

No. 809,748.

PATENTED JAN. 9, 1906.

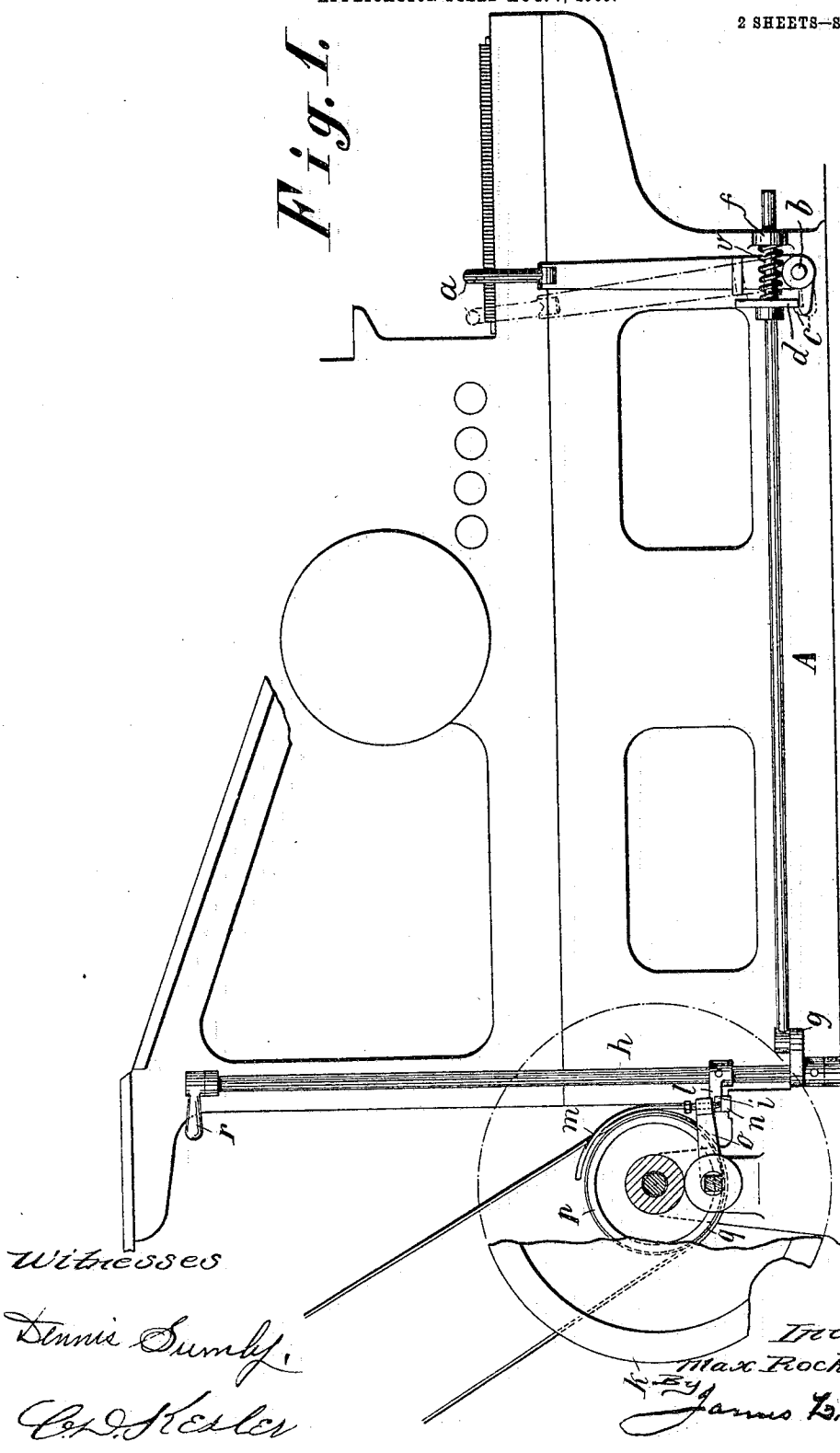
M. ROCKSTROH.

SAFETY DEVICE FOR TWO REVOLUTION PRINTING PRESSES.

APPLICATION FILED AUG. 7, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

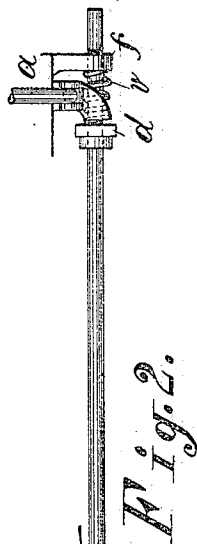


Fig. 2.

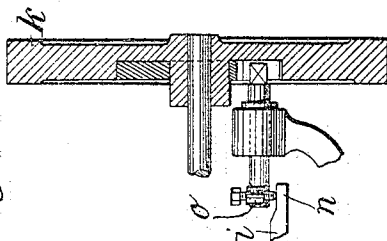


Fig. 4.

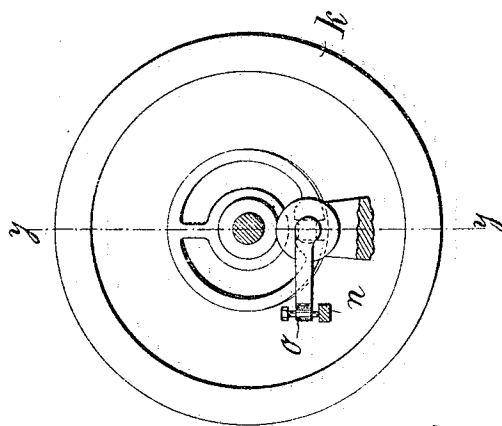


Fig. 3.

Witnesses

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SAFETY DEVICE FOR TWO-REVOLUTION PRINTING-PRESSES.

No. 809,748.

Specification of Letters Patent.

Patented Jan. 9, 1906.

Application filed August 7, 1905. Serial No. 273,151.

To all whom it may concern:

Be it known that I, MAX ROCKSTROH, director of the Maschinenfabrik Rockstroh & Schneider Nachf., Actien-Gesellschaft, of Dresden-Heidenau, Saxony, in the German Empire, have invented certain new and useful Improvements in Safety Devices for Two-Revolution Printing-Presses, of which the following is a clear and distinct description.

10 Safety devices consisting of a throw-off lever have become known in connection with platen printing-presses by means of which whenever the hand of the operator comes accidentally in contact with the safety device, 15 and thereby changes its position, the press is thrown out of engagement and the revolution of the fly-wheel arrested, the hand being consequently protected against injury. In two-revolution printing-presses there is risk 20 of injury to the operator whenever the latter attempts at the last moment, while the carriage carrying the form is already in motion, to make level "types - picks," as they are called, which may happen to stand out some- 25 what from the general level of the form. If that is done, the operator runs the risk of having his hand caught between the inking and distributing cylinders. In order to obviate this risk, there has been provided, in 30 printing-presses of the type to which this invention relates, a safety device of a similar character as has already been employed in connection with platen printing-presses, consisting of a rotating throw-off lever, which is 35 fixed in front of the rollers and above the form and the position of which is changed by the hand of the operator coming in contact with it to such an extent that it releases a connecting-rod actuated by a spring, by 40 which means the press is thrown out of engagement and the revolution of the fly-wheel is simultaneously arrested.

Figure 1 of the accompanying drawings is a side elevation, partially in section, on the 45 line *x x* of Fig. 2 of a two-revolution printing-press provided with the safety device in accordance with the invention. Fig. 2 shows a plan of the safety device. Fig. 3 shows in elevation, and Fig. 4 in vertical section, on the 50 line *y y* of Fig. 3 the position of the brake-lever of the fly-wheel.

The throw-off lever *a* is rotatably mounted by pivots *b*, fixed to the frame of the press. The horizontal arm of the lever *a* lies so 55 closely above the form that there is not suffi-

cient space for the hand of the operator to pass between it and the form without touching the lever. A connecting-rod *A*, one end of which moves in a sleeve *f* on the frame, while its other end is flexibly connected with a lever *g*, by 60 means of which the press is uncoupled and again put in engagement, runs along the side of the press. The sleeve *f* acts simultaneously as counter-bearing for the spiral spring *o*, which winds around the rear end of the connecting-rod *A* and presses against a disk *d*, 65 mounted upon the connecting-rod. The tendency of this spring *o* is to push the connecting-rod *A* toward the left, and so to throw the press out of engagement. A hook *c*, attached to the 70 pivoted end of the bearing-arm of the throw-off lever *a*, projects beyond the edge of the disk *d* when the press is in engagement and keeps the spring *o* under tension. The lever 75 *g* is rigidly connected with the vertical rocking shaft *h*, which for the purpose of enabling the press to be put in engagement is provided at its upper end with a handle *r*. The forked 80 lever *l*, rigidly mounted upon the rocking shaft *h*, engages with its fork a pin on the bar *n* of the belt-fork, the end of which in proximity to the fly-wheel is provided with a cam-like projection *i*, that actuates the brake-lever *o* of the fly-wheel. The brake-lever *o* is a 85 bell-crank lever mounted to oscillate in a block or in the frame, one arm of it being pressed by means of a spring against the cam-like projection of the bar *n*. The bar *n* in moving to and fro raises and lowers the free 90 arm of the bell-crank lever *o*, the lever itself being turned in its bearings, while the other arm compresses or expands a brake-ring arranged within the fly-wheel and so arrests the revolution of the latter at the same time with 95 the press being thrown out of engagement or releases it again when the press is again coupled.

The mode of operating the device is as follows: If after the press has been started the hand of the operator should come in contact 100 with the throw-off lever *a*, the latter will be pushed in the direction of the press, with the result that the pressing of the hook *c* down and releasing the disk *d*. The connecting-rod *A*, actuated by the spring *o*, presses for- 105 ward and by means of the lever *g* turns the rocking shaft *h*, and the forked lever *l* with it, in such a manner as to cause the latter to shift the bar *n* with the belt-fork *m* and the cam-like projection *i* in proximity to the fly- 110

wheel to the lift. This results in the belt being shifted from the rigidly-mounted pulley *p* to the loosely-mounted pulley *g*—that is to say, the press is thrown out of engagement.

5 The cam-like projection *i* on the bar *n* is at the same time brought beneath the brake-lever *o* and by actuating the same effects the stopping of the fly-wheel. If it is intended to place the press again in engagement, it is

10 necessary to turn the handle *r*, and consequently the rocking shaft *h*, in the opposite direction. By doing so the connecting-rod *A* is pushed back into its initial position and the spring *o* is again put under tension, while

15 the disk *d* is caused to lie against a lateral projection on the arm of the safety-lever, and so pushes the latter back into its upright position. Thereupon the hook *c* will again pass in front of the disk *d* and retain the connecting-rod in the coupling position, the free arm of the bell-crank lever *o* being simultaneously lowered and the connection between the brake-ring and the fly-wheel uncoupled in this manner.

20

25 Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

30 1. In a safety device for printing-presses, a belt-shifting device having a braking device, a throw-off lever having an arm projecting over the form of the machine and pivotally mounted to the frame thereof, and a spring-controlled rod connected to the belt-shifting

device and adapted to be actuated by the 35 throw-off lever.

2. In a safety device for printing-presses, a throw-off lever having an arm projecting over the form of the latter, a belt-shifting element having a braking device for the fly-wheel of 40 the press, a spring-controlled rod engaging the belt-shifting element, and means for setting the rod in an operative position, said throw-off lever maintaining the rod in a set position and adapted to release the same 45 when the hand of the operator is brought in contact therewith.

3. In a printing-press, a safety device including a throw-off lever adapted to extend 50 over the face of the form of the press, a belt-shifting device, a brake member coöperative with the latter for arresting the fly-wheel of the press, a spring-actuated rod connected with the belt-shifting element, and a hand- 55 operable lever for setting the rod in an operative position, said throw-off lever adapted to release the rod for operating the belt-shifting element and brake member when the hand of the operator contacts with said throw-off lever. 60

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

MAX ROCKSTROH.

Witnesses:

PAUL E. SCHILLING,
PAUL ARRAS.