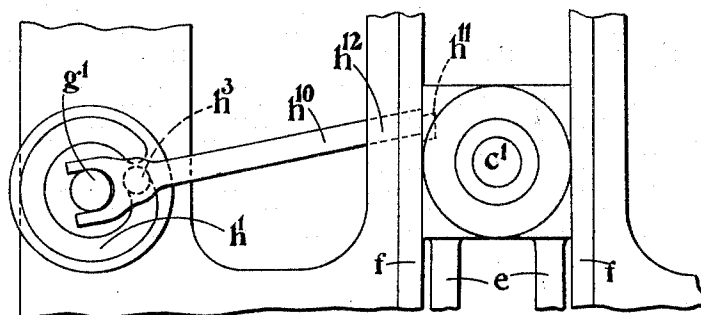
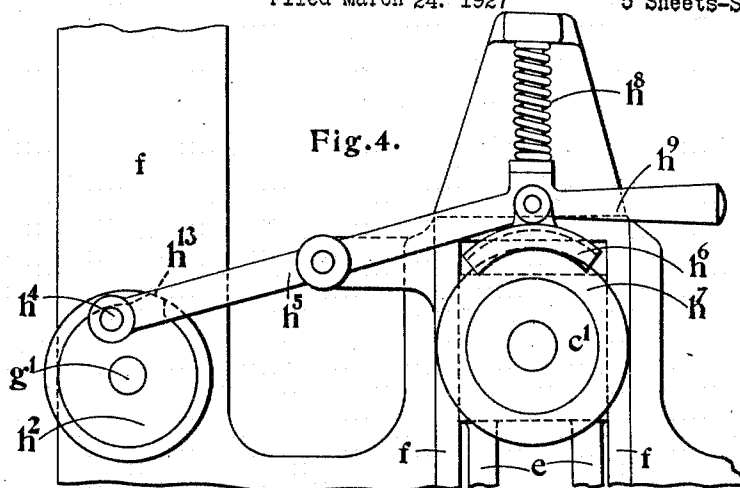


Fig. 4.ᵃ

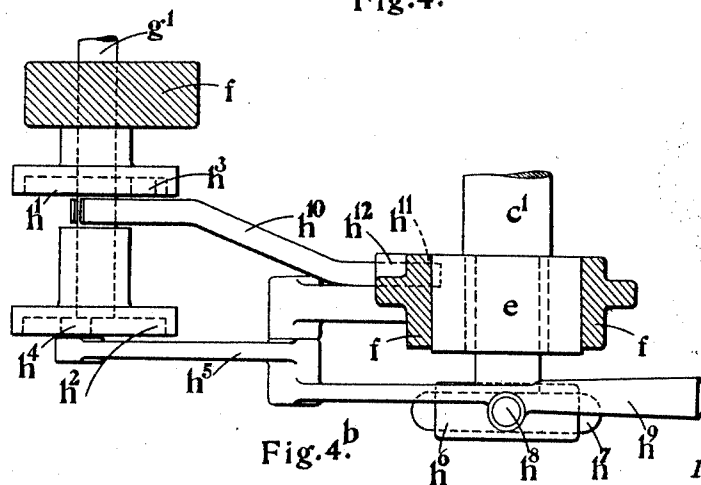


Fig. 4.ᵇ

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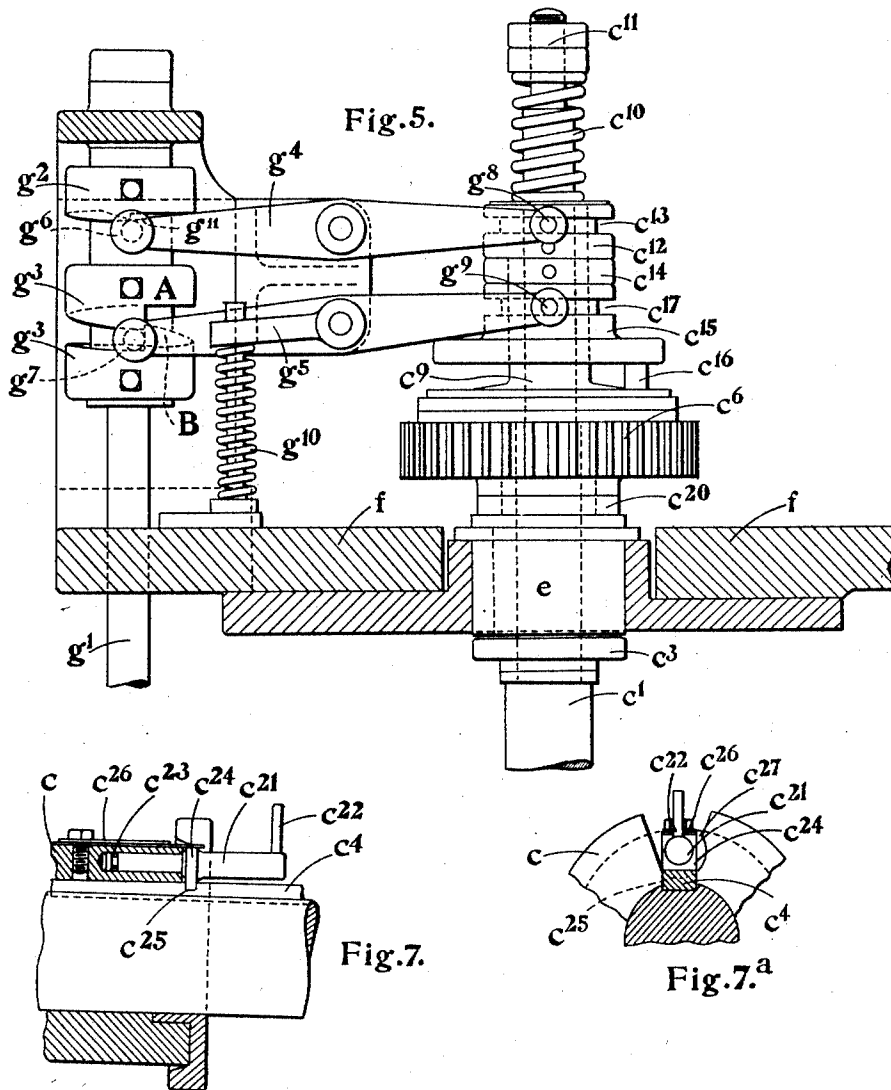
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5 Sheets-Sheet 5



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR PRINTING LATE NEWS IN NEWSPAPER PRINTING MACHINES.

Application filed March 24, 1927, Serial No. 177,943, and in Great Britain December 3, 1925.

This invention relates to late news printing mechanism for newspaper printing presses, and has generally among its objects to improve the construction and operation of such mechanism.

According to the invention, in late news printing mechanism for newspaper printing presses of the kind comprising an impression cylinder and box cylinders adapted to be alternatively brought into operative position with respect to the impression cylinder, means are provided whereby contact between the respective box cylinder and the impression cylinder can only be effected when they are running at the correct speed and in register.

According to the invention, moreover, means are provided to prevent the disconnection of the mechanism driving the printing cylinders while the impression cylinder and the respective box cylinders are in contact one with the other.

The invention further comprises the features which are hereinafter described with reference to the accompanying drawings, in which:

Figure 1 represents a sectional elevation of the late news mechanism provided according to the invention.

Figure 1^a is a plan corresponding to Figure 1.

Figure 2 is a detail transverse section on a large scale.

Figure 3 is a detail partial longitudinal section of the clutch.

Figures 4, 4^a and 4^b are diagrammatic elevations and plan respectively illustrating the operation of the braking and interlocking cams.

Figure 5 is an enlarged plan illustrating the construction and operation of the clutch.

Figures 6 and 6^a are detail views of the clutch gear, and

Figures 7 and 7^a are detail views of the spring catch for retaining the box cylinders in the operative position.

In the accompanying drawings *a* is the impression cylinder, *b* and *c* the box cylinders and *d* the inking arrangement. The impression cylinder *a* is set within fixed bearings, but the box cylinder shafts *b*¹ and

*c*¹ are both carried in bearings mounted in the sliding blocks *e*, one of which is shown in Figure 2, the blocks *e* being free to move vertically within predetermined limits. The weight of the mechanism carried by sliding blocks *e* is balanced by the springs *e*¹, adjusted by nut *e*², and the sliding blocks *e* are moved vertically by means of the eccentric shaft *e*³ working in the slot *e*⁴, in the centre of the sliding blocks *e*, and carried in bearings in the fixed frames *f* and actuated by the handle *e*⁵. The sliding blocks *e* are held in their topmost and lowermost position respectively against the stops *e*⁶ and *e*⁷, by the action of the spring *e*⁸ on the crank *e*⁹ connected to the eccentric shaft *e*³, the sliding frame being shown in a central position in Figure 2. The box cylinder shafts *b*¹ and *c*¹ are carried in eccentric bearings *b*² and *c*² for the purpose of individual adjustment for impression, and these eccentric bearings are locked in place by lever nuts *b*³ and *c*³. *d* represents the inking mechanism of which *d*¹ and *d*² are the rollers conveying ink to the type matter carried by box cylinders *b* and *c*. The box cylinders *b* and *c* are movable laterally along the box cylinder shafts *b*¹ and *c*¹ and the fixed keys (of which one only *c*⁴ is shown) and are held in a predetermined lateral position by means of a spring catch represented by *c*²¹ (Figure 1^a), against the stop collars which are also capable of adjustment laterally and of which one only *c*⁵ is shown. The spring catch *c*²¹ may comprise for example a part rotatably mounted at one end of the box cylinder *c* upon a horizontal axis and having a handle or lever *c*²² at its outwardly extending end for its operation. The rotatably mounted part is held in its position in the box cylinder by any suitable means, for example, an annular groove *c*²³ may be provided adjacent the inner end of the part and a screw or the like may be inserted through a hole in the box cylinder *c* in such manner as to engage in the annular groove *c*²³ and prevent axial movement of the rotatable part *c*²¹ with respect to the box cylinder *c*. In a position adjacent the end of the box cylinder *c* the rotatable part *c*²¹ is provided with a cam *c*²⁴ which is adapted,

on the box cylinder c being moved into its operative position adjacent the collar c^5 and on the rotatable part c^{21} being turned, to engage within a transverse slot c^{25} in the key c^4 the rotatable part c^{21} being maintained in the locked position by means of a leaf spring c^{26} mounted upon the box cylinder c and adapted to engage with a flat surface c^{27} provided on the cam c^{24} referred to. A spring catch is similarly provided for the box cylinder b . By this means the box cylinders b and c may be drawn to the side safely away from the other rotating parts for the purpose of changing boxes. It will then be seen that by rotating the handle e^5 through, say, a third of a revolution, the sliding frames e will be caused to move either upwards or downwards in the fixed frames f , carrying with them the box cylinder shafts b^1 and c^1 , thus bringing either of the box cylinders b and c into, or out of, contact with both the impression cylinder a and the inking rollers d^1 and d^2 . On the end of the box cylinder shafts b^1 and c^1 a clutch mechanism is mounted one of which is shown in Figure 3. This clutch mechanism is the same on both shafts.

As shown in Figure 3 the box cylinder shaft c^1 is mounted in an eccentric bearing c^2 on the end of which the gear c^6 is free to revolve, the gear c^6 being always in mesh with the gear a^1 on the end of the impression cylinder shaft a^2 (as shown in Figures 1 and 2). The gear c^6 is provided with conical clutch face c^7 and the ball thrust washer c^{20} is provided to take the thrust of the clutch between the gear c^6 and the bearing c^2 . On the shaft c^1 and free to slide on the key c^8 is mounted the male portion of the clutch c^9 which is held to its work by the spring c^{10} , the tension of which is adjustable by the nuts c^{11} . On the boss of the clutch c^9 is mounted a nut c^{12} having an annular groove c^{13} cut in its periphery and locked in place by the lock nut c^{14} . Also mounted on the boss of the clutch c^9 is a disc c^{15} carrying a pin c^{16} and also provided with an annular groove c^{17} cut in the periphery of its boss. The disc c^{15} is free to move laterally along the boss of the clutch c^9 and the pin c^{16} slides through a hole in the face of the clutch c^9 and is free to engage with the hole c^{18} in the face of the clutch gear c^6 when it comes opposite to it. From this it will be seen that if the clutch c^9 be withdrawn from the clutch gear c^6 that the clutch gear c^6 will continue to revolve completely out of contact with any part of the shaft c^1 , or any part carried by the shaft c^1 , and the shaft c^1 will come to rest. It will also be seen that if the pin c^{16} be inserted in the hole c^{18} that the gear c^6 and the shaft c^1 will always be in the same relative position to each other.

Figures 6 and 6^a are detail views of the

clutch gear c^6 on the inner face of which is cut a concentric groove c^{19} having the same radius from the centre of the shaft c^1 as the pin c^{16} and having a width the same or slightly greater than the diameter of the pin c^{16} . The groove c^{19} starts at the point X having no depth but progresses evenly in the form of a spiral until it reaches a depth of, say, $\frac{1}{4}$ " where it runs into the hole c^{18} .

Carried in bearings in the fixed frames f are the two clutch actuating cam shafts g and g^1 of which the upper one g^1 is shown in Figures 4 and 5. These cam shafts are respectively provided the same for both the box cylinder shafts b^1 and c^1 and a description of one only is given.

In Figure 5 in which the clutch c^9 and the pin c^{16} are in the disengaged position, g^1 is the cam shaft, bearing on its end the cams g^2 and g^3 which actuate the levers g^4 and g^5 by means of the pins, or runners, g^6 and g^7 running on their cam faces. The other end of the levers g^4 and g^5 are provided with forks carrying the runners, or pads, g^8 and g^9 which engage with the annular grooves c^{13} and c^{17} of the clutch c^9 and the pin carrying disc c^{15} respectively. It will be seen in Figure 5 that the pin, or runner g^6 is held against the cam g^2 by the pressure of the spring g^{10} , except when the male clutch c^9 is up to its work. It will further be seen that if the cam g^2 be rotated, the cam face is capable of withdrawing or letting in the male clutch c^9 , and thus disengaging, or engaging it with the clutch gear c^6 . The cam g^2 is provided with a raised part g^{11} by which the clutch c^9 may be momentarily withdrawn to permit the pin c^{16} to travel round the groove c^{19} into the hole c^{18} . Thus it will be understood that the shape of the cam g^2 is such that the clutch c^9 is gradually engaged with the clutch c^6 while the cam is rotated through somewhat less than half revolution whereupon the runner g^6 engages with the outwardly inclined surface of the raised part g^{11} whereby on the cam g^2 having completed a half revolution the clutch c^9 is disengaged from the clutch c^6 . As the cam g^2 is further rotated and the runner g^6 engages with the inwardly inclined surface of the raised part g^{11} of the cam the clutch c^9 is once more engaged with the clutch c^6 and remains engaged therewith during the remainder of the rotation of the cam g^2 . The spring g^{10} acting on the lever g^5 keeps the pin, or runner g^7 up against the face A of the cam g^3 and tends to move the pin carrying disc c^{15} towards the male clutch c^9 and the clutch gear c^6 , and it will be seen that if the cam g^3 is rotated, the pin carrying disc c^{15} will move towards the male clutch c^9 and will carry the pin c^{16} forward until it is stopped by the inner face of the clutch gear c^6 . The cam face B of the cam g^3 is

so formed that it does not act upon the runner g^7 until the rotation of the cam shaft g^1 is nearing completion so that the runner g^7 is not positively actuated by the cam face B until the pin c^{16} is in engagement with the hole c^{18} .

On the other end of the shaft g^1 as shown in Figures 4, 4^a and 4^b are two cams h^1 and h^2 . These cams are both mounted on the one shaft as shown in the plan, but although they are shown separately in front elevation for the sake of simplicity, it will be understood that they function together and simultaneously. The parts in Figure 4 are shown in the position in which the brake has just been released at the beginning of the closing movement of the clutch, and in 4^a are shown in the position in which the clutch c^6 , c^9 is completely engaged and in 4^b which the box cylinder c has been lowered into contact with the impression cylinder a . Running on the cam face h^2 is the pin, or runner, h^4 on the lever h^5 which bears on its outer end the brake shoe h^6 , acting on the hand wheel h^7 which is attached to the box cylinder shaft c^1 . The pin, or runner, h^4 is normally disposed within the recess h^{13} in the cam h^2 and the brake shoe h^6 is thus pressed into contact with the hand wheel h^7 by the spring h^8 , but in the rotation of the cam shaft g^1 in a clockwise direction the runner h^4 is moved inwardly by the cam against the face of which it is pressed. The brake shoe h^6 may be released by hand pressure on the handle h^9 when desired. The cam h^1 (mounted upon the same shaft) when rotated actuates the bar h^{10} by means of the pin or runner h^3 and withdraws the end of the bar h^{10} , which is supported by the groove h^{12} in the fixed frame f , from the slot h^{11} in the sliding block e .

It will thus be seen that when the bar h^{10} is withdrawn and the slot h^{11} is not in line with it owing to the sliding block e being in the lower position it is not possible to rotate the cam shaft g^1 carrying the cams h^1 and h^2 and the clutch actuating cams g^2 , g^3 until the sliding block e is in its correct position.

The operation is as follows:—Let it be assumed that the press is running and the boxes on the lower box cylinder b are running in contact with the impression cylinder a and the ink roller d^1 , the upper box cylinder and shaft c and c^1 are stationary and the box cylinder c is drawn to the side along the key c^4 shown in Figure 1^a. A box is inserted in the box cylinder c and the cylinder pushed along the shaft c^1 and the key c^4 against the stop c^5 which determines its correct lateral position. The cam shaft g^1 is then rotated (preferably through reduction gear not shown, or it may be mechanically operated from the machine). The brake shoe h^6 is first released by the action

of the cam h^2 and the cam g^2 then allows the male clutch c^9 to engage slowly with the clutch gear c^6 and at the same time the cam g^3 allows the pin carrying disc c^{15} to travel forward the same distance with the male clutch c^9 . As soon as engagement is effected between the male clutch c^9 and the clutch gear c^6 the cam g^3 further releases the pin carrying disc c^{15} which is carried forward by the pressure of the spring g^{10} and this presses the pin c^{16} against the concentric spiral groove c^{19} in the face of the clutch gear c^6 at whatever point it happens to be opposite to. The cam g^2 then withdraws the male clutch c^9 momentarily and allows the clutch gear c^6 to overtake the box cylinder shaft c^1 , with the result that the pin c^{16} will travel around the concentric spiral groove c^{19} until it reaches the hole c^{18} when it takes up the drive. The pin c^{16} is then pushed into the hole c^{18} by the action of the cam face B on the cam g^3 and the cam g^2 again allows the male clutch c^9 to engage with the clutch gear c^6 . When the pin c^{16} and the clutch c^9 are home the cam h^1 withdraws the bar h^{10} from the slot h^{11} , thus leaving the sliding block e free to be moved. The box cylinder c now running at correct speed and in register with the impression cylinder a , the handle e^5 is moved through, say, a third of a revolution. This causes the eccentric shaft e^3 to rotate in the slots e^4 (Figure 2) and will move the sliding blocks e downwards until they come to rest against the stops e^7 . This operation is assisted and the final position sustained by the spring e^8 acting on the crank e^9 . The boxes on the box cylinder c will now be in contact with the impression cylinder a and the inking roller d^2 and the boxes on the box cylinder b will be out of contact with the impression cylinder a and the inking roller d^1 . The box cylinder shaft b^1 can now be brought to rest by rotating the cam shaft g in the opposite direction when the sequence of operations as outlined above on cam shaft g^1 will be reversed. The box cylinder b may then be drawn to the side and the box or boxes removed and it is left in this position ready for the insertion of any future boxes that might be required.

In Figure 4^a the box cylinder shaft c^1 is shown in its working position in which position the boxes are running in contact with the impression cylinder and inking roller, and it will be seen that it is not possible to rotate the cam shaft g^1 owing to the end of the bar h^{10} not being in alignment with the slot h^{11} in the sliding block e , therefore it is not possible to actuate the clutch mechanism on the end of box cylinder shaft c^1 and so bring the shaft to rest while it remains in contact with the impression cylinder and the inking roller. If the sliding block e is moved upwards and brought to

rest against the stops e^6 (Figure 2) then the slot h^{11} comes into alignment with the bar h^{10} and the cam shaft g^1 can then be rotated, and the clutch mechanism on the end of the box cylinder shaft c^1 actuated and the shaft brought to rest. It will be seen that when the cam shaft g^1 is rotated to cause the box cylinder shaft c^1 to come to rest, the bar h^{10} will be projected by the cam h^1 into the slot h^{11} in the sliding block e and the sliding block e is locked in this position until the cam shaft g^1 is again rotated to bring the box cylinder shaft c^1 into motion. This means it is impossible to move the box cylinder c into contact with the impression cylinder a and the inking roller d^2 until the box cylinder shaft c^1 is running at its proper speed and is in register. It must be understood that all the mechanism in connection with the box cylinder shaft c^1 and the cam shaft g^1 described above is exactly duplicated on the box cylinder shaft b^1 and the cam shaft g .

It will thus be understood that it is impossible to bring any printing surfaces into contact unless they are running at the correct speed and in register, and that it is impossible to disconnect the mechanism driving the printing surfaces while they are in contact.

It will furthermore be understood that the handle h^9 on the brake lever h^5 (Figure 4) is provided to enable the box cylinder shaft to be moved by hand after it has come to rest, so as to turn the box cylinder into the most convenient position for the replacing of boxes.

It will be understood that the invention is not limited to the actual construction or to the combination of the features of the construction hereinbefore described as the operations described may be carried out in constructions considerably different without departing from the invention.

I claim:

1. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder and a box cylinder mounted to be relatively adjustable, gearing between the two cylinders, a clutch for disengaging the box cylinder from the gearing, said clutch engaging in one position of the cylinder only, a control element determining the operation of the clutch, and a locking device locking the box cylinder in the position away from the impression cylinder and connected with and released by the control element when the clutch is engaged, substantially as hereinbefore described.

2. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder, a shaft adjustable towards and away from the said impression cylinder, a box cylinder upon the said shaft,

gearing between the impression cylinder and the box cylinder shaft, a clutch between the box cylinder shaft and gear thereon for engaging the gear in one determined position, a control element determining the operation of the clutch, a locking device applied to the box cylinder shaft to lock it in the outer position of adjustment, and means upon the control element for releasing the locking device when the clutch has been engaged, substantially as hereinbefore described.

3. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder, frame members in which said impression cylinder is carried, slideways in said frame members, bearings within said slideways, a box cylinder shaft mounted in said bearings, means for adjusting said bearings in said slideways, a gear wheel secured to and co-axial with said impression cylinder, a gear wheel loose upon said box cylinder shaft, a box cylinder upon said box cylinder shaft, a positive clutch engaging the box cylinder shaft with the gear wheel thereon in one determined position, a cam shaft carried in said frame members, a cam upon said cam shaft for operating said clutch, a locking device upon said frame members locking the bearings of the box cylinder shaft in the outer position, and a cam upon said cam shaft for releasing said locking device when the clutch is engaged, substantially as hereinbefore described.

4. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder and a box cylinder, bearings in which cylinders are mounted, said bearings being relatively adjustable, gearing between the two cylinders, a clutch for disengaging the box cylinder from the gearing, said clutch engaging in one position of the cylinder only, a rotatable cam shaft parallel with the impression cylinder and the box cylinder, a cam upon said cam shaft, a lever engaging and operating the clutch, the said lever being controlled by the said cam, a recess in one bearing of the box cylinder, a cam upon said cam shaft, a longitudinally movable member engaging said cam and operated thereby and entering said recess when the box cylinder is away from the impression cylinder, and means for rotating the cam shaft to engage the clutch and disengage the locking device, substantially as hereinbefore described.

5. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder, a shaft adjustable towards and away from the said impression cylinder, a box cylinder upon the said shaft, a gear wheel in fixed relation with the impression cylinder, a gear wheel loosely mounted upon the box cylinder shaft and engaging the gear wheel of the impression cylinder, a friction

clutch slidably mounted upon the box cylinder shaft and engaging the gear wheel thereon, a positive clutch member also slidably mounted upon the box cylinder shaft and engaging the gear wheel thereon, a control element determining the operation of the two clutches in order, a locking device applied to the box cylinder shaft to lock it in the outer position of adjustment, and means in connection with the control element for releasing the locking device when the positive clutch has been engaged, substantially as hereinbefore described.

6. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder, a shaft adjustable towards and away from the said impression cylinder, a box cylinder upon the said shaft, a gear wheel in fixed relation with the impression cylinder, a gear wheel loosely mounted upon the box cylinder shaft and engaging with the gear wheel of the impression cylinder, a friction clutch member slidably mounted upon the box cylinder shaft and engaging the gear wheel thereon, a positive clutch member also slidably mounted upon the box cylinder shaft and engaging the gear wheel thereon, a cam shaft parallel with the said cylinders, a cam upon the said cam shaft, a lever engaging and operating the friction clutch member, the said lever being controlled by the said cam, a second cam upon the said cam shaft, a second lever engaging and operating the positive clutch member, the said lever being controlled by the said second cam, a locking device applied to the box cylinder shaft to lock it in the outer position of adjustment, and a cam upon the cam shaft for the control of the said locking device, serving to release the locking device after the clutches have been engaged, substantially as hereinbefore described.

7. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder, frame members in which said impression cylinder is carried, slideways in said frame members, bearings within said slideways, a fixed cylinder shaft mounted in said bearings, means for adjusting said bearings in said slideways, a gear wheel secured to and co-axial with said impression cylinder, a gear wheel loosely mounted upon said box cylinder shaft, a box cylinder upon said box cylinder shaft, a friction clutch member slidably mounted upon the box cylinder shaft to engage the gear wheel thereon, a positive clutch member also slidably mounted upon the box cylinder shaft to engage the gear wheel thereon, a rotatable cam shaft parallel with the impression cylinder, two cams upon the said cam shaft, two levers respectively engaging the said cams and operating respectively the friction clutch member and the positive

clutch member, a recess in one bearing of the box cylinder shaft, a cam upon the said cam shaft, a longitudinally movable member engaging the said cam and operated thereby to enter the recess when the box cylinder shaft is in the position away from the impression cylinder, and means for rotating the cam shaft for the engagement of the clutches and the disengagement of the longitudinally movable member, substantially as hereinbefore described.

8. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder, a shaft adjustable towards and away from the said impression cylinder, a box cylinder upon the said shaft, a gear wheel in fixed relation with the impression cylinder, a gear wheel loosely mounted upon the box cylinder shaft and engaging the gear wheel of the impression cylinder, a friction clutch member slidably mounted upon the box cylinder shaft to engage the gear wheel thereon, a disc member slidably mounted upon the friction clutch member, a pin carried by the said disc member and slidably fitting a hole in the friction clutch member, a groove of increasing depth formed in the face of the gear wheel upon the box cylinder shaft adjacent the friction clutch member, a hole at the end of the said groove to receive the pin upon the disc member, a cam shaft carried in the said frame members, two cams upon the said cam shaft, two levers respectively engaging the said cams and serving respectively to operate the friction clutch member and the disc member, a recess in one of the bearings of the box cylinder shaft, a cam upon the cam shaft, a longitudinally movable member engaged with the said cam and adapted to enter the recess in the said bearing, and means to effect the rotation of the cam shaft to engage the clutches and disengage the longitudinally movable member in sequence, substantially as hereinbefore described.

9. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder, frame members in which said impression cylinder is carried, slideways in said frame members, two sets of connected bearings mounted in said slideways, two box cylinder shafts mounted in said sets of bearings, box cylinders mounted respectively upon the said two box cylinder shafts, and means for adjusting the said bearings in the said slideways to bring the box cylinder upon one of the shafts into engagement with the impression cylinder and the box cylinder on the other box cylinder shaft out of engagement with the impression cylinder, substantially as hereinbefore described.

10. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder, frame members in which said impression cylinder is carried,

slideways in said frame members, two sets of connected bearings mounted in said slideways, two box cylinder shafts mounted in said sets of bearings, box cylinders mounted respectively upon the said two box cylinder shafts, an eccentric shaft mounted in said frame members and engaging the connected bearings, and means for rotating said eccentric shaft for the adjustment of the said bearings in the slideways to bring the box cylinder upon one of the shafts into engagement with the impression cylinder and the box cylinder on the other box cylinder shaft out of engagement with the impression cylinder, substantially as hereinbefore described.

11. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder, frame members in which said impression cylinder is carried, slideways in said frame members, two sets of connected bearings mounted in said slideways, two box cylinder shafts mounted in said sets of bearings, box cylinders mounted respectively upon the said two box cylinder shafts, an eccentric shaft mounted in said frame members and engaging the connected bearings, means for rotating said eccentric shaft for the adjustment of the said bearings in the slideways to bring the box cylinder upon one of the shafts into engagement with the impression cylinder and the box cylinder on the other box cylinder shaft out of engagement with the impression cylinder, a crank upon said eccentric shaft, a crank pin upon said crank, a rod extending from said crank pin transversely to the axis of the said eccentric shaft, an anchorage upon one of the frame members for the outer end of the said rod, a collar upon the said rod and a compression spring upon the said rod between the anchorage and the collar, substantially as hereinbefore described.

12. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder, frame members in which said impression cylinder is carried, slideways in said frame members, two sets of connected bearings mounted in said slideways, two box cylinder shafts mounted in said sets of bearings, box cylinders mounted respectively upon the said two box cylinder shafts, means for adjusting the said bearings in the said slideways to bring the box cylinder upon one of the shafts into engagement with the impression cylinder and the box cylinder on the other box cylinder shaft out of engagement with the impression cylinder, gearing between the impression cylinder and the respective box cylinder shafts, clutches between the respective box cylinder shafts and the gear wheels thereon for engaging the gear wheels in one determined position, a control element in respect of each box cylinder shaft determining the opera-

tion of the corresponding clutch, a locking device applied to each box cylinder shaft to lock it in the outer position of adjustment and to prevent disengagement of the clutch in the inner position of adjustment, and means upon each control element for releasing the corresponding locking device when the corresponding clutch has been engaged, substantially as hereinbefore described.

13. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder, a shaft adjustable towards and away from the said impression cylinder, a box cylinder slidable upon the said shaft, a securing device mounted upon said box cylinder to lock the same in position upon the box cylinder shaft, gearing between the impression cylinder and the box cylinder shaft, a clutch between the box cylinder shaft and the gear wheel thereon for engaging the gear wheel in one determined position, a control element determining the operation of the clutch, a locking device applied to the box cylinder shaft to lock it in the outer position of adjustment, and means upon the control element for releasing the locking device when the clutch has been engaged, substantially as hereinbefore described.

14. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder, a shaft adjustable towards and away from the said impression cylinder, a longitudinal feather upon the said shaft, a box cylinder slidable upon the said shaft and upon the said feather, a rotatable catch member mounted upon the said box cylinder, recesses in said feather in which the rotatable catch member may engage, gearing between the impression cylinder and the box cylinder shaft, a clutch between the box cylinder shaft and the gear wheel thereon for engaging the gear wheel in one determined position, a control element determining the operation of the clutch, a locking device applied to the box cylinder shaft to lock it in the outer position of adjustment, and means upon the control element for releasing the locking device when the clutch has been engaged, substantially as hereinbefore described.

15. Late news printing mechanism for newspaper printing presses, comprising an impression cylinder, frame members in which said impression cylinder is carried, slideways in said frame members, bearing within said slideways, a box cylinder shaft mounted in said bearings, means for adjusting said bearings in said slideways, a gear wheel secured to and co-axial with said impression cylinder, a gear wheel loose upon said box cylinder shaft, a box cylinder upon said box cylinder shaft, a positive clutch engaging the box cylinder shaft with the gear wheel thereon in one determined posi-

tion, a cam shaft carried in said frame members, a cam upon said cam shaft or operating said clutch, a locking device upon said frame members locking the bearings of the box cylinder shaft in the outer position, a cam upon said cam shaft for releasing said locking device when the clutch is engaged, a disc upon said box cylinder shaft, a cam upon said cam shaft, a lever engaging said cam, and a brake shoe carried by said lever 10 for engagement with said disc, substantially as hereinbefore described.

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