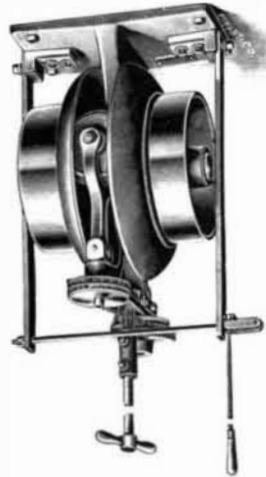


AN EFFICIENT SPEED CONTROLLER.

The speed controller shown in the illustration is designed to take the place of and supersede the old style cone countershaft, giving in its place a controller much more compact in design and having for its peculiar advantages the facility of changing the speed to any desired rate within its scope, even to the fewest number of revolutions. This is effected without loss of time on the part of the operator or the touching of the belt, but simply by turning a lever from right to left, or left to right, as he may wish to increase or decrease the speed of his machine, thereby avoiding all danger from accident incident to handling the belt or soiling the hands from coming in contact with it.

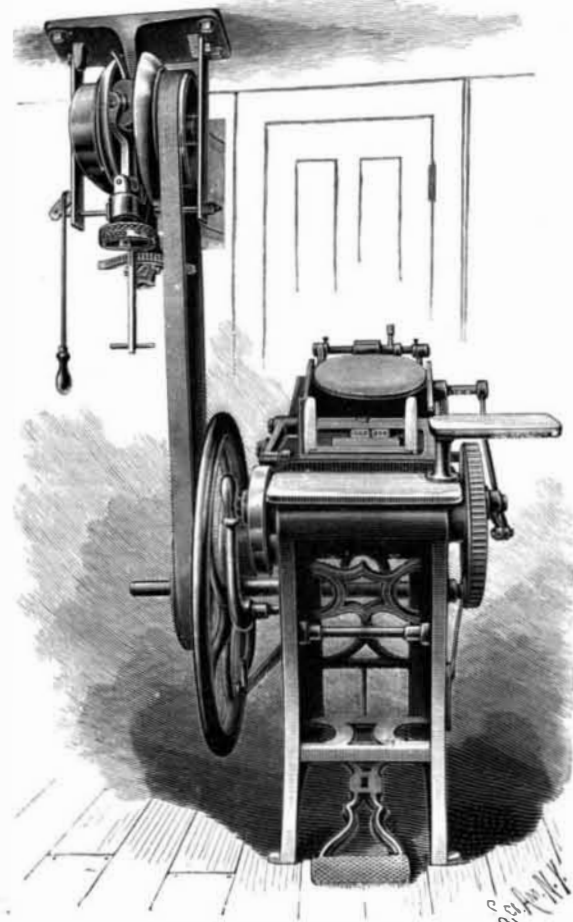
This controller can be successfully applied to all machines now in use when it is particularly desirable to obtain the intermediate rates of speed which occur between the steps or risings of the cone pulley, and meets a demand which has existed since the cone sys-



THE CUMMINGS' SPEED CONTROLLER.

tem has been known. It has been thoroughly tested during the past three years in actual everyday shop and factory service in the running of printing presses, winding, screw, grinding and knitting machines, drills, lathes, and film machines, and has elicited high commendation and duplicate orders from those who have used it.

The belt pulley, receiving motion from any suitable driving or countershaft, has connected to it or forming part of it a concave annular grooved face to be entered by one or more shiftable friction disks, a similar friction face being connected to or forming a part of the belt pulley of the machine to be driven, and the lateral movement of the lever which regulates the position of



CUMMINGS' SPEED CONTROLLER APPLIED IN RUNNING A PRINTING PRESS.

the contacting points of the disks with the two friction pulleys adjusts the speed of rotation of the driven pulley. It is patented by Henry H. Cummings, and is manufactured as represented in the illustration by H. H. Cummings & Company, No. 110 High Street, Boston, Mass. It can be and has been made to operate automatically with complete success when desired, a feature which constitutes a very important peculiarity of the device.

Chinese Labor and Wages.

T. R. Jernigan, United States consul at Shanghai, has made a report to the State Department in which are presented in detail the amounts of wages paid in that country for skilled labor. The sums are stated in American currency, and the wages may be understood as with food except in cases where asterisks are used:

Description.	Per Day.	Per Month.
Blacksmith.....	\$0 13	....
Brassworker.....	16	....
Barber.....	3	....
Bootmaker:		
Native.....	10	....
Foreign.....	....	\$5 28
Bamboo cabmaker.....	11	....
Bricklayer.....	10	....
Compositor:		
Native.....	....	5 28
Foreign.....	....	\$7 92 to 15 84
Carpenter.....	11	....
Cabinetmaker.....	11	....
Coolie*.....	13	....
Bookbinder:		
Native.....	....	4 22
Foreign*.....	....	6 34
Lithographer*.....	....	10 56
Furniture polisher.....	21	....
Tailor:		
Native.....	10	....
Foreign.....	....	6 34
Pressman.....	....	6 34
Coachman:		
Native.....	....	3 17
Foreign.....	....	6 34
House Boy:		
Native*.....	....	2 11
Foreign.....	....	4 75
Cotton mill machinist*.....	\$0 11 to 22	....
Cotton factory hands*.....	16	....

Cutting a Gasket.

The inexperienced engineer who tries to cut a gasket by first marking it out with a rule and dividers and then spaces off and lays out the holes is very clearly "not in it" with the man who understands his business, says Tradesman. That man will not try any measuring or spacing business, but will place the sheet of rubber on the flange it is to fit and with a small round-faced hammer he will go lightly over each line of surface boundary, both curved and straight. He will tap lightly so as not to strike through the rubber cloth and damage the iron work, yet the blows are heavy enough to cut the fabric nearly if not quite in two. If there are several holes or a more or less complicated outline to be cut, he will first cut one or two of the bolt holes, then put bolts or tightly fitting pieces of wood in the holes cut to hold the gasket in place while he is cutting the balance of the way around. In this manner the gasket is cut out exactly to the shape of the surface upon which it is to be placed, and that, too, without the trouble of measuring, using dividers or maintaining a knife sharp enough to cut rubber. The only requirement is to strike light with the hammer, so as not to injure the corners of the iron.

Fall of a Glacier.

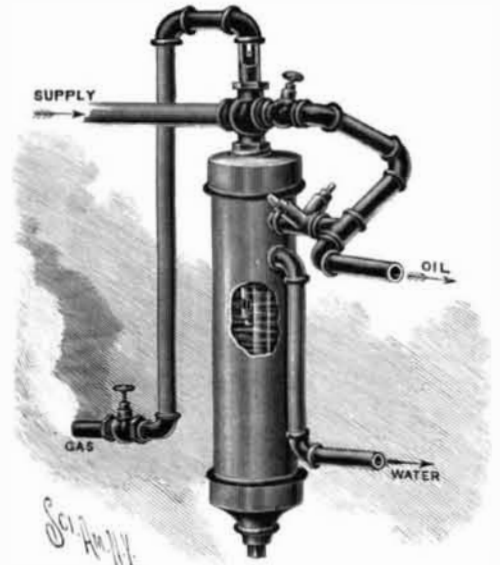
Engineering describes the fall of a glacier in the Bernese Oberland about 5 A. M. on September 11, 1895, from an altitude of 10,823 feet above sea level. The whole mass, estimated to be half as large again as the largest of the pyramids of Egypt, leaped down 4,600 feet to the bottom of the valley, then up 1,300 on the other side and back into the valley just far enough to not destroy the watercourse through it. It appears to have jumped the watercourse, moving as a solid mass. It only took about twenty seconds in its first downward plunge, ten in its leap upward, and ten in falling back, so that at the end of forty seconds the mass had changed its place from near the top of the mountain to the farther side of the valley, where it buried nearly one square mile of rich pasture to the depth of six feet. A similar ice avalanche is recorded as having occurred at the same spot on the same day of the year in 1782.

SEPARATING GAS AND WATER FROM OIL.

The separation of gas and water from oil as the latter flows from a well, and before it has reached a tank, is designed to be automatically effected by the separator shown in the accompanying illustration, the improvement making it possible to dispense with a great deal of the tankage room heretofore required, and saving expense and labor for steam. A patent has been granted for this invention to Benton Gilmore, of Deerfield, Pa., and the improvement is being introduced by F. A. Wood, of Grand Valley, Pa. The upper end of the cylindrical body of the device is closed by a cap through which a fitting tube passes down to nearly the center of the cylinder, and on the tube, above the cap, is a four-way fitting forming a confluent chamber, one arm of the fitting being connected with the supply pipe from the well. An upwardly extending pipe is curved and leads downward at one side, forming a gas delivery pipe, while opposite the supply pipe leads a pipe having a check valve, and connected by a union with a branch pipe, preferably made up of fittings, so that it may be given any desired inclination, and the

latter pipe is connected with an oil outlet from the body of the device.

The oil outlet is a four-way fitting, and, by removing the plugs from one of the arms, one may observe the flow of oil through the outlet or main arm. The pipe opposite the supply pipe is not employed when the well flows water as well as oil, and in the upper portion of the gas delivery pipe is a reducing nipple, below which the pipe forms a gas chamber, preventing any escape of oil in case of a heavy flow. The lower end of the pipe extending down into the cylinder from

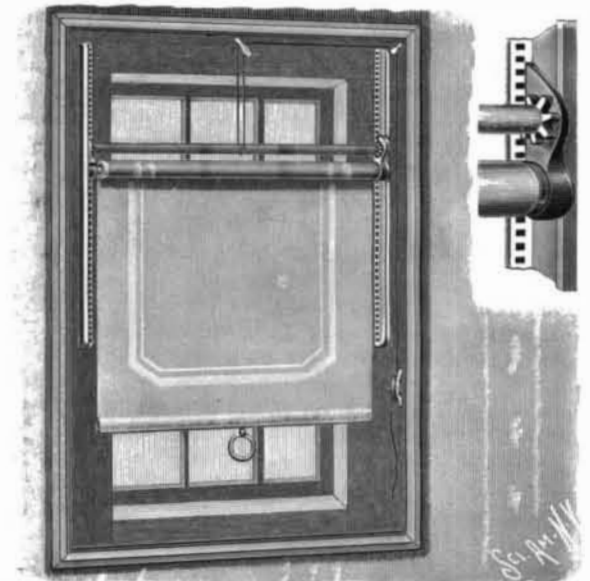


GILMORE'S SEPARATOR.

the top is plugged, and has adjacent apertures, forming a separator, and just below the oil outlet is a water delivery pipe whose inner end extends nearly to the bottom of the cylinder. In operation, the gas received from the supply pipe is designed to pass off from the fitting at the top, through the gas outlet, the water and oil passing together through the separating chamber, and each, from their differences in gravity, passing out by their respective outlets.

AN IMPROVED SHADE SUPPORTER.

The shade-supporting device shown in the illustration is adapted to sustain a shade roller adjustably in position at any desired point on the window frame, thus making it convenient to admit light from the top of a window only when such arrangement of the shade is preferred. The improvement has been patented by Joseph W. Turnbull, and is being manufactured by Turnbull & Hennessy, No. 308 Baronne Street, New Orleans, La. Rack bars, on which are vertical guideways, are secured to the side rails of the window frame, and in these guideways slide bearing blocks in which are journaled the ends of a transverse shaft, gears at the ends of the shaft engaging the rack bars. One of the bearing blocks is shown in the small view, and



TURNBULL'S SHADE SUPPORTER.

these blocks, in connection with the shaft, form a supporting frame in which is journaled the shade roller. The shade supporter is drawn up or lowered by means of a cord passed over pulleys at the top and one side, the end of the cord being secured to a retaining device at one side. As the supporting frame and shade are raised or lowered they are guided by the engagement of the slide blocks and the teeth of the gears with the rack, the shade being unwound or wound to properly shade the window after the frame has been adjusted to the desired position. A slot in one of the slide blocks at one side permits the ready removal of the shade from its support. The shade cannot fall under any circumstances, the device is inexpensive and may be readily put up by any one, and the shade is at all times held perfectly level.