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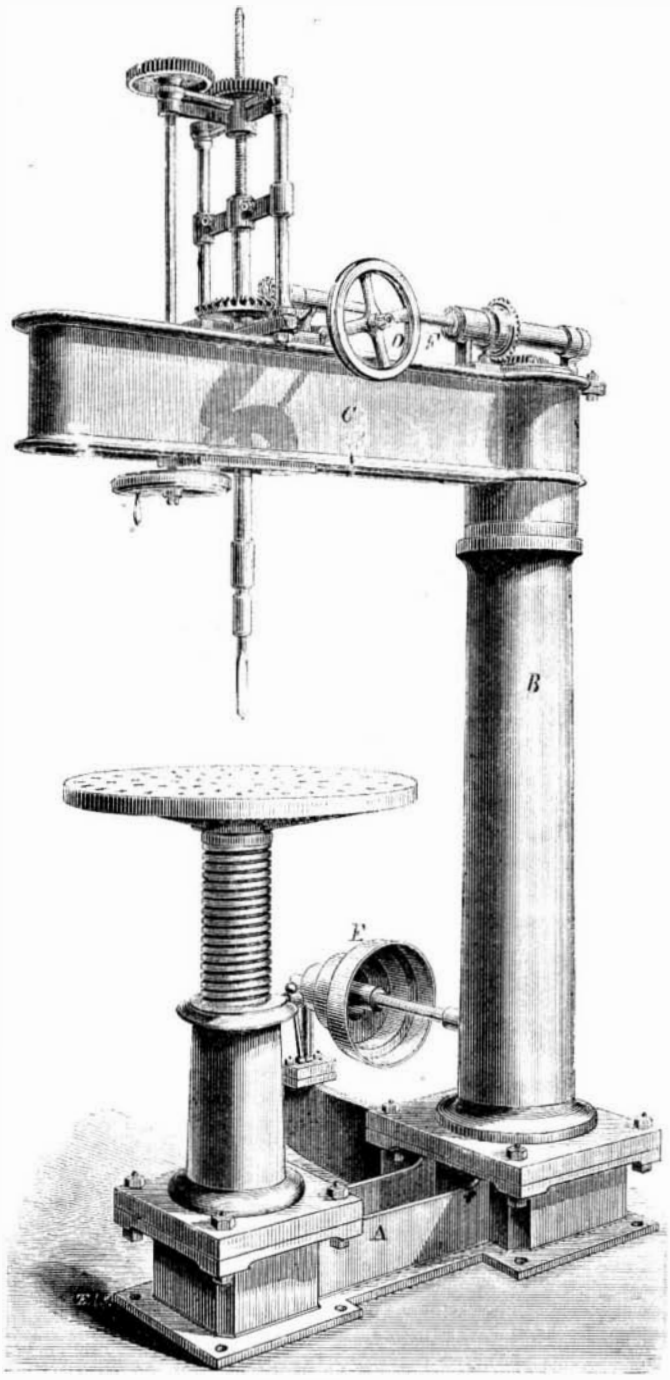
Improved Radial Drill Press.

There is no more indispensable machine in metal-working establishments than a good drill press; and a great deal of ingenuity can be shown in planning them so as to obtain the greatest possible efficiency for the least weight of metal and cost. The kind of work that has to be done under a drill press varies greatly even in shops where one article is manufactured; as, for instance, turbine wheels. One branch demanding long drills to reach past shoulders on the job, which prevent the spindle from being run down, and another requiring the table to be turned out of the way entirely so that the work may set on the floor, or still other jobs running from small holes to large ones. For these reasons it is desirable to have the machine well arranged to accommodate all classes, and we believe the necessary ends are combined in this one.

In detail it comprises a base, A—to be set in the floor, on a foundation of brick work—an upright column, B, and a radiating arm, C, fitted to a neck at the top of the column, and traversing freely in all directions. In this slides the head carrying the drill spindle, which is moved backward and upward by a rack (not shown in the engraving), with pinion and hand wheels, D, one of which is on each side of the machine. The power is derived from a countershaft overhead, a belt from which drives the horizontal shaft, E, passing through a bearing in the side of the column. From this the motion is communicated by two pairs of miter wheels and an upright shaft in the center of the column, to the shaft, F, passing through a sleeve or barrel running in bearings on top of the arm, and provided with a feather, to allow it to slide freely with the motion of the head. The drill spindle is driven by a pair of bevel wheels in the usual manner, and the head in which it runs, with the frame-work carrying the feed wheels and screw, slides within the arm, which is open from end to end and planed up on the bearing surfaces.

It will be seen that the arm or swing is allowed to traverse freely in all directions—the only interference being from the driving belt—and that there is secured besides a longitudinal motion of the drill within the arm. A large number of holes may thus be drilled in succession in the same surface, without moving the work; an advantage which will commend itself to machinists. It is especially useful in fitting up such work as steam cylinders, heads, and steam chests, which, by its means, can be drilled at one sitting instead of many, and has been approved and adopted, particularly in railroad and locomotive shops. The machine is provided with a horizontal table with screw and nut, for small work.



BARR & CO.'S RADIAL DRILL PRESS.

Manufactured by Robt. H. Barr & Co., machinists, Wilmington, Del., to whom all communications should be addressed.

THE steamship *Glasgow*, of the Inman line, was recently burned at sea. No lives were lost.

THE STORY OF THE MAN WHO FLEW.

The Chicago *Tribune* contains a letter from one Walter V. Collins, written at Minneapolis, Minnesota, giving an account of a modern Icarus, who flew by means of bladders, copper cylinders, parachutes, and kites with rope ladder tails. We print the portion of this letter which describes Mr. Smith, the flying man, and his apparatus, merely remarking with all deference to the names of the respectable citizens appended as witnesses to the feat, that the narrative has a very aerial sound.

"This morning at 11 o'clock, the hour appointed, we were promptly at Mr. Smith's store, and found him ready to start. At the door there stood two teams and wagons, one of which contained what I supposed to be a canvas tent, with poles, etc. In the other we took our seats. The party consisted of Mr. Smith and his clerk, James McLennan, Capt. Cobb and myself, Patrick Riley and Andrew Ward, the drivers; six in all. Mr. Smith was enveloped in a large linen duster, which quite concealed his person. During the ride he appeared rather serious and taciturn. In two hours we reached a point about twelve miles west of the city, and there stopped. The country was a rolling prairie, wholly uncultivated, and with no traveled road for several miles on either side. The canvas, etc., was taken out and spread upon the ground, and I found to my amazement that instead of a tent it was an immense kite, made of sail cloth, with a strong jointed frame. It was of the kind known as the 'house kite,' hexagon form, and when put together was twenty-five feet in length, thus containing an area of over 500 square feet. Its cord was about the thickness of my little finger, but of great strength, having been manufactured to order. The tail of the kite was merely a light rope ladder. Mr. Smith now threw off his linen duster, and I could scarcely avoid laughing at his extraordinary appearance. Beneath his arm pits, and extending around his body, there was a copper cylinder, a foot wide from top to bottom, and about two feet in diameter. His ordinary clothing had been replaced by a tight-fitting suit of ribbed cloth, made apparently all in one piece. Attached to his arms and body were a pair of webbed wings of strong material with a light framework of steel. When at rest, these wings (if I may so call them) hung loosely about him like a closed umbrella, but when his arms were raised they became extended and gave him an odd resemblance to the 'Green Monster' in the pantomime. Scores of ordinary bladders were fastened to the suit above-mentioned, and equally in every part. Some were placed close to the body, and others depended at various lengths, from one to three feet. From the mouth of each a hollow, flexible tube communicated with the cylinder. These, if extended, would consequently form a net-work of air tubes. I made these obs[illegible] hastily, for Mr. Smith at [illegible] himself upon the rope ladd[illegible]ested that the kite, which h[illegible] set up on a slight elevation, should be raised. The Captain and myself called out together that he had forgotten his parachute; but he replied impatiently that he did not need it. We declared, however, that we would not permit so foolhardy an experiment unless this precaution were taken, and after a little parley he consented. A steady breeze was now blowing from the southeast. Riley and Ward took their place in the wagon beside the coil of rope; McLennan acted as driver while