"SISKOL"

COAL-CUTTER

INTERNATIONAL
CHANNELLING
MACHINES LTD.
SHEFFIELD.

INTERNATIONAL CHANNELLING MACHINES, LIMITED.

SHEFFIELD: 490, *PENISTONE ROAD.*

Telegrams:
"*CUTTABIT, SHEFFIELD.*"

Telephone:
205 OWLERTON.

CODES:- A.B.C. 4TH & 5TH EDITIONS, WESTERN UNION,
WESTERN UNION FIVE LETTER EDITION,
MOREING AND NEAL.

LONDON: 529/531, *SALISBURY HOUSE, E.C. 2.*

TELEPHONE No. 7727 LONDON WALL. TELEGRAMS: "CUTTABIT."

JOHANNESBURG: 111 & 112, *CULLINAN BUILDING.*

TELEPHONE No. 2643. TELEGRAMS: "SISKOL." P.O. BOX 1382.

1929

INDEX.

INTERNATIONAL CHANNELLING MACHINES Ltd.

THE "SISKOL" COAL-CUTTER

IS USED FOR

DRIVING HEADINGS. BORD AND PILLAR OR STOOP AND ROOM WORK. LONGWALL WORK UNDER CERTAIN CONDITIONS. LONGWALL ON THE STEP SYSTEM. MAKING STABLE HOLES FOR LONGWALL MACHINES.

MAKING VERTICAL CUTS OR SHEARS ON LONGWALL FACES TO REDUCE SHOT-FIRING.

RIPPING OR BRUSHING. STONE HEADINGS OR DRIFTS.

WORK WITH PLUG AND FEATHER WEDGE.
CHANNELLING IN SURFACE TRENCH WORK.

THE "SISKOL" COAL-CUTTER

Description

This machine is of the percussive type and consists of five essential parts, viz. :—

1. **COLUMN.**—The supporting column is of simple and substantial construction. The length, when the screw is home, should be 6 in. less than the height of the seam in which the machine is to be used. The weight varies according to length (a 4 ft. column weighs 120 lb.).

2. **SEGMENT.**—This is made in two types—the J.D. and the shearing pattern. The J.D. pattern illustrated on pages 10, 12, 26 and 28 is for holing only, and the machine cuts at right angles to the supporting column. Where shearing or nicking is not needed this type is to be recommended. It can, from one setting, cut a place up to 22 ft. in width, and gives a greater degree of stability to the Coal-Cutter when at work.

   The shearing pattern illustrated on pages 14, 16, 18, 20, 22 and 24 is for use when nicking or vertical cutting, in addition to holing, is desired, inasmuch as with this type of segment the machine can cut at any height or angle in a seam.

   The weight of the J.D. segment is 116 lb. and the shearing pattern 107 lb.

DESCRIPTION—*continued.*

3. **DRILL.**—The air drill is of special construction, particularly suited for coal cutting. It is provided with a safety arrangement, which prevents breakages in the event of the cutting bit not striking the coal or other material in which it is cutting or boring.

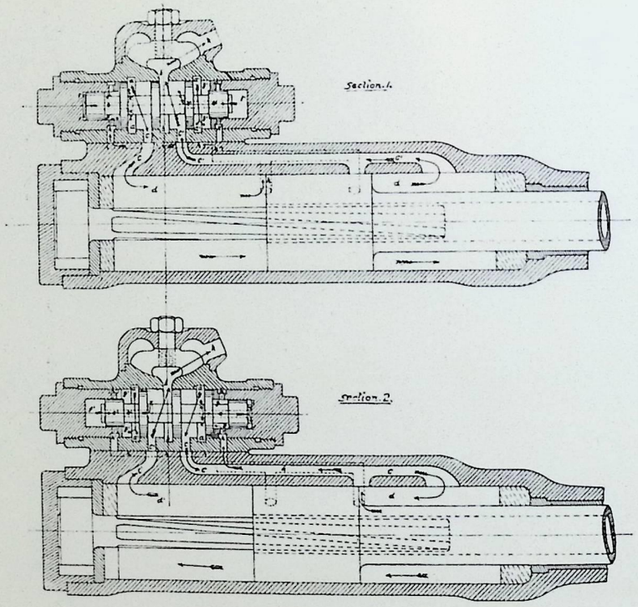
   The weight of the standard size of drill is 264 lb.

4. **EXTENSION RODS.**—Five rods, 20 in., 40 in., 60 in., 80 in. and 100 in. long respectively are used. The weight of a set is 115 lb. These are made of steel with symmetrically conically turned ends. One end fits the drill chuck and the other the cutting bit. The conical ends ensure good grips, and at the same time can be very easily disconnected.

   To remove the extension rod from the drill chuck, use is made of a steel drift fitting into a slot in the drill chuck.

5. **CUTTING BITS.**—Weight, 5 lb. These are of 3 in. diameter, and are made of tool steel. They are usually provided with five cutting prongs or edges. Under certain conditions it may be advisable to use bits with three or seven prongs.

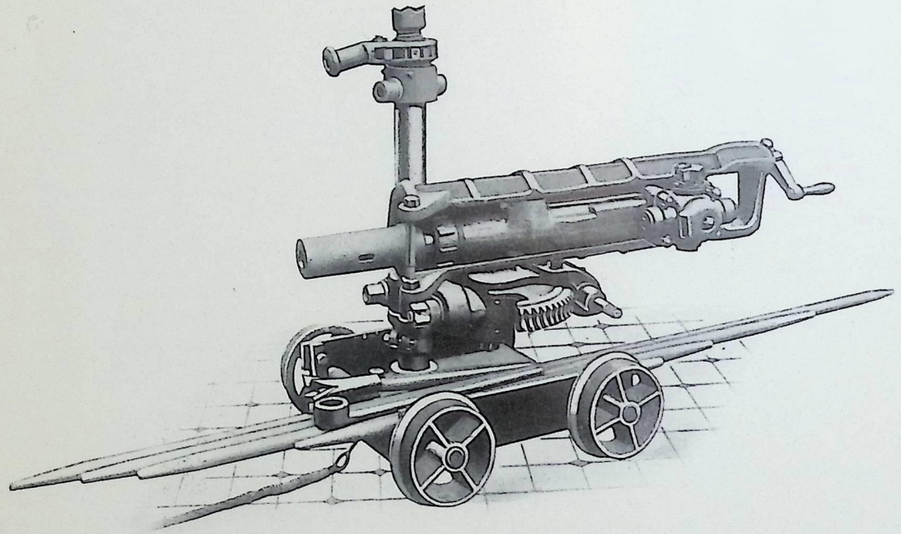
   To disconnect the cutting bit from the extension rod the latter is held in an upright position, allowing the teeth of the bit to rest on the floor, and a smart blow with a hammer is delivered on the shoulder of the cutting bit. Through striking these blows it is evident that the extension rod will become dented, and it is necessary that the dented end of the extension rod should always be used for the cutting bit, whilst the other end should always be inserted in the drill chuck. To avoid undue hammering of the cutting bits it is recommended to use separate cutting bits for each extension rod : they need then be removed only for sharpening purposes.



Valve of "SISKOL" COAL-CUTTER.

ACTION OF VALVE OF "SISKOL" COAL-CUTTER

THE diagrams on page 6 show the respective positions of the piston and piston valve at the moment of reversing. The compressed air which enters the cylinder *d* through ports *a* and *c*, drives the piston forward (as shown in section 1) or causes it to return (as shown in section 2). The piston valve is held in the position shown by means of the compressed air which passes through the port a^1 into the annular chamber g^1, simultaneously the compressed air passes through the ports *a* and *e* into the chamber *f*. The surface subjected to the air-pressure in chamber *f* is, however, smaller than the one in the annular chamber g^1, so that the piston valve must remain stationary until the piston passes and opens the reversing port *h*. When this takes place the compressed air rushes from the cylinder *d* through the ports *h* and *i* into the annular space *g*, thus counteracting the pressure in g^1, and the air pressure still existing in chamber *f* causes the piston valve to reverse. The compressed air in f^1 escapes through the ports e^1 and *b*; and then, together with the exhaust air from the cylinder, through the exhaust cap *k* into the open. The exhaust cap *k* is so designed that it admits of being revolved, thus enabling the exhaust air to be given any desired direction.



The "SISKOL" COAL-CUTTER on Carriage for Flitting intact for Heading Work.

TEN HEADINGS IN A SHIFT.

THE "SISKOL" holds the world's record for the greatest number of headings cut in one shift, *i.e.*, ten places, averaging 10 ft. by 5 ft., which was accomplished in a 9-hour shift at Mainsforth Colliery, Ferryhill, Co. Durham.

This work was done with the assistance of a carriage fitted to the machine (see illustration opposite). The machine was run up to the face of the heading and two chocks were placed underneath the carriage in order to lift the wheels off the floor. The column was then fastened, and when the cut was finished the column was slackened, the chocks removed from underneath the carriage, and the machine was then ready to be run into the next heading without any of the parts having to be detached. In this way the time occupied in flitting was reduced to a minimum.

This carriage is a simple contrivance, can be fitted to any machine and, of course, can be arranged to suit any gauge of rails.

The best work of a competitive machine, handled by the makers' experts and working under precisely similar conditions, was the cutting of *five* similar places in an 8-hour shift.

The certificate given by the Manager of the Colliery at the time is as follows :—

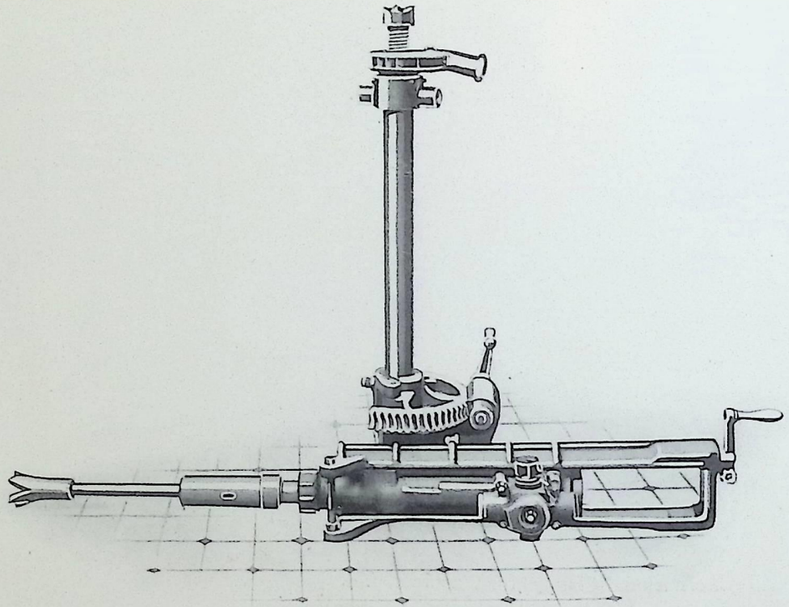
THE CARLTON IRON CO., LTD.,
MAINSFORTH COLLIERY, FERRYHILL, CO. DURHAM.

DEAR SIRS,

I hereby certify that the above statement of cutting ten (10) places, comprising 506 square feet, under 9 hours, with your newest type of "Siskol" machine, is correct.

F. J. H. LASCELLES, Agent.

Messrs. The International Channelling Machines, Ltd.



THE "SISKOL" COAL-CUTTER.

RECORD SPEED FOR SINGLE HEADING.

AT the Barlborough No. 2 Pit, belonging to Messrs. The Staveley Coal & Iron Co., Ltd., one "SISKOL" Coal-Cutter drove a heading 12 ft. wide in the Top Hard Seam, 4 ft. 3 ins. thick, a distance of 66 yards in one week. The previous rate of progress by hand was 12 to 15 yards per week.

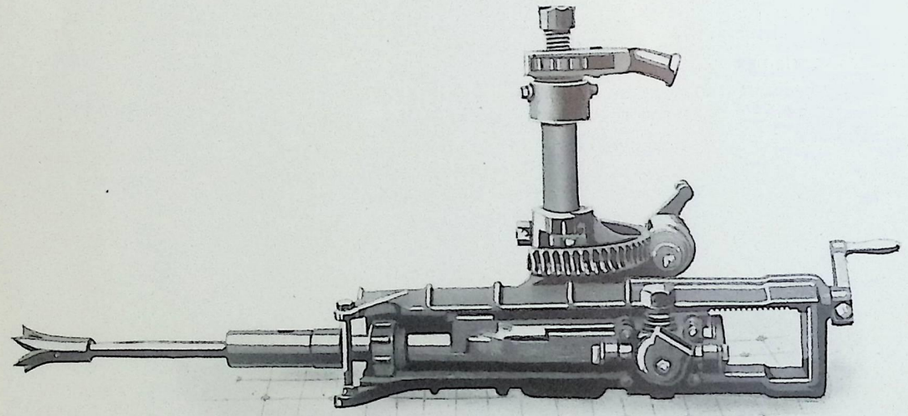
Many Colliery Managers are inclined to be dubious about this performance, but the following particulars as to how the work was done may possibly remove such misgivings.

It was desired to get a single heading through a pillar of coal with the utmost possible speed. The size of coal obtained was immaterial, speed being the one essential. The seam was 4 ft. 3 ins. thick and the heading 12 ft. wide. A time table was drawn up as follows :—

6 to 7 Cutting.	8.40 to 9.40 Cutting.	11.20 to 12.20 Cutting.
7 to 7.10 Shot-firing.	9.40 to 9.50 Shot-firing.	12.20 to 12.30 Shot-firing.
7.10 to 8.40 Filling.	9.50 to 11.20 Filling.	12.30 to 2 Filling.

Work was carried on 3 shifts in 24 hours and the same schedule adhered to during the shifts commencing 2 p.m. and 10 p.m.

The men engaged on the work at the face were a machine operator and his assistant, a collier and two fillers. A small branch from the main air pipe enabled a filler to bore the shot holes whilst the Coal-Cutter was in operation, the collier and the other filler setting the necessary timber and keeping the rails up to the face. Two sets of rails were maintained. The fillers had nothing to do but fill, and there was no waiting for tubs. If more than the allotted time were occupied in filling—say it took 1 hour 40 minutes instead of the schedule time of 1 hour 30 minutes—10 minutes was taken off the next cutting period in order to adhere to the time-table. Whilst the coal was being filled the machine men were keeping the pipe range in order. No ripping was done until the road was through the pillar.



THE "SISKOL" COAL-CUTTER.

MACHINES FOR "HOLING" ONLY.

THE illustration opposite shows the "SISKOL" fitted with the J.D. type of segment which has been designed for "holing" only.

This type of machine is capable of making a cut 22 ft. or so in width from one setting of the column and is particularly suited to places where shearing is unnecessary; it is also specially adapted for working on short longwall faces or where the step system is in vogue.

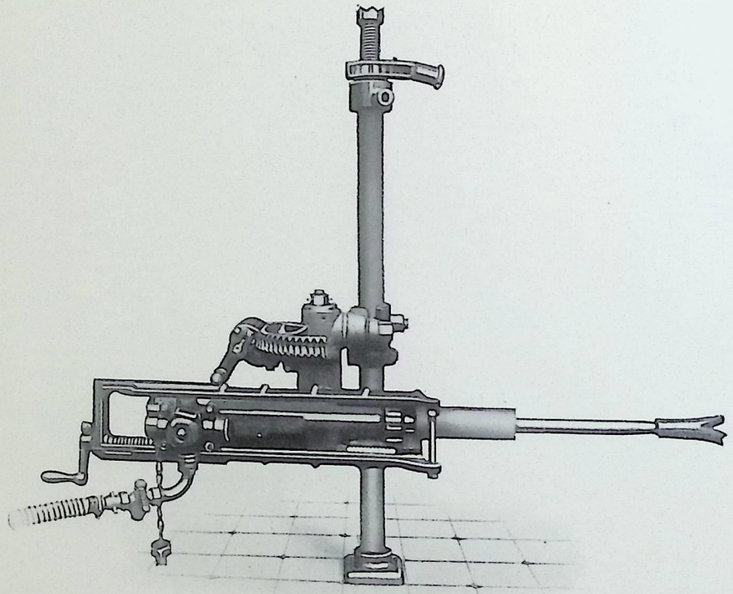
The following are particulars of work done at a large Durham Colliery with a "SISKOL" fitted with the above type of segment:—

BORD.	Commenced Cutting.	Finished Cutting.	Actual time Cutting	Time for Flitting and Re-erecting Machine.	Area Cut.	No. of Sq. Feet.
No. 1	2.0 p.m.	2.50 p.m.	50 min.	—	21′ 0″ × 5′ 0″	105
,, 2	2.56 ,,	4.5 ,,	69 ,,	6 min.	20′ 0″ × 5′ 0″	100
,, 3	4.12 ,,	5.10 ,,	58 ,,	7 ,,	20′ 0″ × 5′ 0″	100
,, 4	5.19 ,,	6.15 ,,	56 ,,	9 ,,	20′ 0″ × 5′ 0″	100
,, 5	6.25 ,,	7.20 ,,	55 ,,	10 ,,	19′ 0″ × 5′ 0″	95
,, 6	7.40 ,,	8.35 ,,	55 ,,	20 ,,	17′ 0″ × 5′ 0″	85
,, 7	8.46 ,,	9.28 ,,	42 ,,	11 ,,	16′ 0″ × 5′ 0″	80
,, 8	9.36 ,,	10.15 ,,	39 ,,	8 ,,	12′ 0″ × 4′ 7″	55
					Total Sq. Feet ...	720

The following certificate was given by the Manager of the Colliery:—

"I personally checked these times and measurements, and certify the same to be correct."

The above work was done in Bord and Pillar, and must not be confused with other performances done on a longwall, where it is possible to move a machine intact along the face without dismantling. This is some 50 per cent. better than that achieved by any other Coal-Cutter working from a column in Bord and Pillar work.



THE "SISKOL" COAL-CUTTER.

BORD AND PILLAR WORK

8 HOURS BANK-TO-BANK TEST RUN
AT
COWPEN COLLIERY, BLYTH, NORTHUMBERLAND

Between MAKERS' EXPERTS

□ □

Result:—

"SISKOL": 3 wide bords 18 ft. wide by 4 ft. deep and 3 narrow bords 9 ft. wide by 4 ft. deep.

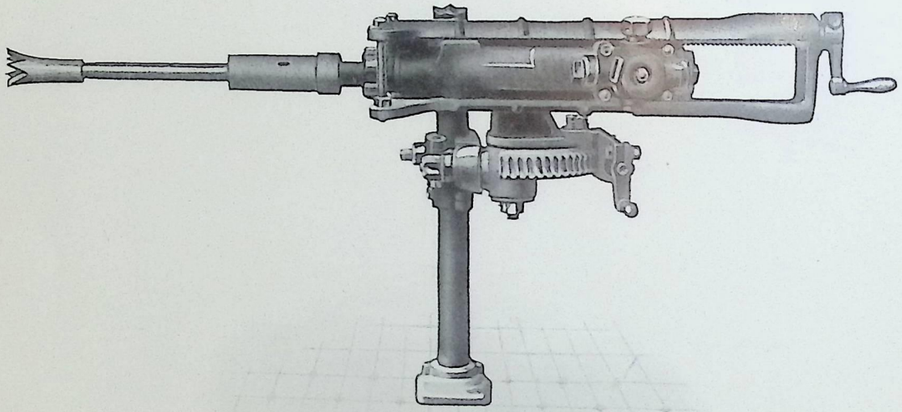
YIELD OF COAL 60 TONS

COMPETITIVE MACHINE: 3 wide bords 18 ft. wide by 4 ft deep.

YIELD OF COAL 40 TONS

□ □

The "SISKOL" performed its work under 8 hours bank-to-bank, whilst the competitive machine took more than a shift. Both machines were working under precisely the same conditions.



THE "SISKOL" COAL-CUTTER in position for cutting close to the Roof.

THE illustration on the opposite page shows the "Siskol" holing near the roof of a seam. Particulars of remarkably good work performed under the above conditions appear hereunder.

DAILY REPORT. **Agecroft Colliery, Pendlebury.**

Arrived at Colliery—9 p.m. **Arrived Underground —9.5 p.m.** **Arrived at Machine 9.15 p.m.**

	1st cut	2nd cut	3rd cut	4th cut	5th cut	6th cut	7th cut	8th cut
	min.	min.	min.	min.	min.	min.	min.	min.
Time occupied erecting machine	25	10	5	5	5	5	15	10
Started cutting	9.40	10.50	11.40	12.30	1.20	2.10	3.10	4.0
Finished cutting	10.40	11.35	12.25	1.15	2.5	2.55	3.50	4.45
	min.	min.	min.	min.	min.	min.	min	min.
Time occupied in cutting	60	45	45	45	45	45	40	45
	feet	feet	feet	feet	feet	feet	feet	feet
Measurement of work done	21×5	21×5	21×5	21×5	21×5	21×5	21×5	21×5
Square feet cut	105	105	105	105	105	105	105	105
Delays (due to machine)	—	—	—	—	—	—	—	—
Delays (not due to machine)	—	—	—	—	—	—	—	—
Air pressure at machine (lbs. per sq. in.)	60	60	60	60	60	60	60	60

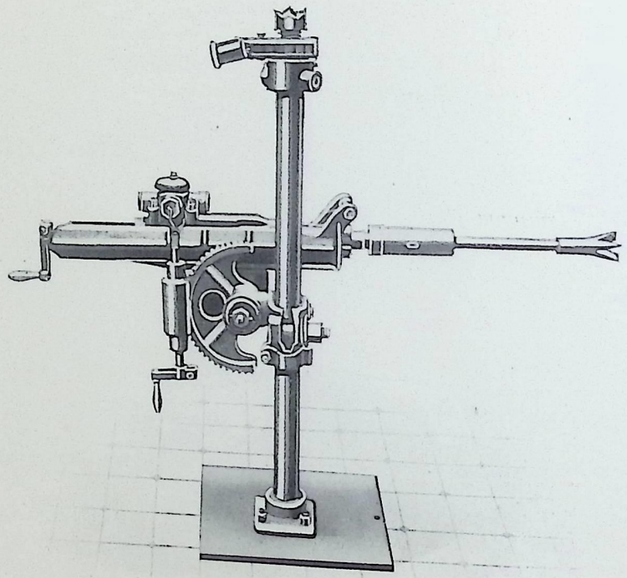
Total time underground—8 hours 15 minutes (arrived on surface 5.20 a.m.)
Total time occupied in cutting—6 hours 10 minutes.

Total number of square feet cut—840.
Total delays due to machine—None.
Total delays not due to machine—None.

We guarantee the above to be cut by one operator only (named Jas. Fletcher) and by one only of your machines. The above stated times shown for each section of work are absolutely correct.

J. KAY (Manager).
JNO. W. KENYON (Under-Manager).

It should be noted that the above work was accomplished by the Colliery Co.'s own operator, that the seam was rising 1 in 3, and the "holing" done next to the roof.



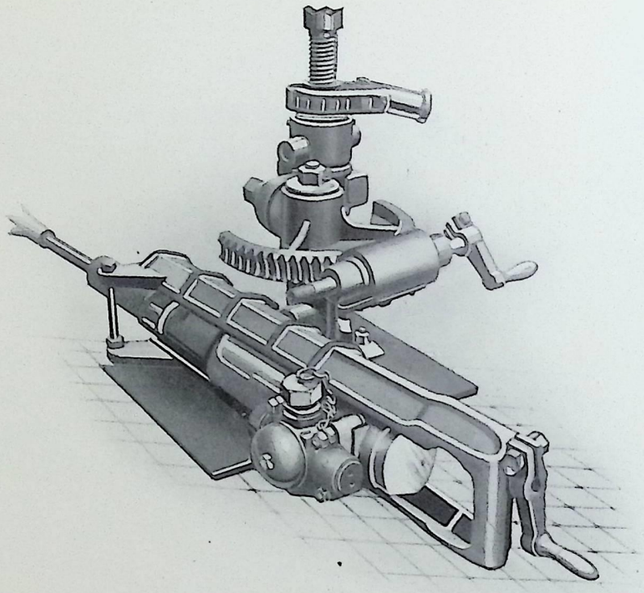
THE "SISKOL" COAL-CUTTER.

SHEARING ON A LONGWALL FACE.

THE illustration on the opposite page shows the "SISKOL" fixed for shearing or nicking.

In seams where longwall machines are used a "SISKOL" with a shearing segment is very useful in making vertical cuts at regular distances along the face in order to reduce the number of shots required, at the same time facilitating the getting of the coal and increasing the percentage of large coal.

To change from vertical to horizontal cutting, or in fact to any angle, it is only necessary to slacken the nut fastening the segment (shearing type) in the cone of the sleeve or clamp which is attached to the column.

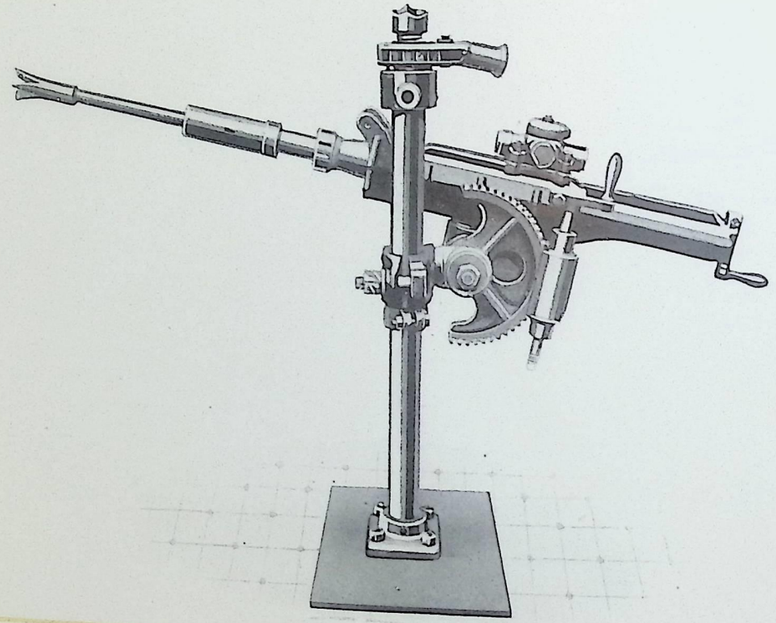


THE "SISKOL" COAL-CUTTER.

LOW PRESSURE "SISKOL."

THE standard "SISKOL" Drill (Type No. 90), which has a cylinder diameter of $3\frac{1}{2}$ ins., is designed for air pressures ranging from 50 to 80 lbs. per square inch. Where only low air pressures are available a special drill is employed (Type No. 105) with a cylinder diameter of $4\frac{1}{4}$ ins. Extremely good results are obtained with an air pressure as low as 30 lbs. per square inch with this type of machine.

The illustration on the opposite page shows a low pressure "SISKOL." The design of the drill is similar in all respects to the standard machine, but on a correspondingly larger scale.



THE "SISKOL" COAL-CUTTER.

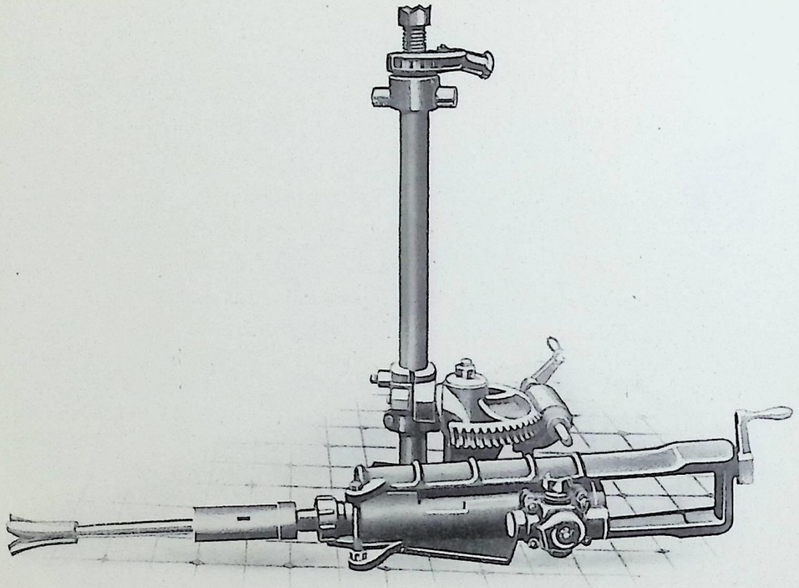
THE "SISKOL" COAL-CUTTER.

THE "SISKOL" Coal-Cutter was tried recently for heading work in a seam 7 ft. thick, lying at a depth of about 1,000 yards.

It was found that, when "holing" in the bottom, the coal would not stand up. When a depth of about 2 ft. had been reached, the coal began to sag, and it was impossible to continue the cut.

The following method was then adopted with great success :—

The machine was set at the side of the heading for vertical cutting or shearing. After shearing to a depth of about 2 ft. the coal began to "give" as it did when being undercut, so the machine was stopped, but left standing in position. The 2 ft. of coal was then filled out and the machine re-started to make another shear 2 ft. deep, all that was required to re-start the machine being simply to turn the air on. Three shears, each 2 ft. deep, were made in this way from one setting of the machine.



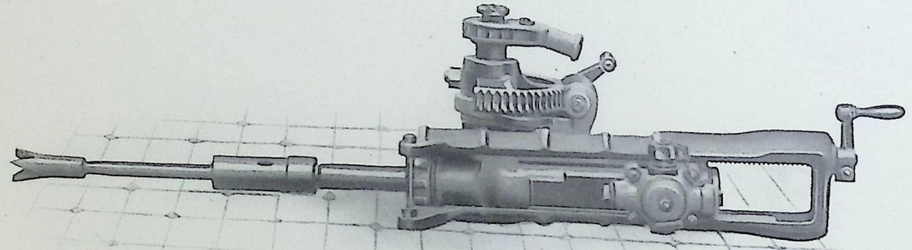
THE "SISKOL" COAL-CUTTER.

STABLE HOLES FOR LONGWALL MACHINES.

WHEN working Longwall it is usually an advantage—in fact, almost an essential—to keep the ends of the face in advance of the centre.

When a Longwall machine is used and the stable holes for the machine are made by hand, it very frequently happens that the stable has not been made wide enough. The result is that the machine starts with a shallow cut, getting to its proper depth as it proceeds along the face. In this way the ends of the face soon get behind, and all Colliery Managers will recognise the trouble that will ensue when the face assumes this concave shape.

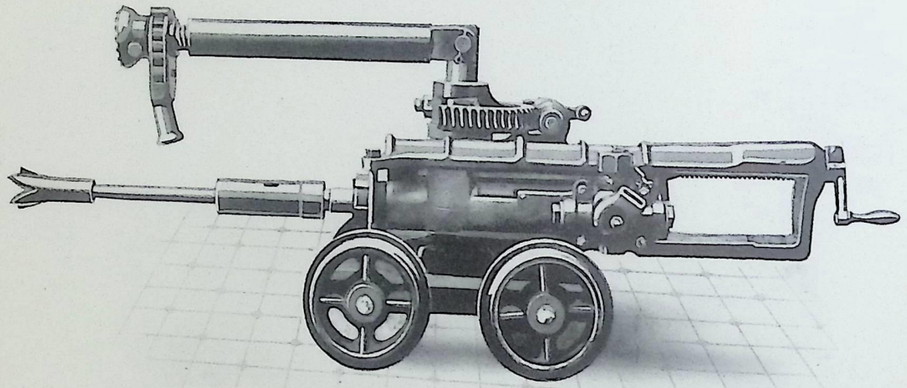
By using a "SISKOL" for stable holes the face is kept in proper shape.



THE "SISKOL" COAL-CUTTER.

THE "SISKOL" COAL-CUTTER.

THE "SISKOL" can be used in seams from 18 ins. and upwards in thickness. The illustration on the opposite page shows such a machine, which has been used successfully on a longwall face in a seam less than half a yard in thickness, with extremely gratifying results. Seven to eight yards can be holed at one fixing, after which it is an easy matter to flit the machine intact when fixed on a sledge or plate. In this way it is possible to hole a place 30 yards wide with four settings of the machine, and, as only a few minutes are needed to loosen the column, flit the machine and reset, practically the whole of the shift can be occupied in cutting.



THE "SISKOL" COAL-CUTTER.

"SISKOL" WITH HINGED COLUMN.

THE illustration on the opposite page shows a hinged column for use with a machine fitted to a carriage. This was first tried in a South African mine where about 100 "SISKOLS" are now working—all fitted as shown in the illustration. The object of the hinged column is to enable the machine to be flitted under low places without dismantling.

In fixing at the face, the wheels are removed so that the carriage rests on the floor. The top portion of the column is then swung into an upright position and screwed against the roof. With this arrangement the machine can be fixed ready for cutting in two or three minutes.

ROOF RIPPING WITHOUT EXPLOSIVES.

THE "SISKOL" may be used for other purposes than cutting in coal, as evidenced by the following extracts from the Official report of H.M. Inspector of Mines for the Cardiff district :—

"ROOF RIPPING WITHOUT EXPLOSIVES.—At the Great Western Colliery Co.'s Tymawr Pit the roof on the roads in one seam is ripped down without the aid of explosives. The roof, which is a hard sandy fireclay, 4 ft. thick, is cut or sheared on each side of the road by a 'Champion' Channelling Machine. A hole is bored near the top of the bed and a long plug and feather is inserted and the mass is wedged down, the whole of the work being done by the machine, thus showing that the use of explosives can be avoided in doing such work. Besides doing away with the risk attendant on the use of explosives, Mr. Gray is strongly of opinion that roads ripped by other means stand very much better than those ripped by explosives."

In his evidence before the Royal Commission on Mines Mr. F. A. Gray says, regarding shot firing:—"They could do their ripping entirely with the 'Champion' Channelling Machine, which would bore the hole and drive the wedge in. That was done at the Great Western Collieries now, when there was not a shot fired in the three steam coal pits."

NOTE.—The "Champion" Machine referred to above is now known as the "SISKOL."

THE following figures as to machines in use which are extracted from the **official** reports of H.M. Inspector of Mines for the Manchester district (the only district for which detailed returns are available) prove conclusively that the **"SISKOL"** is recognised by Colliery Managers as **the** machine of its class and need no further comment.

Extracts from H.M. Inspector of Mines **official** reports for the Manchester district, issued by the Home Office for the years 1908, 1909, 1910, 1911, 1912 and 1913.

Description.	1908.		1909.		1910.		1911.		1912.		1913.	
	Number driven by		Number driven by		Number driven by		Number driven by		Number driven by		Number driven by	
	Electricity.	Compressed Air.	Electricity.	Compressed Air.	Electricity.	Compressed Air.	Electricity.	Compressed Air.	Electricity.	Compressed Air.	Electricity.	Compressed Air.
Disc—												
Diamond ...	9	8	8	12	3	15	—	17	—	21	3	24
Gillott & Copley	—	10	—	14	—	13	—	16	—	15	—	19
Crescent ...	—	—	—	—	—	—	—	—	—	—	—	3
Bar—												
Pick Quick ...	6	1	4	—	6	3	3	5	5	6	4	12
Chain—												
Hopkinson ...	1	—	1	1	2	1	2	2	3	2	4	3
Percussive—												
"SISKOL" ...	—	**43**	—	**61**	—	**81**	—	**66**	—	**89**	—	**109**
Hardy	—	10	—	15	—	23	—	25	—	17	—	25
Ingersoll ...	—	5	—	5	—	2	—	—	—	—	—	1
Patterson ...	—	4	—	3	—	3	—	—	—	—	—	—

Since the issue of the 1913 Report no detailed figures have been published.

AIR CONSUMPTION.

IN addition to possessing a far greater cutting capacity than any other machine of a similar type, the "SISKOL" is extremely economical in air consumption.

In order to accurately determine the air consumption of the "SISKOL" and another machine of similar design, of Sheffield make, tests were recently carried out at the Johannesburg University Technical College (where the facilities for making such are perhaps the best in existence), under the supervision of Professor John Orr, B.Sc., M.Inst.C.E., M.I.Mech.E., M.Ass.S.C.E., M.Ass.S.M.E., with the following result :—

"SISKOL" at 65 lbs. pressure per square inch consumed 116 cubic feet of free air per minute ;

Competitor at 62½ lbs. pressure per square inch consumed 189·7 cubic feet of free air per minute ;

or a saving of 73·7 cubic feet of free air per minute in favour of the "SISKOL." It can consequently be assumed with accuracy that at equal pressures the "SISKOL" consumes 75 cubic feet of free air less per minute than its competitor.

Colliery Managers will appreciate this point to its fullest extent, as it results in a saving in one shift, say of five hours' actual work, of some 22,500 cubic feet of free air per machine.

AIR CONSUMPTION.

DETAILS of the consumption of compressed air at varying pressures by the standard (or "90" type) "SISKOL" Coal-Cutter are given below:—

At 40 lb.	pressure	...	...	...	...	73	cu.	ft.	free air per min.
,, 45	,,	...	...	...	...	82	,,	,,	,,
,, 50	,,	...	...	...	...	90	,,	,,	,,
,, 55	,,	...	...	...	...	99	,,	,,	,,
,, 60	,,	...	...	...	...	108	,,	,,	,,
,, 65	,,	...	...	...	...	117	,,	,,	,,
,, 70	,,	...	...	...	...	126	,,	,,	,,
,, 75	,,	...	...	...	...	135	,,	,,	,,
,, 80	,,	...	...	...	...	144	,,	,,	,,

LOSS of pressure through friction of air in pipes, in pounds per square inch for every 100 ft. length of pipe (initial gauge pressure 80 lbs. at receiver) :—

Equivalent volume of free air discharge per minute.	SIZE OF PIPE.											
	1"	1¼"	2"	2½"	3"	4"	5"	6"	7"	8"	10"	12"
100	—	·7	·13	—	—	—	—	—	—	—	—	—
200	—	3·0	·5	·175	—	—	—	—	—	—	—	—
300	—	—	1·2	·38	·15	—	—	—	—	—	—	—
400	—	—	2·15	·67	·27	·06	—	—	—	—	—	—
500	—	—	3·3	1·1	·4	·1	·03	·012	—	—	—	—
750	—	—	—	2·5	·91	·22	·07	·03	—	—	—	—
1,000	—	—	—	—	1·8	·4	·12	·05	—	—	—	—
1,500	—	—	—	—	4·0	1·0	·3	·12	·052	·027	—	—
2,000	—	—	—	—	—	1·6	·5	·2	·095	·048	—	—
3,000	—	—	—	—	—	3·7	1·2	·45	·22	·115	—	—
4,000	—	—	—	—	—	—	2·0	·8	·39	·2	·07	—
5,000	—	—	—	—	—	—	—	1·3	·6	·3	·1	—
6,000	—	—	—	—	—	—	—	1·9	·85	·43	·15	·06
7,500	—	—	—	—	—	—	—	3·0	1·4	·68	·22	·09
10,000	—	—	—	—	—	—	—	—	2·5	1·25	·4	·17

Extract from table by Hiscox.

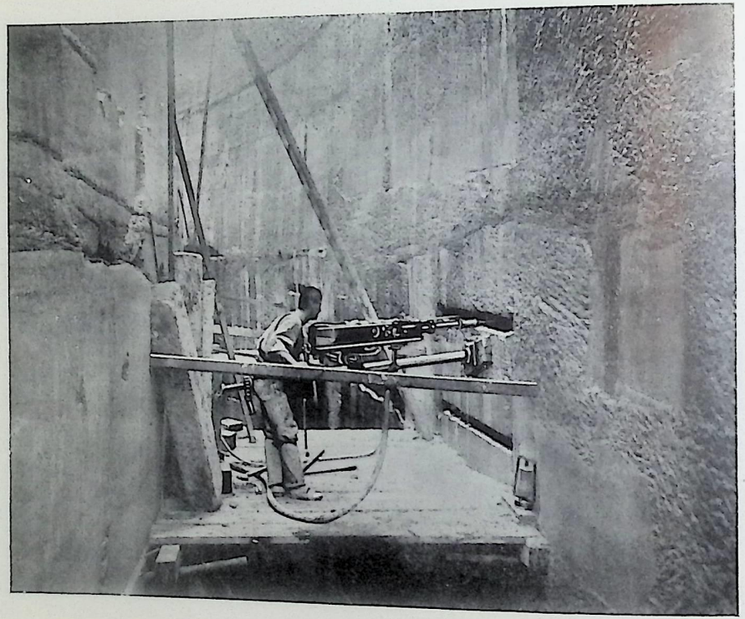
INTERNATIONAL CHANNELLING MACHINES Ltd.

THE "SISKOL" COAL-CUTTER.

THE "SISKOL" has been used with very successful results in connection with large surface excavations, particularly in cases where it was not advisable to use explosives on account of the danger of shattering the surrounding strata.

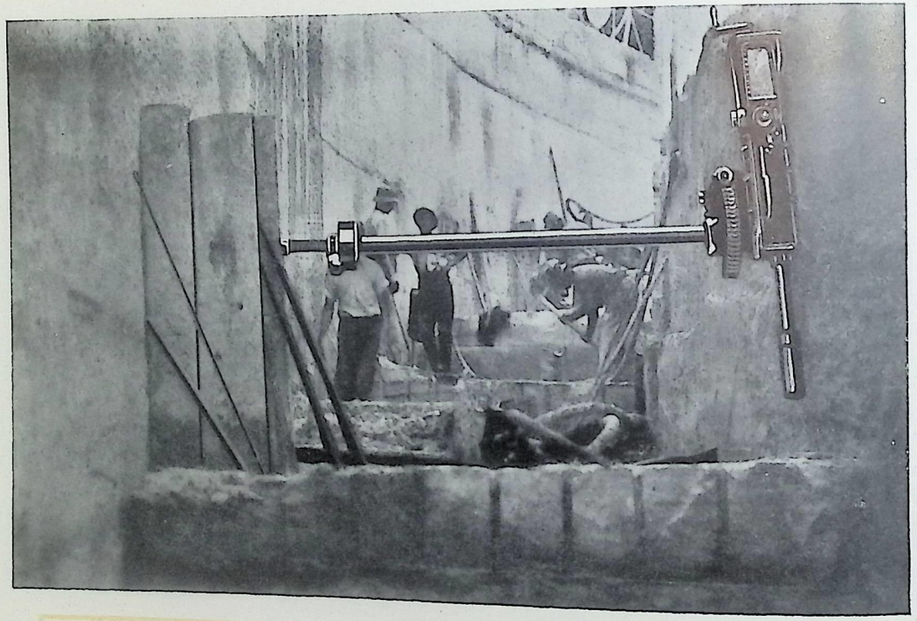
Interesting particulars can be given regarding the building of a large gasometer where 12,000 cubic yards of sandstone were removed by means of the "SISKOL" without an ounce of explosive material being used.

The illustrations on pages 36, 37, 38 and 39, show how the machine is adapted for this class of work.

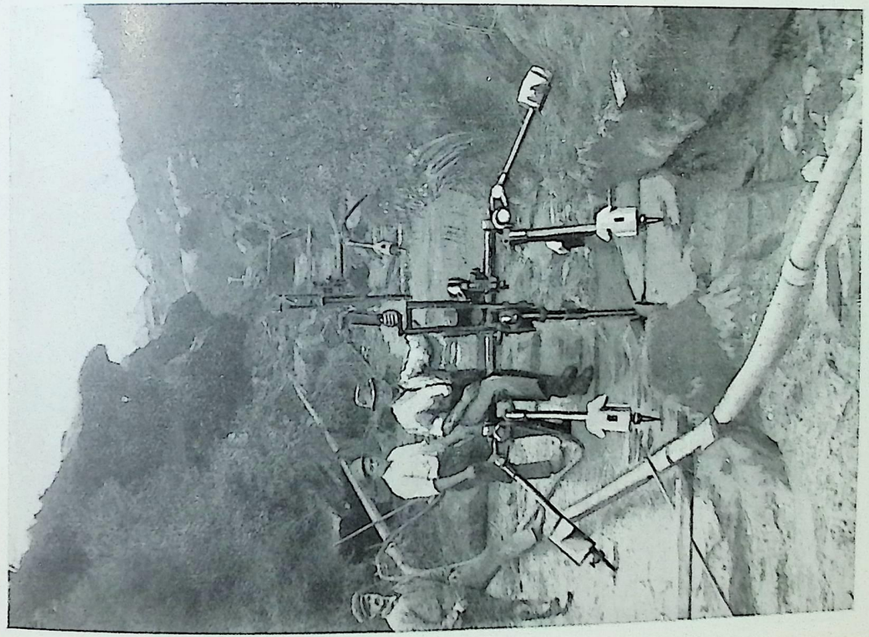


THE "SISKOL" MACHINE IN SURFACE TRENCH WORK

TRENCH MADE BY "SISKOL" MACHINE.



THE "SISKOL" SHEARING IN A TRENCH.



THE "SISKOL" MACHINE ON SURFACE TRENCH WORK.

"SISKOL" STOPE-DRILL COMPETITION, 1909.

"SISKOL" STOPE DRILL.

TRANSVAAL STOPE-DRILL COMPETITION.

THIS Competition was inaugurated in 1908 by the Transvaal Government and Chamber of Mines, and was open to the whole world. Two prizes of £4,000 and £1,000 respectively were offered for the two most successful drills. The competition was commenced in March, 1909, and the official result announced on May 28th, 1910.

The photograph opposite illustrates the "SISKOL" Drill under test at the Surface Elimination Trials held at Johannesburg Technical College in March, 1909, when it created a record by drilling at the average rate of 4·46 inches per minute. It was placed first in order of merit for drilling speed out of the 19 machines which competed, a number of which were eliminated forthwith on account of their inability to maintain an average speed of one inch per minute.

"SISKOL" STOPE-DRILL COMPETITION, 1910.

THE photograph opposite shows the same drill being tested on January 29th, 1910, nine months after the start of the Competition, when it succeeded in drilling at the rate of 4·502 inches per minute. This performance beat its own record (which had stood for nine months), and was accomplished with an increase of only 2½ per cent. in air consumption per foot drilled.

The "SISKOL," during the Competition, held the record speed at the Surface Elimination Trials; for the highest footage in any one shift; the highest footage in any one month, and the highest total footage for the whole of the Competition.

In the end the result of the Competition was that the "SISKOL" tied with another drill, and the two prizes were equally divided, the "SISKOL" being awarded the sum of £2,500.